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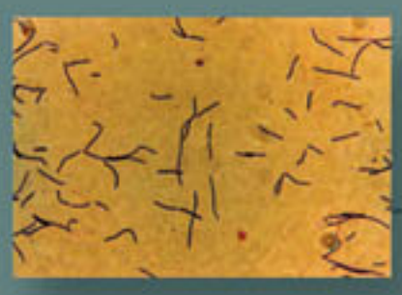

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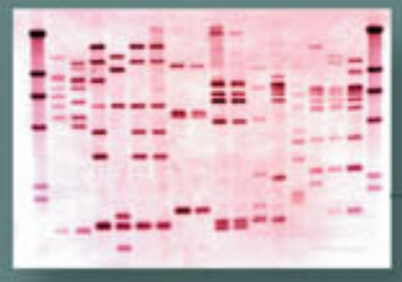

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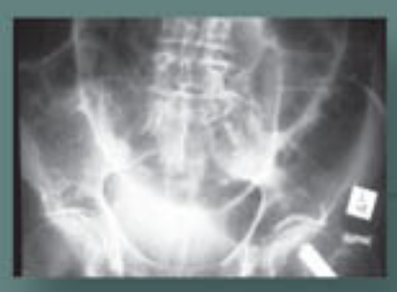

انفتال الأمعاء خلال الحمل

JABHS
Journal of the Arab Board of Health Specializations

The Journal of the Arab Board of Health Specializations is a medical journal, issued quarterly, encompassing all medical specializations. It will strive to publish researches of the Arab physicians in order to strengthen the communication and exchange of scientific and medical information within the Arab Countries. Besides, the Journal publishes selected important medical abstracts which have recently been accepted for publication elsewhere, along with their Arabic translation to facilitate communication. The Journal will also publish the activities and news of the Arab Board of Health Specializations.

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Requirements for Authors Submitting Manuscripts to the Journal of the Arab Board of Health Specializations

These requirements are adapted from the "Uniform Requirements for Manuscripts (URM) Submitted to Biomedical Journals by the International Committee of Medical Editors." The complete text is available at www.icmje.org

1. Manuscripts should report original work that has not been published elsewhere either in print or in electronic form. Work that has been presented at a professional meeting is eligible for consideration for publication.
2. All manuscripts received by the *Journal* are submitted to a double blind review by a number of peers in addition to consideration by the editorial staff. Manuscripts are accepted, returned to the author for revision, or rejected on the basis of these reviews.
3. Manuscripts may be submitted either in Arabic or in English. The title page and abstract should be submitted in both languages. Arabic numbers (*i.e.* 1,2,3. etc) should be used in all articles, regardless of language being used.
4. Arabic terminology should be standardized according to the United Medical Dictionary (UMD) which available at: www.emro.who.int/umd or www.emro.who.int/ahsn
5. The patient's privacy rights must be respected. Identifying information should be omitted unless it is essential. Informed consent should be obtained from the patient when it is not possible to achieve anonymity in photographs or other information. When informed consent has been obtained it should be indicated in the published article.
6. All authors who participated effectively in the work should be listed. One or two authors should take responsibility for correspondence about the work with valid E-mail address should be reported.
7. A summary of technical requirements follows:

- Manuscripts should be double spaced in entirety with each section on a new page. Do not use both sides of the paper. Number the pages consecutively from the first page to the last in the following sequence: title page (including the authors' names in both languages along with scientific titles and addresses), abstract, text, acknowledgments, references, tables and legends. Illustrations and explanatory prints should be no larger than 203 x 254 mm (8 x 10 inches). Leave margins of at least 25 mm (1 inch) on each side. All manuscripts should be submitted on CD. The original typed manuscript plus 3 additional copies should be submitted. Alternatively, the manuscript may be submitted by E-mail (jabms@scs-net.org) if it is technically feasible. The authors should maintain copies of all material submitted.
- Each research manuscript should include an abstract in both English and Arabic. The abstract should be structured as follows: Objective, Methods, Results and Conclusions; and should contain no more than 250 words.
- Research articles should not exceed 4000 words (not including references) and each should be divided into sections as follows: Introduction (concise), Methods, Results, Discussion, and Conclusions. The authors should identify methods (the study group must be well specified and justified), any apparatus used (giving the manufacturer's name and address in parentheses) and procedures to permit reproducibility of the results. Statistical methods should be included with enough data to permit independent verification of the reported results. When data are summarized in the Results section the statistical methods used to analyze them should be specified. Any drugs and chemicals used should include generic names, doses, and routes of administration. Tables and figures should be used to explain and support the premise of the paper. Use graphs as an alternative to tables with many entries. Do not duplicate data in graphs and tables. The number of tables and graphs should be appropriate to the length of the manuscript. It is preferable not to submit more than 6 tables. The Discussion section should include the important aspects of the study and conclusions. The implications of the findings and their limitations should be included. Observations should be related to other relevant studies. Avoid unqualified statements and conclusions that are not supported by the data. Recommendations should be included when relevant.
- Review articles must not exceed 6000 words (not including references). The structure of the manuscript may be adapted to the material being reviewed.
- Case Reports about unusual clinical cases will be received. A brief abstract about the case should be included.
- Educational and unusual medical images for publication are welcomed.
- Use only standard abbreviations; the full term for which an abbreviation stands should precede its first use in the text unless it is a standard unit of measurement.
- Measurements of length, height, weight and volume should be reported in metric units (meter, kilogram, and liter) or their decimal multiples. Temperatures should be given in Celsius degrees. Blood pressures should be given in millimeters of mercury. All hematologic and clinical chemistry measurements should be reported in the metric system in terms of the International System of Units (SI).
- Acknowledgements may be given to those providing technical help. Financial and material support should be noted.
- References should be numbered consecutively in the order in which they are cited in the text. References cited only in tables or figures should be numbered in accordance with the sequence established by the mention in the text of the particular table or figure. References should include the most current information. Titles of journals should be abbreviated according to that used by the *Index Medicus.* (This list can be obtained from the following web site: www.nlm.nih.gov. Sufficient data must be included with each reference cited to permit any reader to locate the primary source easily, *e.g.* (1) journal: authors (all of them), article title, journal, year, volume, page; (2) book: authors (all of them), editor, publisher and place of publication, organization, chapter, and page. For further details concerning citing conference proceedings, papers, organizations, scientific or technical reports, dissertations, newspaper articles, etc; consult the URM Submitted to Biomedical Journals. The author is responsible for the accuracy of the references. Manuscripts without acceptable references cannot be published and will be returned to the authors for completion.

8. Articles that do not meet the technical requirements of the Journal will not be submitted for review unless they are revised.

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Journal of the Arab Board of Medical Specializations

A Medical Journal Encompassing All Medical Specializations

Issued Quarterly

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ORIGINAL ARTICLES

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SELECTED ABSTRACTS

Letter from the Editor

POSTGRADUATE TRAINING PROGRAMS

The Arab Board of Medical Specializations is in the process of reviewing and updating the curricula of all specialties and sub specialties. In order to come up with the most up-to-date curricula, we have to take the following facts into consideration to make these curricula more effective and more professional.

1. The aims, learning objectives, content assessment infrastructure and evaluation methods must be stated clearly. The training should give the message of preparing the doctors for lifelong self-directed learning and continuous professional development.
2. The specialization curricula must describe thoroughly the principles of the work with autonomy in the best interest of patients.
3. They must include concepts such as skills of lifelong learning and maintenance of competence, information literacy, ethical behavior, integrity, honesty, service to others, and adherence to professional codes, justice, and respect for others.
4. There must be a clear map of the clinical competencies, which must be achieved by trainees at the end of their training.
5. They should include communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.
6. They must include clear instructions about how trainee residents function as supervisors, trainers and teachers in relation to colleagues, medical students and other health professionals.
7. They must include formal teaching given to trainees about critical appraisal of literature, evidence based medicine and research.
8. They must be redrafted based on the principle of integration of the practical clinical work, the basic biomedical, clinical, behavioral and social sciences, clinical decision-making, communication skills, medical ethics, public health policy, medical jurisprudence, and managerial disciplines required to demonstrate professional practice in the chosen field of medicine.
9. They must state which components are compulsory and which are optional.
10. The apprenticeship nature of professional development must be well described and respected and the integration between training and service (on-the-job) training must be assured.
11. Concepts of formative assessment must be introduced and any eventual new assessment methods and practices adopted during the drafting must be clearly compatible with training objectives and must promote learning.
12. They should encourage the use of computers, internal and external networks and communication technology.
13. In our curricula for postgraduate training we should write and keep open the opportunities for combining clinical training and research and how we should encourage the trainees to engage in health quality development and research.
14. For each year we must include the catalogue of numbers operative procedures with minimum and maximum limits. This must be condition to enter the examination and not the time the resident has spent during the residency program.
15. We should review the procedures of documentation in order they can be accepted and recognized by international institutions.

I hope that the above mentioned facts will be taken into consideration during the revision of our curricula by our scientific councils to come up with the most up-to-date curricula.

Professor M.Hisham Al-Sibai
Editor-in-chief
Secretary General of the Arab Board of Medical Specializations

Original Article

موضوع أصيل

ACUTE DIARRHEA IN CHILDREN TREATED BY LACTOBACILLUS ACIDOPHILUS

معالجة الإسهال الحاد عند الأطفال باستخدام المعزز الحيوي الحاوي على العصيات اللبنية المحبة للحمض

Abbas Fadhel Hassoon, *PhD;* Sabih Salih Mehdi, *FRCP, DCH*

د. عباس فاضل حسون، د .صبيح صالح مهدي

ملخص البحث

هدف البحث: دراسة تأثيرات محضرات المعززات الحيوية الحاوية على العصيات اللبنية المحبة للحمض *Lactobacillus acidophilus* في معالجة الإسهال الحاد عند الأطفال.

طرق البحث: شملت الدراسة تسعة وأربعين طفلاً مصاباً بالإسهال أعمارهم بين 2 و24 شهراً، تم إدخالهم إلى مشفى الولادة والأطفال في محافظة بابل خلال الفترة بين تشرين الأول 2006 وحتى نفس الشهر من عام 2007. تم تقسيم المرضى إلى مجموعتين، المجموعة الأولى تتكون من 31 مريضاً تم إعطاؤهم المعزز الحيوي (Probiotic) الحاوي على جراثيم العصيات اللبنية المحبة للحمض *Lactobacillus acidophilus* وبجرعة ($5x10^6$) خلية يومياً من المعزز الحيوي مقسمة إلى جرعتين، أما المجموعة الثانية فشملت 18 مريضاً شكلوا مجموعة شاهد تم إعطاؤهم معالجة إرضائية (Placebo)، استمر العلاج لمدة ثلاثة أيام في كلتا المجموعتين. تم تسجيل ملاحظات حول عدد مرات التبرز في اليوم وقوام البراز الملاحظ في المجموعتين.

النتائج: أظهرت النتائج استجابة مرضى الإسهال الحاد المعالجين بالمعزز الحيوي الحاوي على العصيات اللبنية المحبة للحمض مع وجود فروقات معنوية بالنسبة لعدد مرات التبرز باليوم ($p<0.05$)، وفروقات معنوية عالية أيضاً بالنسبة لقوام البراز ($p<0.01$) وذلك بالمقارنة مع مجموعة الشاهد. من جهة أخرى لم تسجل أية تأثيرات أو اختلاطات ناتجة عن المعالجة.

الاستنتاجات: تبين هذه الدراسة إمكانية استخدام المعززات الحيوية الحاوية على العصيات اللبنية كعلاج مساعد في حالات الإسهال الحاد عند الأطفال، حيث أن هذه المعالجة أظهرت فعالية وسلامة مع مدة معالجة معقولة.

ABSTRACT

Objective: *To see the effect of Lactobacillus acidophilus as a probiotic preparation in treatment of acute diarrhea in children.*

Methods: *Forty nine patients aged between 2 and 24 months with acute diarrhea were enrolled in the study performed at Babylon Maternity and children Hospital in the period between October 2006 till October 2007, the patients were divided into two groups, the first group (31 patients) were given a preparation of Lactobacillus acidophilus and the other group (18 patients) were given a placebo for three days. Frequency of stool per day and stool consistency were recorded for both groups.*

Results: *Frequency and consistency were reduced significantly ($p<0.05$ and $p<0.01$, respectively) in treatment group compared to the placebo group. No complications were recorded.*

Conclusions: *Probiotic preparation of Lactobacillus acidophilus can be used as an adjunct treatment for acute diarrhea in children. It has been found safe and acceptable, and the duration of treatment was reasonable.*

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INTRODUCTION

Diarrhea in children is one of the causes of death in patients below five years age, it is defined as more than three loose or watery stools per 24 hours for a period less than two weeks. Research is going on to improve management, however a lot of things should be done to achieve a typical solution. One of these steps on the way of management is the use of probiotics which are non pathogenic micro-organisms that, when ingested, exert a positive influence on the health or physiology of the host. They consist of either yeast or bacteria.

Probiotic effects can be direct or indirect through modulation of the immune system or endogenous flora,[1] it also helps in lactase insufficiency.[2]

There is evidence of a clinically significant benefit of probiotics in the treatment of acute infectious diarrhea in infants and children,[3,4] particularly in *Rota* virus gastroenteritis.[5,6] It has been found safe and effective as a treatment in general,[7] only a rare complication of sepsis has been reported which should not discourage the appropriate use of *Lactobacillus* or other probiotics.[8]

Probiotics are used in different situations, for example *Lactobacillus GG* is used to treat a common problem in practice that is Antibiotic Associated Diarrhea (AAD)[9,10] in children with respiratory infections.[11,12] It is also used in treatment of persistent diarrhea[13] and in the prevention of nosocomial infection,[14] it showed the most consistent effect.

Probiotics not only used for treatment but also for prevention especially trials on diseases which involve the ecosystem like *Helicobacter pylori* infections, inflammatory bowel disease, and colon cancer.[1] In the same direction, probiotics were found useful in prevention of respiratory infections and gastroenteritis in children attending day care centers consuming a probiotic milk.[12,15] It is not clear whether breast fed infants get benefit from probiotics,[16] so further research is needed.

METHODS

Forty nine patients with diarrhea age 2-24 months were enrolled in the study after their parent's agreement at Babylon Maternity and Children Hospital from October 2006 till December 2007. Thirty one patients with severe dehydration were located to participate in the study, 20 males and 11 females, Eighteen patients with the same illness were taken as a control. Selection depend on that, all patients came with acute diarrhea and were artificially fed; breast fed babies, patients with bloody diarrhea and those who are critically ill were excluded from the study. No antibiotics or antidiarrheal drugs were given during the study period. Permission of the scientific and legal bodies in the ministry of health in Baghdad was taken and an informed consent was also taken from parents prior to the use of probiotics.

An introduction lecture was presented to the medical staff in pediatric ward about probiotics and the way they perform the test and how they fill in the research form.

All patients were subjected to a full history and physical examination. General stool examination on day one and WBC count on day three were done and other laboratory tests were performed as indicated. Intravenous fluids were given to rehydrate the patients to start with and oral rehydration solution was given later as a maintenance fluid.

The active ingredient, *Lactobacillus acidophilus* was prepared by a lyophilizer in the biotechnological center at Al-Nahrain university, Baghdad. It was supplied as capsules, each one contains ($5x10^6$) bacterial cells. Capsules similar in shape and color were given as a placebo, and half of the capsule is given twice daily dissolved in a table spoonful of artificial milk.

Frequency of bowel motion/day, consistency of stool were recorded. A frequency less than four/24 hours is considered a response. All results and the impression of the parents were checked by a pediatric consultant every morning. Statistical analysis was done by using the difference between two populations.

RESULTS

Thirty one patients with acute diarrhea were studied on their admission to the hospital compared to eighteen patients matched for the same illness as a control group.

Table 1 exhibited the means of age, weight, duration of diarrhea before admission and WBC count of both treated and control groups.

The frequency and consistency of stool were significantly improved on day three of treatment as compared to the control group ($p<0.05$ and $p<0.01$) respectively, (Table 2).

Clinically the response of patients with acute diarrhea to probiotics in comparison with placebo control group was highly significant ($p<0.01$), (Table 3).

The percentage of response of baseline criteria (frequency, consistency) to the probiotic and placebo drugs according to days of treatment has shown a good response on day three in both frequency and consistency as shown in Table 4.

DISCUSSION

The most important challenging disease facing pediatricians in their clinical practice is acute diarrhea. Most of the treatments used are non specific and only supportive in most of the cases.

Baseline features	Mean of treated group	Mean of control group
Age in months	8.03	8.38
Weight (kg) on admission	6.89	7.57
Duration of diarrhea before admission in days	6.26	3.16
WBC count on day three	7.5/cm^3	6.42/cm^3

Table 1. Means of base line features of children admitted with acute diarrhea.

Results	Frequency		Consistency	
	probiotic	placebo	probiotic	placebo
Response	19	5	20	3
No response	12	13	11	15

Table 2. Results of probiotic treatment of acute diarrhea compared with a placebo group.

Results	Probiotic group	Placebo group
Response	21	4
No response	10	14

Table 3. Clinical response of patients to probiotic compared to a control group.

Days	Probiotic drug				Placebo			
	frequency	%	consistency	%	frequency	%	consistency	%
Day 1	8	25.8	5	16.1	0	0	2	11.1
Day 2	10	32.3	7	22.6	3	16.7	1	5.6
Day 3	19	61.3	20	64.5	5	27.8	3	16.7

Table 4. The percentage of response of baseline criteria to the probiotic and placebo drugs according to days of treatment.

Probitic bacteria such as *Lactobacillus* and *Bifidobacteria* have been used increasingly in the past three decades, and promoted in yoghurt, fermented milk, other types of food and pharmaceutical products for their anecdotal health benefits.

It is well established that probiotic bacteria exerts an effect on the gastrointestinal tract and might be of importance when the intestinal microflora is disturbed and gut permeability is altered.[17] These properties of probiotics could be of particular interest in early infancy when barrier functions of the intestine are not fully developed.

In the present study we found *Lactobacillus acidophilus* administration to children with acute diarrhea useful to reduce the activity of the disease significantly in agreement with other studies which have used probiotics in the treatment of diarrhea.[15,16,18] The action of probiotics in case of diarrhea occurs through the stimulation of the immune system, its ability for adhesion to the intestinal epithelial cells and inhibition of other pathogenic bacteria by antagonism and by secretion of bacteriocins.[19,20]

Most of our patients get improved on day three. Ten patients did not improve by this time for both frequency and consistency (Table 3), seven of them continue their usual treatment in the hospital and discharged later after improvement, three patients left the hospital and lost for follow-up.

Lactobacillus acidophilus was found safe and effective for children with acute infectious diarrhea. The preparation was well tolerated and no mortality was reported as what found in other studies.[7,21]

CONCLUSIONS

Probiotic preparation of *Lactobacillus acidophilus* can be used as an adjunct treatment of acute diarrhea in children. It has been found safe and acceptable, and the duration of treatment was reasonable.

ACKNOWLEDGEMENT

The authors gratefully acknowledge the financial support of the ADI-Hilla and especially thank Dr Saad Mal-Allah who has contributed to the preparation of probiotic and placebo capsules. We would like to give special thanks to our medical staff in ward 2 who has worked hard to watch our patients and follow up their progress.

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Original Article

موضوع أصيل

OPTIMIZING DOUBLE REPETITIVE PCR FOR MOLECULAR TYPING OF MYCOBACTERIUM TUBERCULOSIS

الوصول للنتائج المثلى باستخدام تفاعل سلسلة البوليميراز لدنا عنصريين تكراريين في التنميط الجزيئي للمتفطرة السلّية

Abdulkader Rahmo, *MD*

د. عبد القادر رحمو

ملخص البحث

هدف البحث: تأسيس طريقة بسيطة واقتصادية وفعّالة للتحرّي الوبائي الجزيئي عن المتفطرات السلّية اعتماداً على تقنية تفاعل سلسلة البوليميراز لعنصرين تكراريين.

طرق البحث: تم استخدام الجينوم المعزول من أربع عشرة من المتفطرات السلية المعزولة والمحددة الخواص في عملية التضخيم في تفاعل سلسلة البوليميراز لعنصرين تكراريين PCR، كما تم الكشف عن شدف الدنا الناتجة من خلال التلوين بالفضة ومقارنة النتائج مع تقنية الكشف الأصلية المعهودة.

النتائج: أدى اعتماد تعديلات بسيطة نسبياً إلى تحسّن ملحوظ في فعالية تمييز سلالات المتفطرة السلية، وذلك دون زيادة تذكر في أعباء وتكاليف التقنية الأصلية.

الاستنتاجات: يمكن لهذه التقنية المحسنة أن تشكل أداة أفضل في الدراسات الوبائية الجزيئية ضد التهديد المتنامي والمنتشر لمرض السل في الدول النامية.

ABSTRACT

Objective: *Establishing a simple, cost effective and efficient method for the molecular epidemiologic examination of Mycobacterium tuberculosis based on double repetitive element polymerase chain reaction technique.*

Methods: *Fourteen isolated and characterized Mycobacterium tuberculosis provided genomic samples for the amplification using the double repetitive element polymerase chain reaction method, the resulting DNA fragments were stained using silver staining and results were compared with the original detection method.*

Results: *The introduction of relatively simple modifications improved significantly the efficiency of isolate stain discrimination, without rendering the method more costly.*

Conclusions: *The proposed improved method can be expected to better serve as a molecular epidemiologic technique for the fight against the widespread mounting threat of tuberculosis in developing countries.*

INTRODUCTION

The clear rise in multidrug resistance of *Mycobacterium tuberculosis* (MTB) cases, and the emergence of so called 'hot-spots' around the world, poses the imperative for research enhancement and efficient widespread implementation of current knowledge.

Molecular epidemiologic studies have been successfully applied for tuberculosis disease in evaluating epidemiological linkages, and the discovering of unexpected one. These studies were

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essential for the distinction of relapse from re-infection in recurrences,[1] the establishment of the case for laboratory cross contaminations (false positives),[2] and the association of particular genotypes with hyper-virulence and multi-resistance.[3] Recent studies included real time outbreak studies that provided new insights into transmission, and cluster dynamics in specific populations.[4] These studies continue to provide added epidemiological value to tuberculosis prevention and control.[4] The importance of large scale genotyping of MTB has promoted countries like the USA to implement large scale rapid genotyping of all local TB cases.[4] Different methods have been used for the genotyping of MTB. These vary in the time required for testing, resolution, reproducibility, robustness, complexity, cost, and amenability to data bank construction. Double repetitive polymerase chain reaction (DRE PCR) genotyping method, is relatively fast, simple and cost saving.[5] However, the method suffers from some lack of reproducibility due to occasional absence of low intensity bands, and the provision of only average level resolution.[6] Improving this technique would allow it to be a tailored approach for preliminary genotyping, that has potentials for efficient implementation in low resource countries, where TB is generally widespread and endemic.

METHODS

Sampling of patients: Following an agreement with the Syrian ministry of health, samples were collected between March 2003 and July 2005. From this pool of samples, 14 new cases were selected for this study. Patients (11 males and 3 females) came from four different regions (muhafaza: Aleppo, Damascus, Rif Dimashq, Tartous) in Syria. The age range was 15-70 years. Sampling was approved by local ethical committees and accompanied by a patient informed consent form.

Laboratory Methods

-Specimen preparation and culture: Processing of sputum specimens was based on liquefaction and decontamination by 2% N-acetyl-L-cysteine-NaOH. Bacterial culture was performed on solid Lowenstein-Jensen Medium.[7]

-Susceptibility testing: Inoculum preparation of freshly grown colonies from LJ medium were transferred to a tube containing 3-4 ml phosphate buffered saline and 6 to 9 sterile glass beads. Tubes were rigorously agitated on a vortex mixer and clumps were allowed to settle for 30 min. The supernatants were transferred to sterile tubes, adjusted with phosphate buffer saline to equal the density of 0.5 Mc Farland standard, and used as the standard inoculum for the proportion method.[9]

-The proportion method procedure: The proportion method was performed as described by the national committee for clinical laboratory standard.[9] Antimycobacterial drugs were adjusted in the LJ medium 60 to a final concentration of 0.2-1 µg/ml for isoniazid (INH), 40 µg/ml for rifampicin (RIF), 4 µg/ml for streptomycin (STR), and 2 µg/ml for ethambutol (EMB). One hundred micro liter of prepared bacterial inoculm was inoculated on LJ medium, containing or not a drug, for test or as a control, and followed by incubation at 37°C for 21-28 days. Resistance was defined as growth on drug containing tubes greater than 1% of the growth of drug free control medium for INH, RIF, EMB, and 10% for STR.[8,9]

-DNA extraction: A loopful of each culture was suspended in ATL buffer (0.2 ml) and DNA was extracted using QIAamp DNA blood Mini Kit (Qiagene). The accompanied procedure was adhered to except for the incubation period that was extended to 3 hours. DNA was eluted in 100 µL PCR water (Gibco).

-DRE PCR: The procedure reported in reference [10] a modification of in [11] was slightly modified. The PCR amplification mixture contained 67 mM tris (PH 8.8), 16 mM (NH4)2SO4, 0.01% tween-20 (1x reaction buffer; Euroclone), 2.5 mM MgCl2 (Euroclone), 200 µM each deoxynucleoside triphosphate (MBI Fermentas), 0.5 µM of each of the four primers (MWG Biotech AG, HPSF grade), and 2.5 U of taq polymerase (euroclone). The sequence of the primers is described in references [10,11]. 5 microliters of DNA solution was used in the final reaction volume of 50 µL. The PCR mixture was subjected to denaturation at 94 for 7 min, followed by 30 cycles of denaturation at 95°C for 30 sec, primer annealing at 52°C for 1 min, and primer extension at 72°C for 1 min. The final extension was at 72°C for 5 min (Master cycler, Eppendorf).[10] The amplification

products were analyzed using polyacrylamid gel electrophoresis (PAGE) at 10% concentration, stained with ethidium bromide (ETBR) and visualized under UV light (312 nm) and with silver staining method[12] (Figure 1). PAGE silver stained gels where dried using a gel dryer (Labconco) rendering them stable for long time. The modifications introduced were the use of a DNA extraction kit, the inclusion of ammonium sulfate in the reaction mixture, and the use of PAGE for band pattern analysis and the staining with silver.

RESULTS

Susceptibility testing of cultured MTB isolates resulted in the drug resistance pattern described in (Table 1). Three cases of resistance emerged, one of which (isolate 7) was a multidrug resistant case. The PAGE ETBR staining of DRE PCR amplified products generated in 10 patients (out of 14) bands that varied in numbers between (1-4). Overall 29 bands were obtained for all isolates (average 29/10 = 2.9 bands) (Table 2). The PAGE silver staining modification generated in 12 patients clear bands. These varied in numbers between (4-12). Overall 97 bands were obtained (average 96/12 = 8 bands) of which 40 were relatively strong bands. Reproducibility of the last method has been tested by running replicas, and found to be excellent (Figure 2). The examined MTB isolates produced the following patterns (Table 2). (Note when bands of ETBR staining are addressed the letter E was assigned prior to band size in case of silver staining the letter S):

Isolate 1: Below the band S 250 three weak bands S (200, 210) and the band S 75 appeared in silver staining but were absent in ETBR staining. The band E 400 was actually a collective of three separate bands S (320, 350, 360) and the E 500 gave bands S (500, 550).

Isolate 2: Pattern was similar to isolate 1 except for two bands: band E/S 250 that was absent in Isolate 2 and was replaced by a weak S 230 band, and band S 550 was absent in isolate 2.

Isolate 3: The band 75 was present in both staining systems, the bands S (170, 210, 350, 400) were absent in ETBR staining. The E 500 became a double band S (500, ~510), and the band E 600 was more accurately placed at S 700.

Isolate 4: Pattern using silver staining was very similar to isolate 3, except for the absence of the weak S 350, as was the ETBR staining.

Isolate 5: Produced almost no bands (one weak band appeared) even when using silver staining.

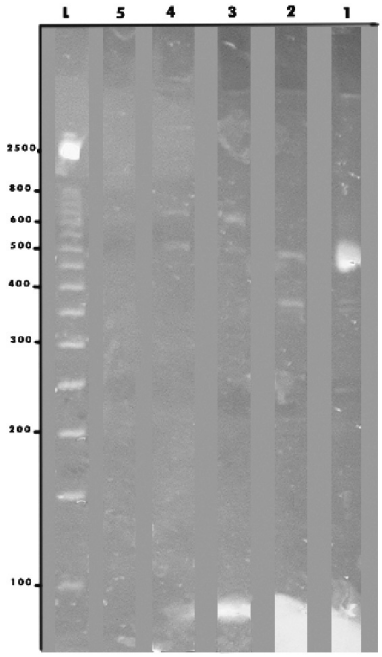

Figure 1. Agarose gel of DNA fragments resulting from DRE PCR of MTB isolates, stained using ethidium bromide staining.

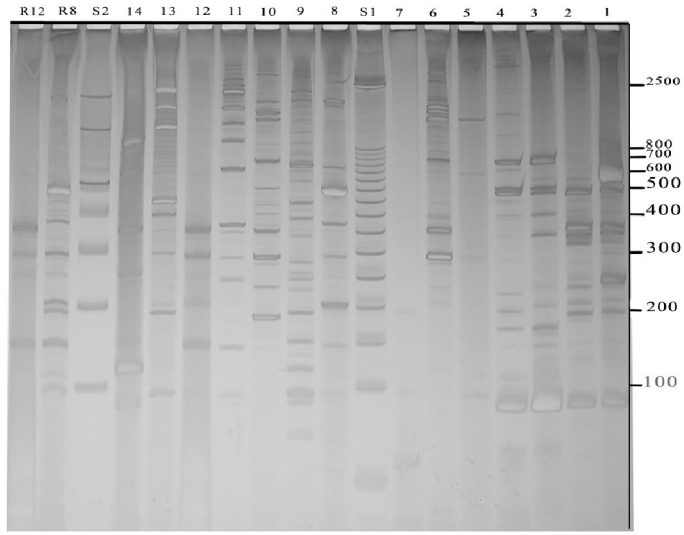

Figure 2. The polyacrylamid gel of DNA fragments resulting from DRE PCR of MTB isolates, stained using silver staining.

Isolate 6: Bands were placed more accurately as S (290, 350) instead of E (275, 300) and a new band appeared as S 700. Band E 2000 separated in a collective of S (1400, 1500, 1700, 2000), band E 2500 was more accurately placed at S 2700.

Isolate 7: No bands appeared in either staining methods.

Isolate 8: Added bands as S (150, 200, 300, 370, 650) appeared, band E 400 was more accurately placed at S 470.

Isolate 9: Added bands as S (75, 100, 110, 160, 190, 250, 260, 290, 340, 400, 450) appeared and band E 550 was more accurately placed as S 650.

Isolate No.	Designated No.	Gender	Age	The region	Resistance pattern*
1	1	M	31	Tartous	SSSS
2	2	M	63	Aleppo	SSSS
3	3	M	25	Tartous	SSSS
4	5	M	70	Damascus	SSSS
5	7	M	20	Tartous	SSSS
6	15	F	25	Rif Dimashq	SSSS
7	17	M	27	Damascus	RRSS
8	18	M	25	Damascus	SSSS
9	21	M	57	Damascus	SSSS
10	22	M	49	Damascus	SSSS
11	72	M	15	Damascus	SSSS
12	73	M	57	Rif Dimashq	SSRS
13	74	F	42	Rif Dimashq	SSRS
14	100	F	25	Damascus	SSSS

*Drugs tested: isoniazid, rifampicin, streptomycin, ethambutol

Table 1. Patients distribution in relation to gender, age, region, and resistance pattern.

Isolate No.	Designated No.	Genotype	PAGE ETBR Pattern 1	PAGE Silver Pattern 1,2
1	1	58	250-380-400-500	**75**-200-210-**250**-320-350-**360-500-550**
2	2	41	400-500	**75**-200-210-230-320-350-**360-500**
3	3	46	75-500-600	**75**-170-210-350-400-500-~510-**700**
4	5	18	75-500-600	**75**-170-210-400-**500**-~510-**700**
5	7	X	-	1400 (weak)
6	15	73	275-300-2000-2700	**290-350**-700-**1400-1500-1700**-2000-2700
7	17	X	-	-
8	18	42	400-2000	150-**200**-300-370-**470**-650-**2000**
9	21	25	550	75-**100**-110-160-190-250-260-290-340-400-450-**650**
10	22	68	175-275-1700-2500	**180**-240-**300**-350-500-675-**1400-1500**-2000
11	72	X	-	150-250-300-**370-620**-900-1100-**1700-2100**-2400
12	73	X	-	150-200-300-350
13	74	42	400-2000	90-190-400-**450-1100-1700-2100**
14	100	66	125-300-600-2000	**125**-250-300-**350-750-900-2100**

1: Band number relates to approximate size of DNA fragment in terms of number of base pairs.
2: Bold bands represent relatively strong bands.

Table 2. The observed MTB band pattern using DRE PCR and two different gel staining procedures.

Isolate 10: Band E 175 appeared as S 180, and E 275 as S 300, other bands surfaced: S (240, 350, 500, 675), and band E 1200 separated into S (1400, 1500) and band E 2500 appeared as S 2000.

Isolate 11: Produced no bands using ETBR but several bands using silver staining: S (150, 250, 300, 370, 620, 900, 1100, 1700, 2100, 2400).

Isolate 12: Produced no bands using ETBR but several bands using silver staining S (150, 200, 300, 350).

Isolate 13: Added bands appeared as S (90, 190, 1100). Band E 400 appeared as S (400, 450) and E 2000 as S (1700, 2100).

Isolate 14: Added bands appeared as S (250, 300). Band E 125 appeared as S 125, while band E 300 appeared as S 350, E 600 as S (750, 850), and E 2000 as S 2100.

DISCUSSION

The DRE PCR genotyping method is based on PCR amplification of MTB DNA segments located between two copies of repetitive elements; these are insertion sequence 6110 (IS 6110) and the polymorphic GC-rich repetitive sequence (PGRS). IS 6110 belongs to the IS 3 family that has been widely used for strain typing. Sixteen copies of IS 6110 were identified in the genome of MTB H37 RV; some of them were clustered in spots.[13] PGRS sequences contain 61 members and belong to the PE multigene family. The PE_PGRS proteins have been found to be exclusive to the MTB complex[14] and resemble the Epstein-Barr nuclear antigens (EBNA), which are known to inhibit antigen presentation through the histocompatibility complex (MHC) class I.[15]

The rational for this procedure is based on expected variation of distances between repetitive elements in various MTB strains, the variations appear as different sizes of amplified products. The positive predictive value of DRE PCR compared to IS 6110 RFLP standard method was determined by Friedman et al[11] to be 96%. However, some reports that DRE PCR may be more discriminating than the standard method IS 6110 RFLP,[5] while others suggest the contrary.[6,16,17] Discriminating efficiency (number of types obtained and reproducibility) may be affected by tested genotypes (e.g., number of IS 6110 present in the genome) as well as the particular laboratory set up used.

The method as described by Friedman et al[11] and others generated one to six bands.The bands varied in intensity suggesting the possibility of band detection failure due to a particular laboratory set up or a deficiency of the applied detection system.

CONCLUSIONS

The results of this study indicate that applying PAGE silver staining modification instead of PAGE ethidium bromide staining provided:

1- Clear detection of absent or weak bands, where no, or fewer bands were obtained using agarose or PAGE ethidium bromide staining.

2- More accurate determination of DNA fragment size.

3- The establishment of a fingerprint pattern that was stable for months.

Since the advantages of DRE PCR are not compromised by the proposed modifications of the method, and the application of the PAGE silver staining appears superior in molecular strain typing of *Mycobacterium tuberculosis*, the modifications should be considered and endorsed.

The current study suggests that the established DRE PCR method, used for epidemiologic studies of *Mycobacterium tuberculosis*, was further optimized, and should therefore be reassessed, and compared to other methods considering these enhancing conditions. Since further improvements of the technique present no significant technical and cost related burdens, the method as such appears to be even more suitable for the clinical use in developing countries.

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Original Article موضوع أصيل

CHANGES OF HUMAN PLACENTAL ALKALINE PHOSPHATASE AND ACID PHOSPHATASE IN PROLONGED PREGNANCY

التغيرات الطارئة على أنزيمات الفوسفاتاز القلوية والفوسفاتاز الحمضية في المشيمة في حالات الحمل المديد

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ملخص البحث

هدف البحث: دراسة نمط توزع أنزيمات الفوسفاتاز الحمضية والقلوية في المشيمة في حالات الحمل المديد (المطول) مقارنة بحالات الولادة بتمام الحمل، وتحديد ما إذا كانت هذه التغيرات في مشيمة الحمل المديد استمراراً لما قد بدأ قبل الأسبوع الحملي 42 عند طريق المقارنة مع مشيمة الحمل المنتهي بين الأسبوع 41 و42.

طرق البحث: تم فحص عينات 220 مشيمة لحالات حمل مفرد، إيجابي RH، دون وجود قصة تدخين أو داء سكري أو ارتفاع توتر شرياني لدى الأمهات، تمت الدراسة في مشفى البتول التعليمي للتوليد في مدينة الموصل خلال مدة شهرين (بين 1 آب وحتى 30 أيلول من عام 2005). تم تصنيف مرضى البحث إلى ثلاث مجموعات تبعاً للتحديد الدقيق لعمر الحمل لديهن على الشكل التالي؛ المجموعة الأولى: وشملت النساء اللواتي وضعن بين الأسبوعين 38–41 من الحمل (100 حالة)، المجموعة الثانية: وشملت النساء اللواتي وضعن بين الأسبوعين 41–42 (60 حالة)، والمجموعة الثالثة وتضم النساء اللواتي وضعن بعد الأسبوع 42 من الحمل (60 حالة). تم أخذ مقاطع نسيجية من المشيمة من المجموعات الثلاث وتلوينها بملونات الفوسفاتاز القلوية (طريقة Gomori–الكوبالت) وملونات الفوسفاتاز الحمضية (طريقة Gomori – الرصاص).

النتائج: أظهرت عينات المشيمة المأخوذة من المجموعة الأولى فعالية متوسطة إلى شديدة لتلوين الفوسفاتاز القلوية في الخلايا الأرومة المغذية المخلوية Syncytiotrophoblast مع فعالية ضعيفة في لحمة الزغابات المشيمية وفعالية متوسطة في الطبقة الساقطة الأموية، من جهة أخرى أظهرت هذه العينات فعالية ضعيفة جداً لتلوين الفوسفاتاز الحمضية في كل من الأرومة المغذية المخلوية ولحمة الزغابات المشيمية. أما عينات المشيمة في المجموعتين الثانية والثالثة فقد أظهرت فعالية متوسطة لتلوين الفوسفاتاز القلوية في خلايا الأرومة المغذية المخلوية بينما أظهرت فعالية متوسطة في لحمة الزغابات المشيمية والطبقة الساقطة الأموية مع زيادة أكبر في انخفاض الفعالية بالنسبة للفوسفاتاز الحمضية في كل من الخلايا الأرومة المغذية المخلوية ولحمة الزغابات المشيمية. لم يلاحظ وجود فعالية لتلوين الفوسفاتاز الحامضية في الطبقة الساقطة الأموية في أي من المجموعات الثلاث.

الاستنتاجات: تظهر المشيمة في حالات الحمل المديد زيادة في فعالية الفوسفاتاز القلوية وتناقص في فعالية الفوسفاتاز الحمضية. من جهة أخرى، تمثل هذه التبدلات الأنزيمية في حالات الحمل المديد استمراراً لعملية ربما تكون قد بدأت قبل الأسبوع 42 من الحمل حيث أن معظم هذه التغيرات تترافق مع الحمول الممتدة بين 41 و42 أسبوعاً.

ABSTRACT

Objective: *The current study aims to investigate the pattern of distribution of alkaline and acid phosphatases in the placentas of prolonged pregnancies compared to that in those delivered at term. In addition, it also aims to determine whether the studied enzyme changes of prolonged pregnancy placentas represent a continuum that may begin before 42 week's gestation.*

Methods: *This study examined placentas obtained*

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from 220 non-hypertensive, non-diabetic, non-smoker, Rh^+ singleton pregnant women who delivered at Al-Batool Maternity Teaching hospital in Mosul city in over a period of two months extending from August 1st to September 30th 2005. These women were classifiedaccording to their accurately assigned gestational age into three groups: Group 1; includes women who delivered between 38-41 weeks of gestation (n=100), Group 2; includes women who delivered between 41-42 weeks of gestation (n=60), and Group 3; includes those who delivered beyond 42 weeks (n=60). All placental sections of the three study groups were stained using alkaline phosphatase stain (Gomori's method-cobalt) and acid phosphatase stain (Gomori's method-lead).

Results: *The placentas of group 1 showed a moderate to marked reaction to alkaline phosphatase stain in the syncytiotrophoblasts with a very weak reaction in the villous stroma, and a moderate reaction in the maternal decidua; however, they showed a very weak reaction to acid phosphatase stain in both syncytiotrophoblasts and the villous stroma. Placentas in group 2 and 3 showed a marked reaction to alkaline stain in the syncytiotrophoblasts, while the villous stroma and the maternal decidua showed a moderate reaction with further decrease in the activity of acid phosphatase in both syncytiotrophoblasts and the villous stroma. Negative reaction to acid phosphatase stain was noticed in the maternal decidua in all groups.*

Conclusions: *Prolonged pregnancy placentas showed increased alkaline phosphatase activity and reduction in acid phosphatase activity. In addition, the studied placental enzyme changes of prolonged pregnancies (including alkaline phosphatase and acid phosphatase) represent a continuum that may begin before 42 week's gestation as most of these enzymatic changes are associated with pregnancies extended between 41-42 weeks.*

INTRODUCTION

For almost three quarters of the 20th century, prolonged pregnancy was considered a non-problem except that such pregnancies were sometimes associated with macrosomia and difficult delivery.[1] However, by the 1970s, it was accepted that perinatal mortality increased appreciably in these pregnancies and this led to adopt a new approach toward the need for certain interventions with prolonged pregnancies although the type(s) of these interventions and when to employ them are still somewhat controversial.[2,3]

Prolonged pregnancy, postdate pregnancy, postterm pregnancy, postdatism and postmaturity are all terms which have been used to denote a pregnancy which has gone beyond 42 weeks or 294 days from the first day of the last menstrual period (LMP).[4] The incidence rate of prolonged pregnancy varies greatly depending on the diagnostic criteria used. Reported frequencies range from 3 to 10 percent depending on whether the calculation was based on the history and clinical examination alone or whether early ultrasound examination was used to calculate the gestational age in the first half of pregnancy.[5,6]

The causes of prolonged pregnancy are still largely unknown and their investigation requires a detailed observation of potential birth initiating stimuli on the endocrine and biomolecular levels.[7]

Recently, a large number of clinical and biomolecular studies point to the central importance of prostaglandins for the beginning of human birth.[7] Recent studies revealed a significant increased rate of apoptosis (programmed cell death) in both trophoblast and stromal cells of postterm placentas suggesting a possible role of apoptosis in the mechanism of labor and placental senescence.[8,9,10] Perinatal morbidity and mortality have shown to be increased significantly as pregnancy progresses beyond term.[11,12]

Human placental type alkaline phosphatase (p-ALP) is a dimeric sialo-glycoprotein enzyme associated at high concentration with the syncytiotrophoblastic plasma membranes of term placenta, where most of p-ALP lies in the syncytial border of the villi.[13,14] Increasing amounts of p-ALP can be detected in the maternal blood as gestation progresses, and can be readily distinguished from other alkaline phosphotase isoenzymes by its selective inhibition by certain amino acids and by its heat stability.[15,16]

On the other hand, acid phosphatase (p-ACP) had been found to be present in human trophoblasts with the use of light microscopic histochemistry. This enzyme is present in the syncytium in two forms; the first one as small rounded bodies in the syncytium

(probably as lysosomal), while the second one as large membrane bound structures consisting of aggregating p-ACP containing vesicles, similar in appearance to a multivesicular body.[16]

In placentas from uncomplicated pregnancies, the number of trophoblastic p-ACP containing organelles decreases progressively as gestation proceeds whilst p-ALP activity, although abundant at term, could be demonstrated during the early stages of pregnancy.[15-16] It is suggested that the marked ACP lysosomal activity during early pregnancy is related to the architectural refashioning of the placenta during this period, and that there are two phosphatase linked transfer systems in the trophoblasts; one dependent upon ACP containing multivesicular bodies and being utilized during early pregnancy, and the other is reliant upon ALP and dominating during the second half of gestation.[15] So in normal placenta, it's strikingly apparent that there is an inverse relationship between the presence of ACP containing multivesicular bodies and the amount of trophoblastic alkaline phosphatase.[19,22,23] The aim of the current study is to study the pattern of distribution of alkaline and acid phosphatases in the placentas of prolonged pregnancies compared to that in those delivered at term. In addition, it also aims to determine whether the studied enzymes changes of prolonged pregnancy placentas represent a continuum that may begin before 42 week's gestation through comparing them with those delivered between 41-42 weeks gestation.

METHODS

This study has examined placentas obtained from 220 singleton pregnant women who delivered at Al-Batool Maternity Teaching Hospital in Mosul City in northern Iraq. The study was performed over a period of two months started form 1st August 2001 till 30th September 2005. Smokers, Rh negative mothers, and all cases of hypertension, and diabetes mellitus were excluded.

To assure accurate assignment of gestational age, study subjects were required to meet the following criteria:

- Last menstrual period (LMP) known with certainty.
- Regular menses.
- An ultrasonographic examination performed before 20 weeks gestation consistent with dates.

According to the gestational age, the study sample was divided into three groups:

Group 1: This group consisted of 100 women who delivered between 38 and 41 weeks' gestation.

Group 2: This group consisted of 60 women who delivered between 41 and 42 weeks' gestation.

Group 3: This group consisted of 60 women who delivered beyond 42 weeks' gestation. The obstetric characteristics of the three study groups are shown in Table 1. Following the placental delivery, examination of fresh (unfixed) placenta was done with infectious precautions. Several vertical strips of about 0.5-1 cm thickness were obtained from the maternal and fetal surfaces of the placentas. Two slices of 3-4 mm thickness were then taken from fetal and maternal surfaces of placental strips and immersed in normal saline for few moments to get rid of superficial blood. All tissue specimens, after being washed in normal saline, were fixed in neutral buffered formalin (10%) and transferred to the Laboratory of Postgraduate Studies at the Department of Anatomy, Histology, and Embryology in Mosul College of Medicine and kept fixed for more than 24 hours.

Tissue processing was done through dehydration, clearing, impregnation, and embedding. Thin sections of 6 microns thickness were made from each block using the microtome. The sections were mounted on 75 x 25 mm slides, and slides were marked each with an identification number of the block. Sections from the three study groups were stained using alkaline phosphatase stain (Gomori's Method-Cobalt) and acid phosphatase (Gomori's Method-Lead).[18] To ensure maximum resolution of the histochemical reaction products for microscopy and to obtain optimal contrast in photomicrography, counterstaining was omitted in all the preparations using safranin and eosin respectively.

RESULTS

Placental sections of the three study groups were stained with Gomori's stains for alkaline and acid phosphatases in order to ascertain the accurate localization and the activity patterns of these enzymes

in postterm placentas compared to term ones. The amount of alkaline phosphatase activity varied considerably among the different villi in the same placental disk, and often among different areas of the same villus, thus making the assessment difficult.

In general, group 1 placentas showed a moderate to marked reaction to ALP stain in the syncytiotrophoblastic layer appeared as brown to black deposits, while the villous stroma showed a very weak reaction, compared with the negative control. The maternal decidua, on the other hand, showed a moderate activity of alkaline phosphatase, Fig 1 and 2.

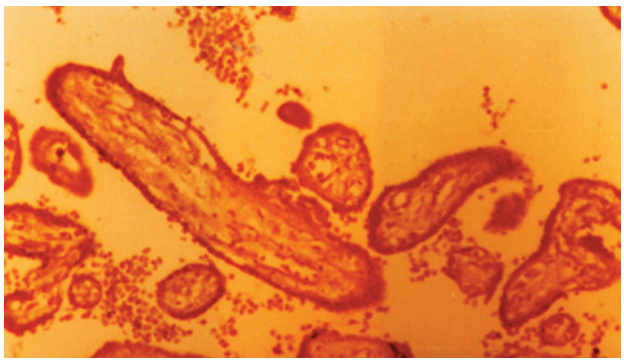

Figure 1. Photomicrograph of group 1 placental villous section stained with Gomori's stain for ALP showing a moderate reaction of syncytiotrophoblast and weak reaction of the villous stroma (ALP X400).

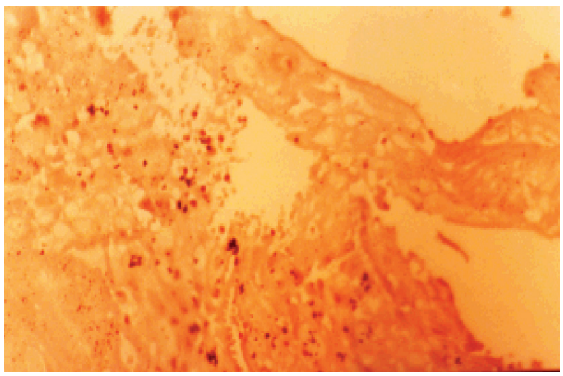

Figure 2. Photomicrograph of group 1 decidual section stained with Gomori's stain for ALP showing a moderate reaction of the maternal decidua (ALP X400).

On the contrary, group 2 and 3 placentas showed marked activity of alkaline phosphatase in the syncytiotrophoblasts, while the villous stroma of the majority of the villi in these 2 groups showed a moderate reaction to alkaline phosphatase stain. The maternal decidual sections, as in group 1 sections, showed moderate activity to alkaline phosphatase stain as in group 1, Fig 3.

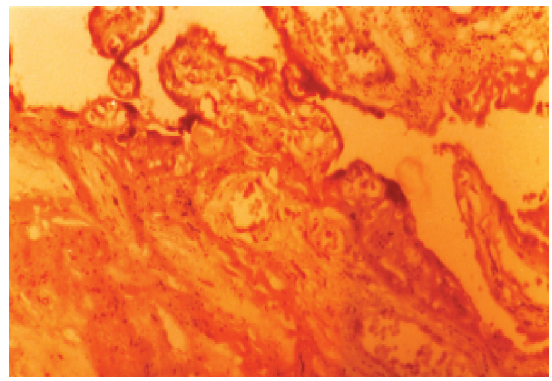

Figure 3. Photomicrograph of a placental section from group 3 stained with Gomori's stain for ALP showing moderate activity of ALP in the syncytiotrophoblasts, villous stroma and maternal decidua (ALP X250).

When stained with Gomori's ACP stain, sections obtained from group 1 placentas showed a weak reaction in both the syncytiotrophoblasts and the villous stroma, appeared as few scattered brown to black deposits, Fig 4, while the maternal decidua showed a negative reaction to acid phosphatase.

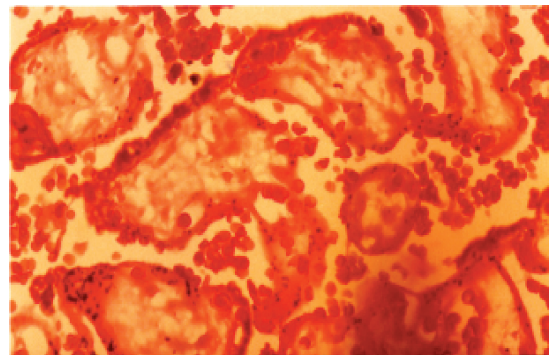

Figure 4. Photomicrograph of group 1 placental villous section stained with Gomori's method for ACP showing a weak reaction in both the syncytiotrophoblasts and the villous stroma (ACP X400).

On the other hand, sections of both group 2 and 3 placentas showed a further decrease in ACP activity in bothsyncytiotrophoblastsand villous stroma.

Group	Age (<35 years)	Age (>35 years)	Primigravidas	Multigravidas	Mode of labor		
					NVD	Instrumental	C/S
1: delivered between 38-41 weeks (n=100)	92 (92)	8 (8)	56 (56)	44 (44)	81 (81)	2(2)	17 (17)
2: delivered between 41-42 weeks (n=60)	55 (91.7)	5 (8.3)	30 (50)	30 (50)	47 (78.3)	2(3.3)	11 (18.3)
3: delivered beyond 42 weeks (n=60)	54 (90)	6 (10)	29 (48.3)	31 (51.7)	47 (78.3)	1 (1.7)	12 (20)

*NVD, normal vaginal delivery; C/S, cesarean section.
*Data are presented as number (%).

Table 1. Obstetric characteristics of the study sample.

	ALP			ACP		
	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
ST	++/+++	+++	+++	+	+/-	+/-
VS	+	++	++	+	+/-	+/-
MD	++	++	++	-	-	-

*ST, syncytiotrophoblasts; VS, villous stroma; MD, maternal decidua.
*+++, markedly positive; ++, moderately positive; +, weakly positive; -, negative.

Table 2. The reaction of syncytiotrophoblasts, villous stroma and maternal decidua to ALP and ACP stains.

Meanwhile, the maternal deciduas also showed a negative reaction to ACP stain. Table 2 shows the reaction of syncytiotrophoblasts, villous stroma and maternal decidua to both ALP and ACP stains in all groups.

DISCUSSION

The structural and functional integrity of the placenta is critical to the maintenance of a normal fetal growth and development.[19,20,21] Subjects of many studies tried to study the changes in the activity patterns of both pACP and pALP which may represent functional alteration either preceding or running concurrently with the morphological damage in the placentas as a consequence of placental ischemia .They even tried to correlate these changes with the fetal outcomes.[19,20]

The current study revealed a further decrease in the amount of ACP mainly in the syncytiotrophoblasts of group 2 and 3 placentas compared with those of group 1. However, there is, in some cases but not all, a marked increase in the ALP content mainly in the syncytiotrophoblasts of group 2 and 3 placentas compared with that of group 1 placentas. These findings are in agreement with those of other investigators[16] who studied the distribution of ACP and ALP in 22 placentas from complicated and normal pregnancies using an electron microscope, four of them were of prolonged pregnancies. They suggested that any decline in the placental functional activity in prolonged pregnancies does not therefore appear to be due to any lysosomally mediated trophoblastic damage or lack of available ALP for the trophoblastic transfer.[16,19] Alkaline phosphatase of the placenta appears to be moderately resistant to hypoxia. Uteroplacental ischemia in prolonged pregnancy leads to a considerable increase in lysosomal activity in the placental tissue, presumably as response to placental ischemia which by alters the tissue pH of trophoblast and thus stimulates lysosomal activity leading to syncytial damage with the resultant release of P-ALP from vesicles into cytoplasm.[19] The significance of the increased ALP placental content in some cases (including prolonged pregnancy) is obscure, but it could be considered as a compensatory mechanism that is activated by a possible decline in the efficiency of other non-phosphatase dependent transfer system in the trophoblasts.[20] Placentas of prolonged pregnancies showed a considerable alteration in the activity of p-ALP and ACP compared to term pattern and that these

changes represent a continuum that may begin before 42 week's gestation.

CONCLUSIONS

Prolonged pregnancy placentas showed increased alkaline phosphatase activity and reduction in acid phosphatase activity. In addition, the studied placental enzyme changes of prolonged pregnancies (including alkaline phosphatase and acid phosphatase) represent a continuum that may begin before 42 week's gestation as most of these enzymatic changes are associated with pregnancies extended between 41-42 weeks.

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Original Article موضوع أصيل

ASSOCIATION OF INDUCTION OF LABOR IN PRIMIGRAVIDAE WITH CESAREAN SECTION AND POST PARTUM HEMORRHAGE IN OMDURMAN MATERNITY HOSPITAL, SUDAN 2007

العلاقة بين حث الولادة عند الخروس وحدوث الولادة القيصرية والنزف الدموي بعد الولادة في مستشفى الولادة بأم درمان، السودان عام 2007م

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د. طه أمبلي أحمد، د. سامي حميدة

ملخص البحث

هدف البحث: دراسة مقارنة حالية أجريت بمستشفى الولادة بأم درمان في العام 2007م لدراسة العلاقة بين حث الولادة عند الخروس ونسبة حدوث الولادة القيصرية والنزف الدموي بعد الولادة.

طرق البحث: بعد موافقة إدارة المستشفى وكل المستهدفات، تم اختيار 105 سيدة خروس عشوائياً، وتم حث الولادة لديهن بعد أن أكملن 37 أسبوعاً من الحمل، كما تم اختيار مجموعة أخرى من 105 سيدة خروس وضعن تلقائياً بدون تدخل من الناحية المذكورة للمقارنة. شملت المجموعة الأولى 54 سيدة (51.4%) تم حث الولادة لديهن بواسطة بضع أغشية الجنين مع استعمال عقار الأوكسيتوسين، بينما تم حث الولادة لدى 51 سيدة أخريات (48.6%) باستعمال عقار الميزوبروستول مهبلياً ثم بضع أغشية الجنين مع استعمال الأوكسيتوسين.

النتائج: أوضحت الدراسة أن نسبة حث الولادة لدى الخروس في هذا المستشفى بلغت 6.1%، وأن طول عمر الحمل هو السبب الغالب (53.3%)، كما لوحظ وجود فرق إحصائي واضح بين معدل الولادة القيصرية في مجموعة حث الولادة 36.2% مقارنةً بالولادة التلقائية 18% (مجموعة الشاهد). أهم الأسباب لحدوث الولادة القيصرية هي ضائقة الجنين 17.1%، يليها فشل حث الولادة 13.3% ثم فشل تقدم الولادة 5.7%. لا يوجد فرق إحصائي واضح بين معدل حدوث النزف الدموي بعد الولادة في مجموعة حث الولادة مقارنةً بالولادة التلقائية.

الاستنتاجات: خلصت الدراسة إلى أن حث الولادة عند الخروس يؤدي إلى زيادة نسبة حدوث الولادة القيصرية، ولكن ليس له تأثير يذكر على نسبة حدوث النزف الدموي بعد الولادة.

ABSTRACT

Objective: *This is a descriptive cross-sectional hospital based study, to determine Cesarean Section (C/S) rate and post partum hemorrhage (PPH) in association with induction of labor in primigravidae and risk factors behind that, in Omdurman maternity hospital during the year 2007.*

Methods: *After an informed consent from patients and hospital directorate, 105 primagravidae with singleton pregnancy, were induced after completed 37 weeks for various indications, and 105 primagravidae delivered spontaneously were carefully selected for control with minimal confounders including age, education and maternal medical disorders. Fifty four cases (51.4%) were induced with artificial rupture of membranes (ARM), followed by oxytocin titration only, while 51 cases (48.6%) were induced with intra-vaginal misoprostol followed by ARM and oxytocin titration.*

Results: *In this study, rate of induction in primigravida was 6.1%, mainly due to post date (53.3%). Cesarean section was significantly higher in*

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induced patients (36.2%) than in control group (18.0%). Fetal distress was the commonest indication for C/S 17.1%, followed by failure of induction 13.3% and failure to progress 5.7%. No significant difference observed in PPH following induction or spontaneous labor.

Conclusions: *Induction of labor in primigravida is associated with an increased risk of C/S; however, there is no significant difference in association with PPH.*

INTRODUCTION

Induction of labor is an intervention designed to artificially initiate and maintain uterine contraction leading to cervical effacement and dilatation and eventually birth of the baby. It is indicated when the mother or the fetus will benefit a higher probability of healthy outcome than if birth is delayed. Commonly accepted indications include hypertensive disorder with pregnancy, diabetes mellitus, chronic renal disease, intra-uterine growth restriction (IUGR), Rh iso-immunization; prolong pregnancy, oligo-hydramnios, social and logistic factors and fetal death. It is not without complications; commonly associated with increased C/S rate, assisted forceps or ventouse delivery, rupture uterus, post partum hemorrhage (PPH), fetal asphyxia, meconium aspiration, birth trauma, fetal distress and fetal death.[1] Successful induction of labor is much related to the state of the cervix (favorability), parity of the patient and uterine sensitivity to oxytocin. Low Bishop' score of four or less is associated with increased risk of induction failure and C/S. Induction delivery interval (IDI), is longer in patients with low Bishop's score and in primagravidae than multiparous patients.[2] Recognized, relative or absolute contra-indications for induction include placenta praevia, transverse lie, previous uterine scar, and active genital herpes.

Rate of induction varies between countries and institutes from 4 to 40%.[3] Many methods have been used in induction of labor including; hot bath, balloons, sweeping of the membranes, oxytocin, and artificial rupture of membranes, prostaglandins and misoprostol.[4] Records and data regarding associated complications of induction are deficient in this hospital. This study aims to assess association of induction of labor with C/S rate and PPH, in Omdurman maternity hospital (OMH) during the year 2007.

METHODS

Sudan is the largest country in Africa, occupies 2.5 millions square kilometers, with 34,512,000 population, and a maternal mortality of 1107 per 100.000 live births.[5] Khartoum state is approximately 28000 square kilometers, with 14 hospitals, two of them are specialized maternity hospitals, and the rest are general hospitals with a maternity department.

Omdurman is a wide area, 8692 square kilometers, total population is 1937000, 410000 of them are peri-urban.[6] Omdurman maternity hospital is the main specialized maternity hospitals in Sudan. Total number of beds are 168 and an average of 70-75 deliveries per day, 24211 deliveries during 2007. In Omdurman there are 96 NGOs units and 45 health centers, 39 of them provide MCH services, 42 health visitors and 491 trained midwives.

In this descriptive cross-sectional study, data was collected by group of registrars. A two days training was done for counseling, data collection, privacy and accuracy. Data was rechecked by the authors by the end of each week for completeness and accuracy. Incomplete data was excluded before data editing. Data editing was done by a trained computer technician. No names were included in the data editing. Data obtained was analyzed using a microcomputer SPSS program.

Primigravidae at term (37-42 weeks) induced during the year 2007, were reviewed after an informed consent of the patient and hospital directorate, an equivalent number of those went into spontaneous labor were selected and reviewed as control, 1718 primigravidae were delivered in OMH, 105 cases with singleton pregnancy were induced, while 105 cases delivered spontaneously were carefully selected for control with minimal confounders including: age, education and maternal medical disorders. Fifty four cases (51.4%) were induced with artificial rupture of membranes (ARM), followed by oxytocin titration only, while 51 cases (48.6%) were induced with intra-vaginal misoprostol followed by (ARM) and oxytocin titration. Oxytocin titration started with 2.5 mlU/minute and increased gradually every 30 minutes

till reaching a satisfactory contraction (3-4 contraction/10 minutes), then the dose maintained till delivery.[7] Misoprostol started with 25 microgram in the posterior fornix, repeated after six hours, if no response dose increased to 50 microgram every six hours and not exceeding total dose of 200 microgram. Oxytocin infusion will not be initiated before six hours from last dose of misoprostol.[7]

RESULTS

Induction rate in primigravida was 6.1%, mainly due to post date (more than 41 weeks) (53.3%), followed by hypertensive disorders of pregnancy (26.7%), the rest were due to prelabor rupture of membranes (PROM), chorioamnionitis, diabetes mellitus (DM), and intra-uterine growth restriction (IUGR). Gestational age was more than 40 weeks in 79.8% of induced patients. In patients with Bishop' score of five or more (51.3%), induction was started with ARM, followed by oxytocin titration only, while patients with Bishop' score of four or less (48.7%) induction was started with intra-vaginal misoprostol followed by ARM and oxytocin titration.

In the study group, 36.2% were delivered by emergency cesarean section. (Em C/S), compared to 18% of the control (chi-square = 10.604 and p-value = 0.005) (Table 1). In 24.8% of patients delivered by Em C/S, induction was initiated by misoprostol followed by ARM and oxytocin titration, while 11.4% were induced only by ARM and oxytocin (Table 2). Em C/S was indicated for fetal distress in 17.1%, 13.3 % for failure of induction and 5.7% for failure of progress. Patients delivered by Em C/S, 33.4% of them had a Bishop' score of four or less. Assisted forceps delivery was done in 3.8% and 2% in study group and control respectively. The rest of both groups ended in unassisted vaginal delivery.

Induction delivery interval (IDI) was less than 12 hours in 42.6% of patients, 57.4% between 12 24 hours. No cases had IDI of more than 24 hours. PPH was associated with 6.7% and 6% for study group and control respectively. Birth canal injury was associated with 4.8% in study group and 4% in the control.

DISCUSSION

Rate and methods of induction in general varies between countries and institutes from 4 to 40%.[3] In this study, rate of induction in primigravidae was found to be 6.1% in OMH during the year 2007. This rate is relatively low compared to other studies. A recent study, recorded a crude rate of 19.5% in Finland and 15-20% in United Kingdom. However, an over all rate of 4-40% was recorded in one center in UK.[3] Indications for induction of labor in this study were mainly due to post date, (53.3%) and PIH (26.7%). This is consistent with several studies, where PIH and post date were among the most common indications, reaching more than 80%.[1] However, use of misoprostol for induction, (48.6%), may reflect a state of low Bishop' score, particularly in cases other than post date, which may increase IDI and the need for a bigger dose of oxytocin, both of them will increase the risk of fetal distress and the need for C/S.

Mode of delivery	Cases under study n=105		Control group n=105	
UVD	63	(60.0%)	84	(80.0%)
AFD	04	(03.9%)	02	(02.0%)
C/S	38	(36.2%)	19	(18.0%)
Total	105	(100.0%)	105	(100.0%)

Chi-square = 10. 604
p-value = 0.005

AFD: Assisted forceps delivery
UVD: Unassisted vaginal delivery

Table 1. Distribution of induced patients and the control according to mode of delivery.

Mode of induction	Vaginal delivery		C/S		Total	
Oxytocin and ARM	44	(41.9%)	12	(11.4%)	56	(53.3%)
Misoprostol + ARM and oxytocin	23	(21.9%)	26	(24.8%)	49	(46.7%)
Total	67	(63.8%)	38	(36.2%)	105	(100.0%)

Table 2. Association of C/S and the method of induction among study group.

A C/S rate of 36.2% was reported in the study group, versus 18% in the control, (chi-square=10.604 and p-value=0.005). This is consistent with international C/S awareness network report.[8] The study reported a higher rate of C/S for patients of a Bishop' score of four or less, and only 6.7% C/S rate for patients with Bishop' score of five or more. This is also consistent with an Indian study that reported a 40% rate of C/S in women with Bishop' score of four or less and only a 15% C/S rate in women with Bishop score of five or more.[9] This study also detected a significant difference in C/S rate between mothers induced only with ARM and oxytocin and those where misoprostol was used (11.4% and 24.8%) respectively.

Cesarean section was indicated in 17.1% for fetal distress, 13.3% for failure of induction and 5.7% for failure of progress. In a recent meta analysis for association of C/S and induction, the most common indications for C/S were arrested dilation of the cervix and descend of the presenting part.[10] This high rate of fetal distress in this study may be due to our subjective diagnosis for fetal distress, based on using Pinard and CTG without confirmation by scalp vein blood PH. In this study, association of PPH is not significantly different from control. It is usually due to atonia, which may be related to IDI. In this study IDI was not higher than 24 hours any more. This may be due to careful selection of cases for induction based on cervical assessment prior to induction. This may also explain the low level of induction rate in our study.

CONCLUSIONS

This study shows a low rate of induction of labor in primigravidae in OMH 2007. Induction of labor is associated with an increased risk of Em C/S; however, there is no significant difference in association of PPH.

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Original Article

موضوع أصيل

CHANGES IN SERUM CALCIUM, PHOSPHATE, ALBUMIN AND PARATHYROID HORMONE BEFORE AND AFTER HEMODIALYSIS IN SUDANESE PATIENTS WITH END-STAGE RENAL FAILURE

التبدلات الطارئة على المستويات المصلية للكالسيوم، الفوسفات، الألبومين وهرمون جارات الدرق PTH قبل وبعد إجراء التحال الدموي عند المرضى السودانيين في المراحل المتقدمة من القصور الكلوي

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ملخص البحث

هدف البحث: دراسة تراكيز هرمون جارات الدرق PTH والمعادن العظمية في المصل والترافق فيما بينها قبل وبعد التحال الدموي.

طرق البحث: دراسة مقطعية عرضية شملت مرضى المراحل النهائية من الآفات الكلوية والموضوعين على معالجة مستمرة بالتحال الدموي. تم قياس المستويات المصلية للكالسيوم، الفوسفات، البولة، الكرياتينين، الألبومين وهرمون جارات الدرق السليم (iPTH).

النتائج: شمل البحث 50 مريضاً (40 ذكور، 15 إناث)، بمعدل أعمار وسطي 40.3±26.5 سنة ومدة وسطية للتحال 35 شهراً. لوحظ انخفاض هام في مستويات هرمون جارات الدرق بعد إجراء التحال (945.8+995.9 بيكوغرام/مل قبل التحال و781.7±928.1 بيكوغرام/مل بعد التحال) إلا أنها بقيت فوق القيم الطبيعية. كما لوحظ اختلاف كبير في مستويات الفوسفات في المصل قبل وبعد التحال (5.59±1.8 ملغ/مل و4.38±1.2 ملغ/مل) على الترتيب. أظهرت تراكيز الكالسيوم الوسطية في المصل تغيراً كبيراً بعد التحال (6.7±1.5 ملغ/دل) مقارنةً بالفترة قبل التحال (5.6±6.7 ملغ/دل). توجد علاقة إيجابية بين PTH والفوسفات (r=0.30، p=0.03) وعلاقة سلبية مع الكالسيوم (r=−0.299، p=0.04). لوحظ أيضاً انخفاض هام في مستوى البولة والكرياتينين بعد التحال، بينما لم يلاحظ حدوث تبدلات هامة في مستويات الألبومين.

الاستنتاجات: يلاحظ حدوث تناقص هام في مستويات هرمون جارات الدرق بعد إجراء التحال مع زيادة واضحة في مستوى الكالسيوم المصلي. لا توجد اختلافات هامة على صعيد هرمون جارات الدرق PTH بالنسبة للعمر، والجنس، ومدة إجراء التحال عند المرضى السودانيين.

ABSTRACT

Objective: *To determine the concentrations of serum parathyroid hormone (PTH) and bone minerals and their association before and after hemodialysis.*

Methods: *A cross sectional study was done on patients with end-stage renal disease (ESRD) on treatment with maintenance hemodialysis (HD). Levels of serum calcium, phosphate, urea, creatinine,*

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albumin, and intact parathormone (iPTH) were measured.

Results: *The total number of patients studied was 50 (40 males; 10 femals), the mean age was 40.3±26.5 years, and the average duration on hemodialysis (HD) was 53 months. Serum PTH level was significantly lower after hemodialysis treatment; it was 945.8±995.9 pg/ml and 781.7±928.1 pg/ml before and after HD respectively, but still over the normal range. Serum phosphate concentration was remarkably differ before and after HD (5.59±1.8 mg/ml vs 4.38±1.2 mg/ml respectively). In contrast, the mean value of serum calcium concentration was changed significantly after HD (6.7±1.5 mg/dl) compared with the level before HD (5.6±6.7 mg/dl). PTH correlated positively with phosphate (r=0.30,* p=*0.03), and negatively with calcium (r=-0.299,* p=*0.04) levels. A significant decrease in serum urea and creatinine levels was reported after HD. Serum albumin showed no significant difference before and after HD.*

Conclusions: *PTH was remarkably decreased post dialysis in our patients with definite increased serum Ca^{+}. There is no significant difference between PTH and patient's age, sex and duration in HD Sudanese patients.*

INTRODUCTION

End-stage renal disease (ESRD) is a growing epidemic worldwide and it is estimated that there are about a million people on renal replacement therapy worldwide.[1]

Hyperparathyroidism is the common finding in patients with renal insufficiency. Hyperphosphatemia, hypocalcaemia, and resistance to the action of parathyroid hormone (PTH) are the main factors involved in the pathogenesis of secondary hyperparathyroidism.[2] PTH function is to maintain calcium level in the blood without an increase in the level of PO4.[3] It was observed that during hemodialysis, there is a decrease in serum PTH levels caused by the influence of calcium from the dialysate to the blood. At the same time, during the first one to two hours of hemodialysis there is a decrease in serum phosphate that potentially could directly affect PTH secretion.[3] A growing body of evidence suggests that high levels of serum phosphate, calcium, calcium-phosphate product (CaxP), and parathyroid hormone (PTH) are contributing to the substantial increased risk of cardiovascular death worldwide.[4,5,6,7] In contrast, other studies have shown that low PTH and calcium levels are associated with mortality,[8,9] or no association at all.[10] Since, little is known about the PTH level and bone mineral levels in sudanese patients with ESRDS. This study aimed at determining the association between PTH and bone mineral levels, and factors contribute to prevalence of renal failure, that can provide accurate clinical information for better therapeutic management, thus, decreases the risk of cardiovascular diseases.

METHODS

Fifty ESRD patients (40 males, 10 females) who were under regular hemodialysis treatment at the Gezira Dialysis Hospital For Renal Diseases and Surgery (GHRD & S) were randomly selected during December 2005 June 2006 based on questionnaire and clinical examination. The mean age (mean±SD) was 40.3±26.5 years (range 10 to 70 years), and their average length of time on dialysis was 53 months (6 to 130 months). Age, sex, locality, educational levels, causes of Chronic Renal Failure (CRF), duration of dialysis, clinical feature, family history and drugs were reviewed. Patients were on a four-hour two times only per week hemodialysis schedule. All hemodialysis treatment was performed on volume controlled hemodialysis machines, using diasylate buffer containing 1.75 mmol/L calcium and a polysulfone membrane dialyzer. The research protocol and the consent form were approved by the University Ethics Committee; a written consent was obtained from each patient after explaining the purpose of this study.

Venous blood samples (5 ml) were collected before and after hemodialysis. The sera were kept frozen at -20^{o}C until analysis. Serum was analyzed for intact parathyroid hormone (iPTH), calcium, phosphate, urea, creatinine, and albumin. Intact PTH (iPTH) was measured with an immunoradiometric assay for parathyroid hormones (Allegro, Nichols Institute, San Juan Capistrano, Calif, USA). Normal values are 10-65 pg/ml and the range of the standard curve is 0 to 1400 pg/ml.

Kits and chemicals for serum calcium, phosphate, albumin, urea, and creatinine measurement were

obtained from Spin React Company (Spain), Linear Chemical Company (Spain), using the standard colorimetery methods as prescribed by the companies, the normal range for ionized calcium and phosphate using these methods are 9.2-9.6 mg/dl; 2.7-4.5 mg/dl respectively.

Statistical analysis: Descriptive data are reported as mean±SD. Student's t-test was used to evaluate the significant difference between all parameters. Statistical correlations were assessed using a partial correlation test. Statistical significance was fixed at a p-value<0.05.

RESULTS

Fifty ESRD patients under regular hemodialysis (HD) treatment were included in this study, the demographic data, characteristics of the patients and causes of ESRD are presented in Table 1 and Figure 1. Eighty two percent of the CRF patients were below the age of fifty years, 80% of the total patients selected in this study were unemployed, 38% of the study subjects were of unknown etiology, however, 28% are owing to hypertension, and 14% are diabetic.

Changes in the serum iPTH, phosphate, and calcium levels before and after HD are shown in Table 2. The mean serum PTH level was significantly lower (p<0.000) after hemodialysis treatment; it was 945.8±995.9 pg/ml and 781.7±928.1 pg/ml before and after HD respectively. There is no significant difference between PTH and patient's age, sex and duration in HD.

Likewise, a significant difference in serum phosphate levels was found before and after HD (5.59 ±1.8 mg/ml versus 4.38±1.2 mg/ml respectively, (p<0.000). The mean value of serum calcium level was changed significantly after post HD (6.7±1.5 mg/dl) compared with the level before HD (5.6±6.7 mg/dl) (p<0.000).

Characteristics	Mean±SD or %
Age (years)	40.3±26.5
Males	90
Years on HD	4.4±3.9
Educational level	
Illiterate	10
Primary	50
Secondary	32
University	8
Occupation	
Unemployed	80
Employed	20

Table 1. Demographic data and characteristics in ESRD patients with regular hemodialysis.

Serum urea and creatinine levels were decreased significantly (p<0.000) post HD treatment. The difference between serum albumin level before and after HD treatment showed no significant differences (Table 2).

Significant inverse correlation was seen between PTH and calcium (r=-0.299, p=0.04). In contrast, there was a significant poitive correlation between PTH and phosphate (r=0.30, p=0.03) (Table 3).

Group	Correlation	p-value
iPTH vs calcium	-0.299	0.04
iPTH vs phosphate	0.30	0.03

Table 3. Correlation coefficient between intact PTH, calcium, and phosphate levels before HD.

Parameters	Before hemodialysis (Mean±SD)	After hemodialysis (Mean±SD)	p-value
iPTH	945.8±995.9	781.7±928.1	0.000
Phosphate	5.59±1.8	4.38±1.2	0.000
Calcium	5.6±1.5	6.7±1.5	0.000
Albumin	3.6±0.63	3.9±0.61	0.01
Urea	165±44.1	71.3±27.5	0.000
Creatinine	9.4±3.0	4.1±1.8	0.000

Table 2. Biochemical serum values of the 50 hemodialysed patients before and immediately after hemodialysis. (GHRD&S) Medani, Sudan.

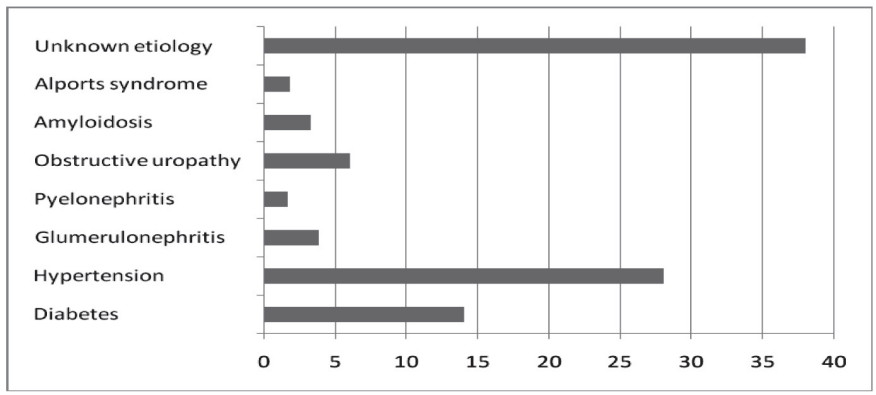

Figure 1. Causes of ESRD in ESRD patients with regular hemodialysis.

DISCUSSION

This study designed to outline the association between plasma concentration of PTH and bone minerals before and after hemodialysis. Since, the estimated number of patients with end-stage renal disease (ESRD) referred to Gezira Hospital for Renal Diseases and Surgery (Central Sudan) was dramatically increased from 200 to 3350 patients on hemodialysis (HD) over the last five years. In this study we observed a remarkable decrease in the serum level of PTH following post HD; however, it was over the normal level. Probably, the maintenance of high serum phosphorus levels during hemodialysis prevented, in part, the inhibition of PTH by calcium, which strongly suggests that in hemodialysis patients high serum phosphate contributes directly to the elevation of PTH levels despite normal or high serum calcium concentration.[11] Salomon et al proved this finding by comparing the PTH concentration before and after HD in small group of hemodialysed children using different assays methods.[12]

During regular hemodialysis, the high serum phosphate concentration decreased to normal levels as phosphate diffuses across the dialyzer; in our patients, serum phosphate level before HD was reported over the normal range and then decreased drastically within the normal range. This observation may reflect the strong association between high serum phosphate level and the increase of the minimal PTH, hence, the significant positive correlation between them. Indeed, the administration of buffer lysate that consist of 1.75 mmol/L calcium ion concentration increase its level to the normal range along with decreases serum immunoreactive parathyroid hormone in patients with chronic renal failure.[13,14] In this study we observed a remarkable increase in the calcium level after HD, but it falls below the normal range. It was previously reported that hyperphosphatemia can cause hyperparathyroidism by either depressing the plasma levels of ionized calcium and/or affecting serum Vit D3 levels.[15,16] Based on this result, dialysate administration should be prescribed with reference to plasma calcium levels.

While, low serum calcium is the main stimulus for PTH secretion [11] a significant inverse correlation between serum calcium and PTH levels was reported in this study. In agreement with Ozmen et al, we observed statistically significant decrease in serum urea and creatinine levels after HD.[17] Albumin levels are reduced as part of the acute-phase response in HD. Plasma volume found to be expanded in HD patients, this expansion tends to decrease albumin concentration.[18] To improve therapy and prevent cardiovascular diseases, prospective studies of large sample of patients with ESRD are needed.

CONLUSIONS

PTH was remarkably decreased post dialysis in our patients with definite increased serum Ca^{+}. There is no significant difference between PTH and patient's age, sex and duration in HD Sudanese patients.

Since the urea reduction ratio is optimal we could say that although the dialysis carried for two session a week because of our meager resources, yet it is at acceptable level.

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Original Article موضوع أصيل

EFFECT OF CHEWING KHAT IN CHANGING CIRCADIAN RHYTHM FOR ACUTE MYOCARDIAL INFARCTION PATIENTS IN SANA'A CITY AND IT'S ROLE AS A RISK FACTOR FOR ACUTE MYOCARDIAC INFARCTION IN YEMEN

تأثير تعاطي القات في تغيير النظم اليومي لاحتشاء العضلة القلبية الحاد في صنعاء ودوره كعامل خطورة للاحتشاء الحاد في اليمن

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ملخص البحث

هدف البحث: على الرغم من أن عوامل الخطورة لاحتشاء العضلة القلبية الحاد قد درست بشكل معمق في العديد من الدول حول العالم، إلا أن الدراسات المجراة حول هذا الموضوع في اليمن ما تزال قليلة ومقتصرة على دراسة بعض مظاهر المرض فقط. ومن هذا المنطلق تم الشروع بهذا البحث لتحديد الخصائص العامة وعوامل الخطورة الملاحظة لدى المرضى اليمنيين الذين يتظاهرون باحتشاء قلبي حاد وتسليط الضوء على الدور المحتمل لعادة تعاطي القات كعامل خطورة لاحتشاء العضلة القلبية الحاد في اليمن بالإضافة لدور هذه المادة في تغيير النظم اليومي لظهور أعراض الاحتشاء مقارنةً بالدول الأخرى.

طرق البحث: دراسة وصفية مستقبلية تمت في المشفى بحيث شملت جميع المرضى الذين تم قبولهم بحالة احتشاء عضلة قلبية في المشافي العامة الثلاثة الرئيسية في مدينة صنعاء خلال الفترة من 1 تشرين الأول 2005 وحتى 30 أيلول لعام 2006. تم أخذ معلومات حول المريض (الاسم، العمر، الجنس، الإقامة، العادات الشخصية، وقت بدء الألم، السوابق المرضية والقصة العائلية لوجود نقص تروية قلبية). تم تسجيل مشعر كتلة الجسم BMI والضغط الدموي، مع قياس سكر الدم ومشعرات الشحوم في الدم على الصيام. تم جمع البيانات ومن ثم جرى تحليلها باستخدام نظام SPSS.

النتائج: تم خلال فترة الدراسة قبول 264 مريضاً في المشافي الثلاثة، حيث كان متوسط عمر المرضى 50 سنة، جميعهم متزوجين مع وجود سيطرة للذكور (84% من المرضى). أما بالنسبة لعوامل الخطورة الملاحظة لدى المرضى فكانت على النحو التالي: مضغ القات (90.15%)، التدخين (72%)، فرط التوتر الشرياني (21%)، البدانة (15.96%)، فرط شحميات الدم (27%)، الداء السكري (24%)، وجود قصة سابقة لنقص تروية قلبية (13%). لوحظ أن وقت بدء الألم الصدري عند معظم مرضى البحث كان في فترة ما بعد الظهر (34%)، وفي الساعات الأولى من الليل (24%) وذلك بخلاف النظم اليومي الاعتيادي لاحتشاء العضلة القلبية الحاد في المناطق الأخرى حول العالم وهو الصباح الباكر.

الاستنتاجات: لوحظ أن المرضى اليمنيين المصابين باحتشاء العضلة القلبية الحاد هم أصغر عمراً بالمقارنة مع نظرائهم في الدول الغربية وحتى العربية. لوحظ وجود عوامل الخطورة الشائعة والتي تشمل فرط التوتر الشرياني، الداء السكري وفرط شحميات الدم عند نسبة قليلة من المرضى اليمنيين. لوحظ وجود التدخين بشكل شائع لدى المرضى وذلك بالمرتبة الثانية بعد عادة تعاطي القات والتي يمكن اعتبارها عامل خطورة جديد لدى هذه المجموعة من المرضى. أخيراً لوحظ أن النظم اليومي لاحتشاء العضلة القلبية في اليمن يختلف عن ذلك الملاحظ في المناطق الأخرى من العالم.

ABSTRACT

Objective: *Although the risk factors for acute MI were studied thoroughly in different countries worldwide, few studies in our country had been done, and cover only limited aspects of acute myocardial infarction (MI), for this reason we start this study to determine the general characters and risk factors of Yemeni patients presented with acute (MI); and to highlight on the possible role of Khat chewing as potential risk factor for (MI) in our country in addition to its possible effect in changing its circadian rhythm.*

Methods: *The study was prospective; hospital based descriptive study including all patients admitted with*

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the diagnosis of acute MI to the 3 main general hospitals in Sana'a city in the period from 1 October 2005 to 30 September 2006. Name, age, gender, residence, habits, time of onset of chest pain and previous history or family history of ischemic heart disease (IHD) was taken. Body mass index (BMI) and blood pressure were recorded, fasting lipid profile and blood sugar were measured. The data was collected and then analyzed using SPSS system.

Results: *During the study period, 264 patients were admitted with a mean age of 50 years, all of them were married with predominant male gender 84%. Risk factors observed in our study were Khat chewing in 90.15%, smoking in 72%, hypertension in 21%, obesity in 15.96%, hyperlipidemia in 27%, diabetes mellitus (DM) in 24% and past history of ischemic heart disease was found in 13%. We notice that the onset of chest pain in most of our patients was in the afternoon 34% and early night hours 24%, which is opposite to the usual circadian rhythm of acute MI in other parts of the world which is predominant in the early morning.*

Conclusions: *Yemeni patients sustained acute MI are younger than western people or even other Arab countries. Common risk factors as hypertension, DM and hyperlipidemia were noticed only in minority of our patients. Smoking is a common risk factor after Khat chewing habit which was proposed as new risk factor. Circadian rhythm of acute MI in Yemen is differing from other part of the world.*

INTRODUCTION

Despite impressive strides in diagnosis and management over the past three decades, acute myocardial infarction (AMI) continued to be a major public health problem in the industrialized world and is becoming an increasingly important problem in developing countries.[1]

In our country, there are few studies dealing with this subject and hence we believe that more effort is needed to cover other aspects of the disease, so we study the general characters of Yemeni patients, traditional risk factors for myocardial infarction in the 3 main general hospitals in Sana'a and possible effect of Khat chewing habit as possible additional risk factor and its effect on the time of presentation.

METHODS

The study was non interventional analytical cross sectional, prospective study, conducted in the 3 main general hospitals in Sana'a city (Kuwait teaching hospital, Thowra modern hospital and Algomhoori hospital) during the period from 1 October 2005 to 30 September 2006. All cases admitted with a diagnosis of acute myocardial infarction (AMI) were included in the study based on 2 of 3 criteria (chest pain, ECG, cardiac enzymes), the definition proposed in the literature.[2] The information is obtained from interview with the patients and their relative for identification of age, gender, marital status and special habits. Files of patients were carefully looked for the ECG and other investigations for confirmation of acute MI which was suggested in other literature.[2] Variables studied were age, gender, marital status, different type of tobacco use (cigarette smoking, Madda'a (Hubble bubble), Shamma (tobacco powder is instilled between the lower lib and the gum)), hypertension (HTN), diabetes mellitus (DM), previous attack of AMI, family history of ischemic hart disease (IHD). Lipid profile, body mass index (BMI) also obtained.

Some of the risk factors are specifically defined, e.g. Khat chewing habit is defined as daily (if the habit was daily irrespective of how many hours it does persist usually the Khat sessions start after the lunch and it may persist for 2-8 hours), weekly (if the habit was at the week holidays, usually in Yemen 2 days at the end of week), occasionally (if the habit was not daily or weekly).

Hypertension (HTN) is defined either from the history of HTN from the patient or 3 or more successive blood pressure measurement exceeding 140/90 during hospitalization. Diabetes mellitus (DM) was determined if a history of this disease had been given or medication use for (DM) management like insulin or oral hypoglycemic drugs during hospitalization. Obesity is defined using (BMI) suggested by WHO.[3] Hyperlipedemia (total cholesterol 200 mg or above) is defined according to literature.[4] Data was collected by questionnaire sheet prepared by the team work and filled by general practitioner trained to fill the required data. The nature of the study was explained to the patient and their relatives and verbal consent was obtained. The Data was analyzed by mean of SPSS program.

RESULTS

During the 2005-2006 period, a total of 264 patients were admitted to Coronary Care Unit (CCU) with a

diagnosis of (AMI), of which 84% were men. The mean age of study population was (50 years). The distribution of age group of AMI is given in Table 1 which shows predominant affection in the age group (51-60) in 88 patients (33.3%).

Age Groups	Frequency	Percent
21-30	4	1.5
31-40	18	6.8
41-50	72	27.3
51-60	88	33.3
61<	82	31.1
Total	264	100.0

Table 1. Distribution of age groups among myocardial infarction patients.

All patients were married, (87%) had no family history of ischemic heart disease (IHD), (Table 2).

Risk factor	No.	Percent
Khat chewing	238	90.15
Smoking	220	83.33
D.M	64	24.24
Hypertension	58	21.96
Hyperlipidemia	71	26.89
Obesity	42	15.96
Family history	32	12.13
(Total number of patients = 264)		

Table 2. Risk factors for acute myocardial infarction in Yemeni patients.

Most of the patients were having a normal BMI as shown in Table 3.

BMI	No.	%
Normal (20-25 kg/m^2)	164	62.12
Overweight (25-30 kg/m^2)	58	21.96
Obese (>30 kg/m^2)	42	15.90

Table 3. Shows the BMI of patients admitted with AMI.

Sixty four patients (24.24%) found to be diabetic. Regarding cholesterol level it was high (above 240 mg/dl) in 26.89%, and borderline (240-200 mg/dl) in 17%, while most of the patients had optimal (less than 200 mg/dl) cholesterol level.

Eighty five patients (21.96%) were hypertensive on admission and during hospitalization.

Khat chewing habit was recorded in 238 patients (90.15%), most of them were daily Khat chewers,Table 4.

Chewing Khat	Frequency	Percent
Daily	206	86.6
Weekly	20	8.4
Occasionally	12	5.0
Total	238	100.0

Table 4. Pattern of chewing Khat.

One hundred sixty eight (63.6%) of patients who sustain AMI while they were chewing Khat or few hours after (all of them were daily Khat chewer), 70 (26.5%) had different time pattern of Khat chewing and they were not in the golden hours of Khat chewing, only 26 (9.8%) never chew Khat. Fifty five percent of Khat chewers know that Khat may have an effect on the condition.

Fifty percent were active smokers (cigarettes, Habbel bubble, Shamma), 32.7% were ex smokers at variable period before the event but all of them less than two years, only 16% never smoke.

Thirty nine percent experienced the first symptom of MI during afternoon which is the time of Khat chewing and 24% at night while 36% in early morning.

Afternoon		Early night		p-value
No. of patients	%	No. of patients	%	
104	39	65	24	<0.003
Afternoon+early night		Morning		p-value
No. of patients	%	No. of patients	%	
169	64	95	36	<0.0001

*Chi-square applied to the 3 groups shows highly significance difference between afternoon and night with early morning group.

Table 5. Circadian rhythm of MI in Yemeni patients.

DISCUSSION

Despite the continuing decline in the incidence of cardiovascular disease (CVD) in developed countries, the incidence is still increasing in developing nations.[5,6] In our country the incidence of CVD and it's risk factors is not known and no data available yet based on firm epidemiological studies, for this reason we start this hospital based study on the character of Yemeni patients presented with acute MI, and common risk factors which may predispose to the event with especial concern on the possible effect of Khat chewing habit.

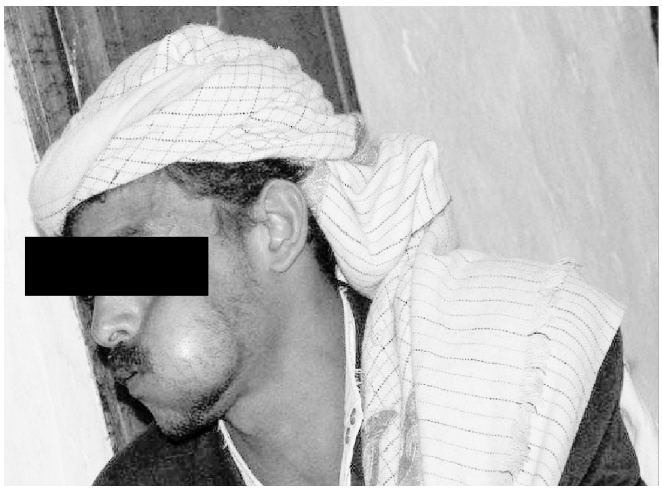
The mean age of our patients was 50 years which is younger than the age of surrounding countries in the Gulf area like in Kuwait where the mean age was 56.7+/-11.9 years,[7] and younger than European Network for Acute Coronary Treatment (ENACT) group of patients.[8] Eighty four percent (84%) men are affected which was more than women (16%), which goes with same observation noted in a study in Saudi Arabia in 1999,[9] and other literature.[10] Modifiable risk factors recorded in our patients like smoking differ in some way from other countries by the presence of different pattern of tobacco use (cigarette, Madda'a and Shamma) which was noticed in 220 patients (83.3%) which goes with the same findings in a previous study in Yemen in 2005.[11] In contrast to our situation the non smokers are higher by 3 fold than smokers in S. Arabia.[5]

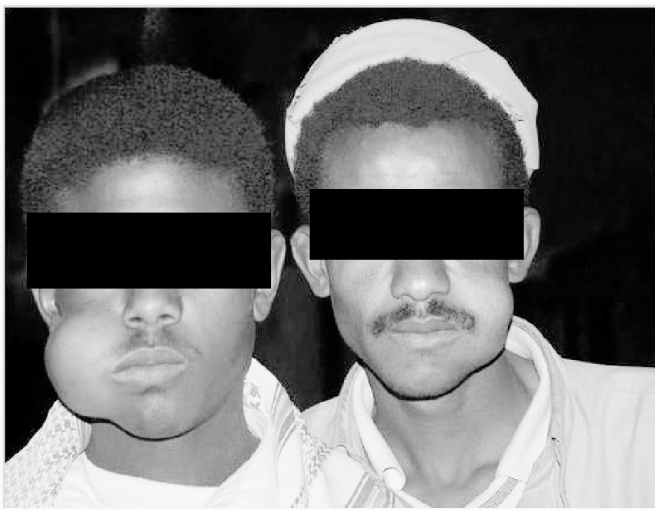
Khat chewing which is widely used in Yemen as a pleasure habit and recently it becomes popular among the community, the amount and the duration all were increased, also females and school aged children are chewing on larger scale than before as reported by kanila in 2000.[12] We believe it is important to give some information about the Khat plants and its pharmacological component. (Khat) or Catha edulis is a plant indigenous to Yemen, Ethiopea and East Africa, has sympathomimetic and euphoriant effect. The most important chemical component discovered was an alkaloid (Katin), subsequent fraction were obtained namely cathine, cathinine, cathidine, eduline and ephedrine. Of these cathine proved to be (+) norpseudoephedrine and it may be the most important ingredient.[18]

Khat also contains tannin (7-14%), vitamin C (150 mg\100 g of fresh leave) and minute amounts of thiamine, niacine, riboflavine and carotene as well as iron and amino acids. (some pictures for khat plant and khat chewers are shown below).

One type of Khat (Ansi)

Another type of Khat (Baladi)





Pattern of Khat chewing

The cathenone is the most active component of Khat is believed to have indirect sympathomimetic effect with release of endogenous catecholamine from the peripheral and central neurons thus accelerating the heart rate and raising the blood pressure as reported by Kholi and Goldbreg in 1989.[13] Cardiovascular complications from cathenone abuse may therefore be similar to those of amphetamine. Acute myocardial infarction could be precipitated by the increased myocardial oxygen demands from cardiac stimulation and peripheral vasoconstriction by cathenone and coronary vasoconstriction.

The relation between misuse of amphetamine, AMI and arrhythmias is well documented.[14] Clinical correlation was seen also in the study conducted in Yemen by Dr. Mutareb and his colleague which concluded that chewing Khat is a potential modifiable risk factor for AMI.[11]

In Our study 238 patients (90.15%) were Khat chewers and in most of them the first manifestation of AMI started in the afternoon period (39.4%) and at night (24%) which coincide with the peak time of khat chewing or immediately after it (this was statically significant as shown in (Table 5), this result was opposite to a well known higher incidence of AMI from 6 AM to noon in other countries,[15] this support the conclusion of other studies that Khat chewing is one of the risk factors for AMI in Yemen.[11]

It is important to note that Khat chewing increase the desire of smoking and hence the risk is aggravated, and both habits together were found in 76% of patients. Khat chewing habit solely seen in few countries including our country needs aggressive work and interventions to minimize its dissemination and to decrease its possible side effects.

Hypertension is a silent CVD risk factor and its prevalence is steadily increasing with poor response to medications where only 25% of hypertensive patients have effective therapy.[16] In our series we were expecting to have high percent of our patients to be hypertensive because most of them are Khat chewers which is known to induce hypertension, but unexpectedly we found 78% of them to be normotensive which is approximately similar to results in other literature 80%.[9] History of diabetes mellitus (DM) was found in 24.24% which is less than that which had been reported in Sana'a city in 2005 which was 30.7%[11], and markedly less than that reported in Saudi Arabia which was 68%. Most of our patients 148 (56.06%) has normal lipid profile which is nearly parallel to the observation in Saudi Arabia which seen in (54%).[9] In contrast to other series from other countries,[9,17] body mass index (BMI) was found to be within normal range in the majority of our patients 62.12% and obesity was observed only in (15.96%), this can be explained by low socioeconomic state of most of our population, in addition to Khat chewing which is known that it suppress the appetite.[18]

CONCLUSIONS

Yemeni patients present with acute MI are younger than other Gulf and Western countries, and men are affected more than women. Main risk factors noticed in our study differ from other countries in which hyperlipedemia, obesity, DM, HTN are present in lesser proportion of patients. Smoking habit is present in the majority of our patients after Khat chewing which is possible unique risk factor in our country which needs further evaluation to know its exact role and its possible effects or complications on the cardiovascular system or other systems. The circadian rhythm of acute MI in our country is differing from other parts of the world in that it was occurred in the afternoon and early night hours which coincide with time of Khat chewing or immediately after it. Our results spot light on this bad habit and suggest that appropriate measures are needed to minimize the wide spread use of Khat in the country and continuous education program by different media is also necessary.

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Original Article

موضوع أصيل

PHYSICAL VIOLENCE AGAINST SCHOOL CHILDREN

العنف الجسدي الممارس ضد أطفال المدارس

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ملخص البحث

هدف البحث: تحديد مدى انتشار العنف الممارس ضد الأطفال في العراق عبر دراسة عينة من الأطفال في المدارس الابتدائية وتسليط الضوء على بعض العوامل المرافقة له.

طرق البحث: تم إجراء مسح شمل 60 مدرسة ابتدائية، حيث تمت مقابلة 4528 طالباً (2396 ذكراً و2132 أنثى، أعمارهم بين 8 و11 سنة) لجمع المعلومات حول العمر، الجنس، عدد الأخوة والأخوات، مهنة الوالد والوالدة، بالإضافة إلى معلومات حول تعرضهم للعنف (مصدره، تواتره، أسبابه، نتائجه)، وارتكاسهم وشعورهم تجاهه.

النتائج: أظهرت النتائج تعرض 64% من الأطفال في العينة المدروسة إلى العنف، حيث كانت الأم هي مصدر العنف في معظم الحالات (62.5%) يليها الأب (59.2%). شكل الشجار السبب الأساسي للعنف (74.9%). أما بالنسبة للجنس، فقد تعرض 75.5% من الصبية و52.5% من الفتيات إلى العنف. شكل الصمت الارتكاس الأكثر شيوعاً تجاه العنف (38.6%)، يليه البكاء (33.6%)، والعنف المضاد (14.1%). وفيما اعتبر 44.7% من الأطفال أن العنف حالة غير جيدة، اعتبرها (29.3%) آخرين حالة طبيعية. أظهرت النتائج أيضاً أن 93% من الأطفال الذين يعيشون في أسر تعاني العنف بين الأزواج قد تعرضوا للعنف الجسدي.

الاستنتاجات: أظهر البحث تعرض ثلثي الأطفال للعنف سواءً في البيت أو المدرسة أو الشارع، كما أن الأبوين هما المصدر الأساسي للعنف ضد الأطفال. تحمّل بعض الأطفال حالة العنف الممارسة ضدهم واعتبروها حالة طبيعية. توجد علاقة بين العنف الزوجي ضد المرأة والعنف الممارس ضد الأطفال. توجد علاقة وثيقة بين عدد الأفراد في الأسرة وممارسة العنف ضد الأطفال.

ABSTRACT

***Objective**: To find out the prevalence of violence against children in Iraq through a sample of primary school children, and to throw light on some of the associated factors.*

***Methods:** Sixty primary schools were surveyed. A total of 4528 students (2396 boys and 2132 girls age between 8-11 years) were interviewed to collect information about age, gender, number of sisters and brothers, father's and mother's occupation, in addition to information about exposure to violence (source, frequency, reasons for violence, sequel of violence, reaction and feeling of the child towards violence).*

***Results:** The results showed that 64% of the sample children were exposed to violence. The main source was the mother (62.5%) followed by the father (59.2%). Quarrels were the main reason for violence (74.9%). Regarding gender; 75.5% of the boys and 52.5% of the girls were exposed to violence. The most common reaction of the child was silence 38.6%, crying 33.6% and violence 14.1%. While 44.7% agreed that violence was not good, 29.3% take it as a natural norm. The results also showed that 93% of children living in families with domestic violence were exposed to violence.*

***Conclusions:** Two thirds of the children are subjected to violence at home, school, or street. The perpetrators are mainly the parents. Some of children tolerate violence and consider it as normal. There is a link between domestic violence against women and that against children. There was a highly significant association between large family size and violence.*

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INTRODUCTION

For centuries, children have struggled to survive this harsh world.[1] The problems posed by children's exposure to violence not only affect children's physical health and safety, but also their psychological adjustment, social relations, academic achievement and even their skills to be good parents in the future.[2] Children exposed to abuse, neglect, and violence are at increased risk of becoming offenders themselves.[3]

The community is a source of protection and solidarity for children, but it can also be a site of violence, including peer violence, violence related to weapons, gang violence, police violence, physical and sexual violence, abductions and trafficking. Violence may also be associated with the mass media, and communications technology.[4]

Child abuse and neglect increase the likelihood of delinquency, adult criminality and violent criminal behavior. Experiencing and witnessing violence at home and in the community can lead to emotional disturbance which results in children exhibiting aggressive behavior.[5] Violence is inflicted on children mainly because they are children, and less so because of their actions. For example, an adult male who commits the same mistake as a child would not be beaten, but the child would.[6,7]

The World Health Organization (WHO) defines violence as: the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation. WHO estimates 57000 children die yearly from fatal maltreatment. The rate of death in low to middle income countries is thought to be two to three times higher that in high income countries. The highest homicide rates for children under 5 years of age occur in Africa, where the rate is estimated as 17.9 deaths per 100 000 boys and 12.7 per 100 000 girls .[8]

METHODS

This cross sectional study was conducted in Baghdad (the capital), and Mosul (the second large city in Iraq) during the period from October 2006 through June 2007.

A total of 60 schools (40 in Baghdad and 20 in Mosul) were surveyed. The sample was chosen by a simple random technique, the schools are distributed allover the two cities covering urban and rural areas. A total of 4528 students were interviewed.

Four schools' managers refused to allow the researchers collecting the data in spite of the approval documents from their referee making a response rate of 94%. The data were collected by visiting each school once in a full day visit, collecting about 40-50 students per day by a direct interview, each interview takes about 5-6 minutes to be accomplished, the researchers used to visit 3-4 schools per week and to interview between 60-80 students from each school.

A standardized questionnaire was developed, and the variation in the conception of violence was considered. The following definition for physical violence was used: "Intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation. This definition associate's intentionality with the committing of the act itself, irrespective of the outcome it produces. Excluded from the definition are unintentional incidents, such as most road traffic injuries and burns.[9] The information collected included: demographic data (age, gender, residence, number of sisters and brothers), father's and mother's occupation, information regarding exposure of the child to violence, source, frequency, reasons for violence, sequel of violence, reaction and feeling of the child towards violence, also information regarding domestic violence, exposure to violence from the teacher, and witnessing violence views in the street.

The researchers usually start the interview by introducing themselves to the schools' managers taking their permission to enter the classroom. The sample included pupils from the third to sixth class, the first and second classes were excluded because it is difficult to get information from them, in each class the sample was selected randomly through a systematic random technique (every other child). Privacy was considered.

A pilot project was implemented on a sample of 60 students in two primary schools (one in Baghdad and one in Mosul) to estimate the time needed for and the possible difficulties in the questions. This sample was excluded from the study target.

A sample of 100 teachers was interviewed about their opinion and attitude regarding the corporal punishment of the students. The records of two hospitals (Yarmouk Teaching in Baghdad and Al-Jumhori Teaching in Mosul) were studied to calculate the annual number of children violent injuries for the year 2006.

Absolute, relative and cumulative frequencies, mean and standard deviation, were computed. Chi-square standard test was used to test for associations. A p-value below or equal to 0.05 was considered to be statistically significant for a 95% confidence interval. Data was analyzed using Statistical Package for Social Scientists (version 11.5).

RESULTS

The sample composed of 4528 students, 2396 boys (52.9%) and 2132 girls (47.1%). The age ranged from 8 to 11 years, the mean age was (9.5±1.12) years (Table 1).

		No.	%
Age (years)	8	827	18.3
	9	1013	22.4
	10	1437	31.7
	11	1251	27.6
Gender	Male	2396	52.9
	Female	2132	47.1
	Total	4528	100.0

Table 1. Demographic characteristics of the sample.

In regard to parent's occupation; most of the mothers were housewives while most of the fathers were having private work.

Table 2 shows that 64% of the sample was exposed to violence, while 36% was not.

Regarding the source of violence, the highest rate of exposure to violence was from the mother (62.5%) followed by the father (59.2%).

Exposure of the child to violence	No.	%
Yes	2899	64.0
No	1629	36.0
Total	4528	100.0
Source	No.	%
Father	1716	59.2
Mother	1811	62.5
Teacher	1633	36.0
Brother	806	30.6
Sister	373	12.9
Peers	482	16.6
Others	70	2.3

Table 2. Prevalence and source of violence.

In respect to the reasons for violence, quarrels were the main reason seen in 74.9%.

Three quarters (75.5%) of the boys, and 52.5% of the girls were exposed to violence.

A significant statistical association was found between gender and exposure to violence (x^2=33.48, p <0.001). Also a significant statistical association was found between number of children in the family and exposure to violence (x^2=23.88, p<0.001), 63% of children in families of less than 7 children were exposed to violence, this number increases to be 77% in families of more than 7 children (Table 3).

Wounds (as a sequel of violence) were found in (16.9%).

Table 4 shows the child reaction and feeling to violence, the most common reaction was silence 38.6%, crying 33.6% and violence 14.1%. On the other

		Yes	No	Total	p-value
Gender	Male	1715 (75.5%)	68 (24.5%)	2396	
	Femal	1184 (52.5%)	948 (47.5%)	2132	<0.001
No. of children	<5	1915 (62%)	1133	3048	
	5-7	752 (63%)	427	1179	
	>7	232 (77%)	69	301	<0.001
Total		2899 (64%)	1629	4528	

Table 3. Association between gender, number of children and exposure to violence.

hand; 44.7% agreed that violence was not good, while 29.3% were taking it as a natural norm. Fifty five percent of the teachers who were interviewed think that corporal punishment is sometimes necessary to control the children behaviors (though they don't practice it often), while 45% of them said that it's a morbid attitude and that they never practice it.

		No.	%
Reaction	Silence	1120	38.6
	Crying	975	33.6
	Violence	396	14.1
	Complaint	408	13.7
	Total	2899	100.0%
Feeling	Natural norm	1326	29.3
	Not good	2026	44.7
	Hate	1176	26.0
	Total	4528	100.0
Violence views	Killing view	367	8.0
	Kidnapping	107	2.7
	Cadaver	510	11.2
	Explosion	1399	30.8
	None	2145	47.3
	Total	4528	100

Table 4. Reaction and feeling of the child towards violence, and violence views in the street.

Concerning violence views in the street, 30.8% of the children registered witnessing explosions, dead bodies (11.2%), and 10.7% saw killing and kidnapping views.

Table 5 shows that 93% of children living in families with domestic violence were also exposed to violence ($p<0.001$). Table 6 shows the annual numbers of violent injuries in children in two hospitals (one from Baghdad and one from Mosul); the number of injuries attributed to explosion accidents was 584 (13.2%), bullet injuries 508 (11.5%), stab wounds 558 (12.6%), and injuries due to traffic accidents were 2774 (62.7%).

DISCUSSION

Public health has only recently begun to recognize that violence has worldwide public health consequences,[10] and that violence is a problem that can be understood and changed.[11]

The main limitation of the study was the unstable security condition which made reaching the schools (in many days) very difficult, and this was also applicable for the students. Collecting information from young children is not very reliable, but as we can not collect such information from the parents or the teachers (as they may be part of the problem and this will affect the validity of the results), so the researchers made some efforts to cope for this weakness by clarifying to the

	Children violence				
Domestic violence	Yes		No		Total
	No.	%	No.	%	
Yes	291	93%	22	7%	313
No	2608	62%	1607	38%	4215
Total	2899		1629		4528

Table 5. Exposure of the child to violence versus domestic violence.

Casual injuries	Yarmouk hospital (Baghdad)	Jumhori hospital (Mosul)	Male	Female	Total	%
Explosion accidents	390	194	467	117	584	13.2
Bullet injuries	289	219	444	64	508	11.5
Stab/piercing wounds	270	288	370	188	558	12.6
Road traffic accidents	1261	1513	1482	1292	2774	62.7
Total	2210	2214	1335	879	4424	100.0

Table 6. Injuries of children (<13 years) from 2 hospitals (Baghdad and Mosul), 2006.

students the meaning of physical violence, and informing them that they will be neither rewarded nor punished for giving these information and that every thing they say will be kept strictly confidential, this was done at a corner of the teaching class without sharing the teacher or any other student.

The prevalence of violence against children was 64%. This means that about two thirds of the children are subjected to violence. This percentage is less than what was found in a study in Turkey which included 3725 primary school students, 74.0% of the students expressed exposure to physical violence at least once in their lives.[12] In another study,[13] 45% of the South Korean parents confirmed that they had hit, kicked or beaten their children.

A survey done by UNICEF in 2001 included 15,200 interviews with (9-17 year old) in 35 countries in Europe and Central Asia showed that 59% of the children experienced violent or aggressive behavior within their families.[14]

The perpetrators of violence against children are many. However, most violence against children is perpetrated by those who are responsible for the care and protection of children.[15] In the current study the main source of violence was the mother followed by the father; this may be due to that the parents are responsible for the day to day infliction of discipline or the exhaustion of the father or mother due to daily hardships. In a study in Turkey,[12] the abusers were mothers in 39.1%, fathers in 31.0%, elder siblings in 14.9%, other relatives in 6.9% and individuals out of family in 8.0%.

The main reasons for violence in the present study were quarrels (74.9%) and punishment (62.7%). In a study in Afghanistan[16] it was found that over 50% of children exposed to physical violence when they were naughty, 24% when they did not learn their school lessons and 9% when they disobeyed adults.

Boys seem to suffer more than girls, this study revealed that about three quarters (75.5%) of the boys were exposed to violence, while (52.5%) of the girls were exposed to violence. This goes with a study conducted in Syria[17] where they found that violence is more prevalent among boys than girls. It is not clear why boys are subjected to harsher physical punishment. Clearly, the wide cultural gaps that exist between different societies with respect to the role of women and the values attached to male and female children could account for many of these differences.[9]

In the current study there was a significant association between number of siblings and exposure to violence, this may be due to the financial burden on the large sized families. Poverty and low standards of living are certain to cause conflicts in the family; children may become the “scapegoat” because of that.[18] This goes with a study in Chile which found that parents with four or more children were three times more likely to be violent towards their children than parents with fewer children.[17] In another study conducted[19] in Egypt, significantly more child maltreatment was found in families with a large number of offspring.

There was no significant association between parental occupation and exposure to violence, this may be attributed to the fact that exposure to violence is related to the family income and level of parents’ education rather than their occupation.

One quarter of the children exposed to violence in our study had physical injuries. For each fatality there are multiple victims that sustain non-fatal physical and psychosocial damage. The severity of these non-fatal consequences varies widely between physical injuries resulting in emergency medical care, and insidious psychological effects.[20] This goes with a Canadian Incidence Study of Reported Child Abuse and Neglect (CIS) in which physical harm was documented in 18% of substantiated cases; most of these involved bruises, cuts and scrapes.[21]

In the current study the most common reaction of the child toward violence was silence followed by crying (more among the girls than boys). Most of the time, children would be expected to tolerate violence and would be considered impertinent if they tried to respond in any way other than submission.[22] In a study in Uganda; crying was found in 54.7% (more in girls than boys), 20.7% of the children said they would do nothing.[6]

Violent behavior perpetrated by children themselves as a reaction towards violence was seen in 14.1% of

those exposed to violence in the current study. It is an alarming sign because violence is not a random event but a learned behavior; children who are exposed to violence learn to treat others the same way, using physical power to get what they want. However this figure is lower than that found by a survey in Mongolia which shows that 27% of students reported to have been subjected to violence by other children.[14] In another study in Caribbean region, 32% of the children had been hurt by a peer.[23] A study conducted for the U.S. Department of Justice found that childhood experience violence increases the likelihood of an arrest as a juvenile by 59%, as an adult by 28%, and of arrest for a violent crime by 30%.[24]

In this study 44% of the sample (more girls than boys) considered violence as a (not good) solution for problem solving, this is lower than what was found in a survey done by UNICEF in 35 countries in 2001, 79% of all children, more girls than boys, stated that violence is never a good solution to problems.[14] This difference may be due to cultural acceptance of violence in our society. Surprisingly; 29% of the sample considered violence as a part of their normal lives at home, school and street, such an attitude may demonstrate a limited level of education about the consequences of violence. This may be due to that living in violent environment makes the children tolerate violence and consider it as an accepted norm.

In the current study about half the sample witnessed violence views in the community, such views are dangerous to young children, it leaves them feeling scared, unsafe and may lead to psychosocial trauma, On the other hand, repeated witnessing violence can normalize violence; children may come to feel that violence is a valid way of dealing with interpersonal conflict. This goes with a study in Guyana which found that 30% of children had seen the body of someone that had been killed with their own eyes.[5] Another survey at a pediatric clinic in Boston indicated that 10% of children under the age of six reported witnessing a shooting or stabbing.[25]

In the current study 6.9% of the pupils reported domestic violence (exposure of child's mother to violence from the father) as an eyewitness. Witnessing domestic violence may lead the child to be aggressive and antisocial, and may lead to transmission of violence from one generation to the next and from the home to the street.

In a study in the metropolitan area of San Salvador to identify the family factors that facilitate the incorporation of youths into gangs, eight out of ten youths were victims or witnesses to violence at home.[26] A UNICEF report revealed that 40-70% of men who use physical violence against their partners also physically abuse their children; and 50% of women who are physically abused by their partners also abuse their children.[13]

Despite the prohibition of violence against children by the Ministry of Education in Iraq, more than one third of the sample in the current study was exposed to violence from the teacher. Many of the teachers who were interviewed feel that violence is the only way they can maintain discipline in the school. Children may learn from this experience that adults with authority do abuse their power without consequences.[6] However this percentage was less than that found by a study by UNICEF and Damascus University in the Syrian Arab Republic which showed that 73% of children had been beaten at school, while 69% of teachers reported that other teachers use this method of punishment,[18] while in a survey in Washington;[27] an estimated prevalence of 7.2 incidents per 1000 students per year was reported. This difference may be due to difference in legislations in each country which either permit or ban corporal punishment in schools.

Community violence is now recognized as a public health issue, especially among the young.[7] In Iraq the situation is special due to the successive wars and long term occupation; violence against children has been increased dramatically as one child dies every five minutes because of the war, and many more are left with severe injuries.[28] The hospitals' records review in the current study revealed that 37.3% of the annual number of children accidents was due to violent action (bombing, bullets and stab wounds). On the other hand, there has been an increase in domestic violence against children largely a result of the violence that has gripped Iraq since the US-led invasion in 2003.[30]

At issue here is the correlation between domestic violence and violence against children; the results showed that children who live in families where

domestic violence is practiced are exposed to violence much more than children who live in families where there is no domestic violence. Children from violent households tend to grow up to be problematic, which means that a major method of curbing juvenile delinquency in 10 years is to stop violence against women and children today.[30]

A review of records of one court in Baghdad over one-year period revealed that there were 50 reported cases of physical violence and 120 cases of sexual violence against children. Sexual violence is considered to be a matter of closed system and it is well known that only a tiny proportion of the total cases come to official attention due to the extreme cultural sensitivity of this issue in our society, and that's why we could not inquire about this issue in the current survey. In a survey in Syria about the complaints submitted to the police station, it was shown that out of 507 complaints, in 120 cases the victim was a child, where in 62 the violence was physical and in 59 cases it was sexual.[16] Another multi-country study by WHO showed that between 1 and 21% of women reported to be sexually abused before the age of 15.[4]

CONCLUSIONS

We can conclude from this study that two thirds of the Iraqi children are subjected to violence. The perpetrators are mainly the parents. The main reaction among the children was that they tolerate violence and consider it to be normal, and there is a link between domestic violence against women and that against children. Large family size and numerous siblings create a stressful environment that leads to violence.

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Original Article موضوع أصيل

A STUDY TO ASSESS KNOWLEDGE, PRACTICE AND PROBLEMS OF BABY HEALTH CARE AMONG POSTNATAL MOTHERS IN ONE OF PRIMARY HEALTH CARE SETTING

دراسة لتقييم المعرفة، المزاولة والمشاكل ذات العلاقة بصحة الطفل عند الأمهات بعد الولادة في أحد المراكز الصحية

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ملخص البحث

هدف البحث: يلاحظ في الكثير من الأحيان وجود نقص في المعلومات التي تحتاج لها الأم للعناية المثلى بطفلها الرضيع. أجريت هذه الدراسة لتقييم مدى المعرفة، الممارسة والمشاكل التي تتعرض لها الأم بعد الولادة في مختلف نقاط العناية بصحة الطفل الرضيع والرضاعة الطبيعية وذلك عند مجموعة من الأمهات المراجعات لأحد المراكز الصحية في مدينة بغداد.

طرق البحث: أجريت دراسة مقطعية عرضية في مركز النور الصحي خلال الفترة من أيار وحتى آب من عام 2006 حيث تم اختيار 148 أماً بطريقة عشوائية (49 أم بكر و99 من ذوات الولادة المتكررة) باستعمال نموذج استبياني متكامل لغرض أخذ المعلومات من الأم فيما يتعلق بمختلف مظاهر العناية بصحة طفلها الرضيع.

النتائج: بالرغم من كون غالبية الأمهات في الدراسة كن قد قمن بزيارة المركز الصحي لغرض الاستفادة من برامج الرعاية الصحية للحامل، إلا أن مصادر المعلومات التي لديهن كانت من الأقرباء والأصدقاء. كانت هنالك نسبة جيدة منهن أظهرن ممارساتٍ سيئة فيما يخص العناية بالحبل السري والعين، مع وجود 49% من الأمهات البكر و53.5% من ذوات الولادة المتكررة يستعملن الضوء الأبيض في البيت لمعالجة اليرقان عند أطفالهن. أما بالنسبة لموضوع الرضاعة الطبيعية فقد لوحظ وجود ممارسات ومعرفة جيدة حول هذا الموضوع عند مناقشته مع الأمهات.

الاستنتاجات: توجد حاجة ماسة لتقييم نوعية الرعاية الصحية الموجودة والمهيأة للأم وطفلها بعد الولادة في المراكز الصحية، كما توجد حاجة إلى برامج لزيادة التوعية وتحسين الرعاية الصحية للأم بعد الولادة.

ABSTRACT

Objective: *In many cases there is a lack of knowledge of what is needed for optimal newborn care. This study was undertaken to assess knowledge, practice and problems of postnatal mothers relating to different aspects of baby health care and breastfeeding among group of mothers attending primary health care center in one locality in Baghdad city.*

Methods: *A cross-sectional study was conducted in Al-Noor primary health care center (PHCC) during the period from May-August 2006, a sample of 148 mothers were selected randomly (49 primi para and 99 multi para) using a well structured questionnaire form, information related to different aspects of baby care were included in the form.*

Results: *Although the majority of women in the sample had visited the primary health center for antenatal care, their sources of knowledge were from their relatives and friends. A good percentage of them had bad practice regarding the care of umbilical stump and the eyes with 49% of primi para and 53.5% of multi para will use white light at home when their baby get jaundice. When breastfeeding was discussed, majority of women showed adequate knowledge and practice.*

Conclusions: *There is an urgent need to assess the actual quality of postnatal care provided to women in*

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the PHC center. Also there is a need for an awareness-raising program highlighting the availability and the quality of current postnatal care.

INTRODUCTION

Primary health care (PHC) provides basic health services for individuals, families, vulnerable groups, and the public in general. Primary health care is the first approach the public seeks for medical care, preventive and curative. It is the responsibility of community-wide networks of health centers and units, and may occasionally outreach the people within their community.[1] There are striking variations from place to place in the patterns of care and interventions that newborn infants receive. In many cases there is a lack of knowledge of what is need for optimal newborn care.[2]

Breastfeeding rates vary in different countries, little is known about breastfeeding and barriers women experience in the Middle East.[3-7] Promotion of breastfeeding is of high priority concern today throughout the world and more so in the developing countries, the time is ripe enough to awaken the health care providers who can have great influence on the family, especially on the mothers on breastfeeding.[2]

The cord stump remains the major means of entry for infection after birth. Principles of clean cord stump care (keep it dry and clean and do not apply anything) apply at home as well as in the health facility. Local practices of putting various substances on the cord stump whether in health facilities or homes- should be carefully examined, they should be discouraged if found harmful and substituted with acceptable ones.[8]

Infection by *Neisseria gonorrhoea* and *Chlamydia trachomatis* are the two main causes of ophthalmia, but cannot be accurately distinguished on clinical grounds alone.[2] Neonatal jaundice is still a leading cause of preventable brain damage, physical and mental handicap, and early death among infants in many communities. Greater awareness is needed among all health workers.[9-11]

In our country since the end of the conflict in April 2003 and resumption of the function of the heath system, consisting of 1717 PHC centers which suppose to provide medical services to the community in our country, a great deterioration had been happened to the function of these centers in term of available resources, personnel doctors and overall services, which is now only limited to vaccination programs (when vaccine are available in the center), with no educational programs and with few doctors working in each center. Therefore this study was design to assess mother's knowledge, practice on general health care topic of their newborn babies and breastfeeding and problems related to these matters that might be helpful for future assessment of different programs held in the primary health center and for establishing new promotional and educational programs.

METHODS

Setting: Al-Nour primary health center is located in Al-Sha'lla area and cover around 50,000 population, most of them are of middle and lower class people. The center offers several MCH and breastfeeding programs as free of charge services, the community and preventive medicine department in the Medical College\Al-Nahrain University develop academic and welfare program there. Pregnant women would attend antenatal care under scheduled visiting for vaccination, others would attend the center after delivery for vaccination of their children or for medical help. Educational sessions for the pregnant women and mothers used to be held routinely in the center for most of the days of the week previously, but these activities had been stopped now because of the current situation of the country

Research methodology: The research approach adopted descriptive study (cross-sectional), healthy women postnatal attending the above center for different reasons like BCG vaccination of their babies were included randomly in the study through well-structured questionnaire form which was used and filled by the researcher, the interview was carried out for 3 working hours/day and for 5 days/week, for the period from May-August 2006, a total sample of 148 women were included in the study (99 multi para women and 49 prim para women), the sample was divided into two groups to find out if there are differences between them relating to their knowledge about different aspects of baby care, all the women included were the ones who had regular visits or more than 6 visits to the center during their pregnancy.

Data analysis: Analysis was done using SPSS programming version 10.0, frequencies and percentages were used and chi-square was used for test of significant. p value of ≤ 0.05 was considered significant.

RESULTS

Most of the women in the sample were in the age group of 20-30 years (59.2% primi para and 59.6% multi para), their education were between 6-12 years (44.9% of primi para and 49.5% of multi para), they are housewives (83.7% of primi para and 97.0% of multi para mothers), they are from urban areas (95.9% of primi para and 87.9% of multi para mothers), Table 1.

Although most of the mothers (98.0% of primi para and 87.0% of multi para) admitted that they visited the PHC center for antenatal care during their current pregnancy, their source of knowledge regarding some aspects of baby care like umbilical stump care (87.8% for primi para and 65.6% of multi para), eye (87.8% of primi para and 73.7% of multi para) and mouth care (63.3% of primi para and 62.6% of multi para), jaundice (75.5% of primi para and 62.6% of multi para), vomiting (83.7% of primi para and 56.6% of multi para) and breastfeeding (83.7% of primi para and 67.7% of multi para) were mainly from their relatives or friends, while the benefit from antenatal care as a source of their knowledge were not more than 8.2% among primi para and 14.1% of multi para mothers, (Table 1 and 2).

Regarding care of umbilical stump, 49.0% of primi para and 47.5% of multi para prefer to use soap and water for cleaning it, while 22.4% of primi para and 22.2% of multi para would choice to use medication like ointment which they get from the pharmacy or use home made substance and they put it on the stump, (Table 3).

As for eye care, 69.4% of primi para and 74.7% of multi para mothers prefer to clean the eyes of the baby with water alone, while 8.2% of primi para and 10.1% of multi para want to use ointment or other medication like koohil on the eye of their baby (Table 3). Twenty four and a half percent of primi para and 22.2% of multi para prefer to contact the doctor when their baby gets jaundice, while 11.1% of multi para and 10.2% of primi para said they would prefer to use white light at home and 49.0% of primi para and 53.5% of multi para would use more than one available methods some of them include using traditional method like yellow bead and white light at home, (Table 3.

Topics	Primi para (49 mothers)		Multi para (99 mothers)	
	Frequency	%	Frequency	%
Age				
<20	12	24.5	2	2.0
20-30	29	59.2	59	59.6
>30	8	16.3	38	38.4
Mean	23.27		28.04	
STD	4.7		5.77	
Education				
Illiterate	1	2.0	10	10.1
< 6 years	17	34.7	31	31.3
6-12 years	22	44.9	49	49.5
>12 years	9	18.4	9	9.1
Occupation				
Housewives	41	83.7	96	97.0
Employed/self employed	8	16.3	3	3.0
Residency				
Urban	47	95.9	87	87.9
Rural	2	4.1	12	12.1
Visit to antenatal care				
Yes	48	98.0	87	87.9
No	1	2.0	12	12.1

Table 1. Characteristics of different variables in relation to the parity of women attending the primary health center.

Topics	Primi para (49 women)		Multi para (99 women)	
	Frequency	%	Frequency	%
Umbilical stamp care				
Antenatal care	2	4.1	14	14.1
Relatives/friends	43	87.7	65	65.6
Doctors	2	4.1	8	8.2
Others	2	4.1	12	12.1
Eye care				
Antenatal care	2	4.1	11	11.1
Relatives/friends	43	87.8	73	73.7
Doctors	2	4.1	4	4.1
Others	2	4.1	11	11.1
Mouth thrush care				
Antenatal care	4	8.2	11	11.1
Relatives/friends	31	63.3	62	62.6
Doctors	5	10.2	10	10.1
Others	9	18.3	16	16.2
Jaundice				
Antenatal care	3	6.1	12	12.1
Relatives/friends	37	75.5	62	62.6
Doctors	4	8.2	10	10.1
Others	5	10.2	15	15.2
Vomiting				
Antenatal care	1	2.0	14	14.1
Relatives/friends	41	83.7	56	56.6
Doctors	3	6.1	8	8.1
Others	4	8.2	21	21.2
Breast feeding				
Antenatal care	1	2.0	15	15.2
Relatives/friends	41	83.7	67	67.7
Doctors	3	6.1	5	5.1
Others	4	8.2	12	12.0

Table 2. Sources of information of women attending the PHC setting regarding different aspects of their baby care.

Topics	Primi para (49 mothers)		Multi para (99 mothers)		Significant
	Frequency	Percent	Frequency	Percent	
Umbilical stump care					
Water alone	4	8.2	15	15.2	χ^2=1.96
Soap and water	24	49.0	47	47.5	DF=3
Medication\home medication	11	22.4	22	22.2	P> 0.05
Others	10	20.4	15	15.1	
Eye care					
Water alone	34	69.4	74	74.7	χ^2=0.04
Medication\home medication	8	16.4	16	16.2	DF=3
Others	7	14.2	9	9.1	P> 0.05
Jaundice Care					
Giving water with feeding	6	12.2	7	7.1	
Stop milk feeding	--	--	1	1.0	
Use white light at home	5	10.2	11	11.1	--
Contact doctor	12	24.5	24	24.2	
Use more than one method	24	49.0	53	53.5	
Others	2	4.1	3	3.1	

Table 3. Shows methods of care preferred by mothers in respect to different aspects of baby care.

Topics	Primi para (49 mothers)		Multi para (99 mothers)		Significant
	No.	%	No.	%	
Breastfeeding					
Yes	--	100	97	98.0	--
No		--	2	2.0	
Clean breast before feeding					
With water	34	69.4	68	68.7	χ^2=0.3
With soap and water	10	20.4	23	23.2	DF=2
No clean	5	10.2	8	8.1	P> 0.05
Action taken when crying after the feed					
Continue with breastfeeding	39	79.6	75	75.7	χ^2=1.5
Change to artificial feeding	5	10.2	17	17.2	DF=2
Contact doctor	5	10.2	7	7.1	P> 0.05
Show proper position when breastfeeding					
Yes	45	91.8	95	96.0	χ^2=1.09
No	4	8.2	4	4.0	DF=1
					P> 0.05
Use of contraception with breastfeeding					
Yes	22	44.9	38	38.4	χ^2=0.58
No	27	55.1	61	61.6	DF=1
					P> 0.05
Proposed time for breast feeding					
< 6 months	3	6.1	6	6.1	χ^2=0.07
6-12 months	10	20.4	22	22.2	DF=2
> 12 months	36	73.5	17	71.7	P> 0.05

Table 4. Shows methods of care practiced by mothers regarding breastfeeding.

Topics	Primi para (49 mothers)		Multi para (99 mothers)		Significant
	No.	%	No.	%	
Redness of umbilical stump					
Contact doctor	43	87.8	86	86.9	χ^2=0.08
No action	6	12.2	13	13.1	DF=1
					P> 0.05
Discharge of umbilical stump					
Contact doctor	41	83.7	81	81.8	--
No action	7	14.3	18	18.2	
Use home medication	1	2.0	--	--	
Eye discharge measures					χ^2=0.03
Contact doctors	45	91.8	90	90.9	DF=1
No action	4	8.2	9	9.1	P> 0.05
Redness around the eyes					χ^2=0.0003
Contact doctor	44	89.8	90	89.9	DF=1
No action	5	10.2	9	10.1	P> 0.05
Presence of mouth thrush					
Clean with water	3	6.1	7	7.0	χ^2=1.33
Use of medication	14	28.6	37	37.4	DF=2
Use of home medication	32	65.3	55	55.6	P> 0.05
Vomiting					
Contact doctor	31	63.3	64	64.6	χ^2=0.03
No action	17	34.7	34	34.4	DF=2
Change to artificial feeding	1	2.0	1	1.0	P> 0.05

Table 5. Attitude of mothers toward different problems related to baby health care.

All primi para and 97% of multi para mothers said that they breast-feed their baby, majority of mothers prefer to clean their breast with water only before they feed their baby, while only 10.2% of primi para and 8.1% of multi para said that they will not clean their breast. About 79.6% of primi para and 75.8% of multi para mothers said that they continue breastfeeding if their baby will continue to cry after feeding, majority of women demonstrate proper way of holding their baby during breastfeeding, 55.1% of primi para and 61.6% of multi para mothers would not use contraceptive when they are breastfeeding, as for proposed time for breastfeeding 73.5% of primi para and 71.7% of multi para mothers prefer to continue breastfeeding for a period of 12-24 months, (Table 4).

Majority of women in the sample prefer to contact the doctor when they are faced with some problems related to baby care like presence of redness of skin around the umbilical stamp or discharge from the stamp (87.8%, 86.9% and 83.7%, 81.8% respectively), discharge from the eyes and redness of the eyes (91.8%, 90.9% and 89.8, 89.9% respectively). 34.7% of primi para and 34.4% of multi para said that they would do nothing when their baby develops vomiting. When the baby develop mouth thrush, 28.6% of primi para and 37.4% of multi para prefer to use medication like ointment taken from the pharmacy, while 65.3% and 55.6% of primi para and multi para would prefer to use home medication to treat mouth thrush, (Table 5).

DISCUSSION

Health education is widely promoted in primary care, but there have been rigorous evaluation of its impact especially in developing countries.[12] In our country the basic primary health services were seriously affected by looting, destruction and lack of electricity following the 2003 war; in addition, many educational programs had been stopped because of current situation. The results of this study shows that multi para mothers benefit more from antenatal care provided to them in the PHC center as a source of knowledge in spite of the fact that they visited the PHC center less often than primi para mothers, this is probably due to the fact that they had developed more confidence in the PHC as a source for information (from their previous experience) than primi para mothers who are still more attached to their relatives and listen to their advice in relation to different aspects of baby care, this means that we need to build up boundaries of confidence and knowledge between the women and the people who work in the PHC center, another point which need to be raised is the very much change in the people who are living in the locality (immigration outside the country or to other areas inside the country) as well as in the doctors and health workers due to the current conflict and insecurity in the last few years, these changes will greatly affect the build of confidence between mothers who attend the PHC centers and the people who work in the center.

Perinatal contacts with mothers represent an opportunity for health education about infant care and family planning.[13] In developing countries 50-60% of infant deaths occur in the neonatal period.[14]

In this study mothers were divided into primi para and multi para to examine their knowledge and practice and if they are affected by their attendance to the PHC center, but the results showed no significant difference between the two groups, this is possibly because women mainly depend on their relatives and friends for advice and knowledge after delivery when they are faced any problem related to baby health care, and this clearly demonstrated the weakness of our health and educational programs which are provided in the PHC center.

A good percentages of mothers use medication or other materials on the umbilical stump, others prefer to clean the stump either with water or soap and water. Local practice of putting various substances on the cord stump should be discouraged.[3] Parents should be advised how to keep the umbilical cord clean and dry.[10] A good percentage of women use substances like koohil on the eye of their baby, which reflects bad practice. Around one third of women in the sample are ignorant about the problem of vomiting, and the majority of women will treat mouth thrush with either ointment taken from the pharmacy or with other medication without consulting their doctor.

Mothers showed poor knowledge and practice when their babies got jaundice, around half of them usually dress their babies with cloths and put them under white light at home and use yellow beads for treatment of jaundice in addition to that they would give dextrose

water with milk as an extra fluid. Breastfed babies with jaundice should not be routinely supplemented with formula, water or dextrose water.[3]

Regarding breastfeeding practice, the study showed acceptable knowledge and practice, and only 10.2% of primi para and 17.2% of multi para mothers will shift to artificial feeding when their baby continue to cry after feeding. Exclusive breastfeeding for the first 6 months of life is probably the single most cost effective child survival measure available and the infant's primary defense against infection.[1]

CONCLUSIONS

The study shows that knowledge of basic newborn health care practice among mothers both primi para and multi para is inadequate and informal, especially on the care of umbilical stump, eyes, jaundice, mouth thrush and vomiting. Knowledge on breastfeeding practice is adequate. Therefore, there is an urgent need to assess the actual quality of postnatal care provided to women in the PHC center. Also there appear to be a need for an awareness-raising program highlighting the availability and the quality of current postnatal care.

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Original Article

موضوع أصيل

CAUSES AND MANAGEMENT OF FAILURE IN ENDOSCOPIC MIDDLE MEATUS ANTROSTOMIES

الأسباب والتدبير في حالات فشل فغر غار الصماخ المتوسط بالتنظير

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ملخص البحث

هدف البحث: تحليل أسباب فشل عملية فغر غار الصماخ المتوسط عبر التنظير في حالات التهاب الجيوب المزمن والآفات السليمة أو الأورام في الجيوب الأنفية.

طرق البحث: تم إجراء دراسة راجعة شملت 257 عملية من عمليات فغر غار الصماخ المتوسط بالتنظير أجريت لـ 201 مريضاً خلال الفترة من عام 1996 وحتى 2006. خضع جميع المرضى إلى فحص شامل للأنف والحنجرة مع إجراء تصوير طبقي محوري للأنف والجيوب. تم بعد الجراحة مقارنة الأعراض مع الفترة ما قبل الجراحة، مع إجراء تنظير أنفي. اعتبر بقاء وجود أعراض أنفية أو موجودات شعاعية معبراً عن فشل الجراحة، وفي مثل هذه الحالات تم إجراء جراحة مراجعة عبر التنظير أو عبر إجراء Caldwell-Luc . امتدت فترة المتابعة لمدة عامين وسطياً.

النتائج: شكل التهاب الجيوب المزمن، الآفات السليمة والأورام السليمة الحالات الأكثر شيوعاً كاستطباب للجراحة (بنسبة 53.2%، 41.8%، 5% من الحالات على الترتيب). لوحظ فشل الإجراء في 27.6% من الحالات، أما أسباب فشل الجراحة فقد كانت بسبب وجود التصاق (38% من الحالات)، تضيق في الفوهة (24%)، أسباب طبية أو وجود حالة مرضية مرافقة (15.5%)،بقاء بعض الآفات أو نكسها (15.5%)، أو عدم الوصول للفوهة الطبيعية (7%). احتاج 9 مرضى (9.4%) لجراحة مراجعة نتيجة استمرار الأعراض بعد المعالجة الطبية، حيث تم إجراء مقاربات تنظيرية أو دهليزية، وبالنتيجة استجاب 75% من هؤلاء المرضى للجراحة مع تراجع كامل في الأعراض.

الاستنتاجات: تنتج حالات الفشل في عمليات فغرغار الصماخ المتوسط عبر التنظير عن أسباب متعددة ومختلفة. يشمل تدبير حالات فشل الجراحة كل من العلاج الطبي، الجراحة التنظيرية المراجعة أو المقاربات الدهليزية.

ABSTRACT

Objective: *The aim of this study is to analyse the causes and the management of failed endoscopic middle meatus antrostomies (EMMA) in chronic sinusitis and benign sinonasal lesions or tumors.*

Methods: *We carried a retrospective study about 257 EMMA cases performed in our department for 201 patients between 1996 and 2006. All patients had complete ORL examination and preoperative sinonasal CT. After surgery, preoperative and postoperative symptoms were compared and nasal endoscopy was performed in all cases. Persistent rhinologic and radiological symptoms were considered as a failure of surgery. In these cases, revision surgery was performed, either by endoscopic approach or by Caldwell-Luc procedure. Mean follow-up period was 2 years.*

Results: *The indication of surgery was the presence of chronic sinusitis, benign lesions or benign tumors in 53.2%, 41.8% and 5% of cases respectively. Seventy-one EMMA procedures failed (27.6%). Causes of*

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failure were mainly represented by the presence of synechia (38%), ostium stenosis (24%), medical causes and comorbidity (15.5%), persistent or recurrent lesions (15.5%) and missed natural ostium (7%). Nineteen patients (9.4%) required revision surgery because of persistent symptoms after medical therapy. Either endoscopic or vestibular approaches were performed. Seventy-three percent of the revision cases respond to surgical treatment with complete resolution of symptoms.

Conclusions: *Failure of EMMA can be due to numerous and variable causes. The management of failed EMMA includes medical therapy, revision endoscopic surgery or vestibular approaches.*

INTRODUCTION

During the last 20 years, endoscopic endonasal sinus surgery, especially endoscopic middle meatus antrostomy (EMMA), became one of the most commonly used surgical methods for the treatment of chronic sinusitis, nasal polyps, and benign sinonasal tumors.[1,2] It allows complete removal of the lesions with less morbidity, shorter hospital stays and less blood loss compared to traditional surgical approaches. However, failures do exist and varied leading in numerous cases to a revision surgery. The goal of this study is to analyse and assess the causes of failure of EMMA and the management of these cases.

METHODS

We carry a retrospective study about 257 EMMA performed in our department for 201 patients between 1996 and 2006. Patients having malignant tumors were excluded. All cases undergoing EMMA associated with ethmoidectomy or sphenoidotomy were also excluded. All patients had complete ORL examination, sinonasal CT and were operated under general anaesthesia. The surgical technique included middle turbinate dislocation, removal of the uncinate process, enlargement of the maxillary ostium, and removal of lesions of the maxillary sinus. After surgery, pre and postoperative symptoms were compared and nasal endoscopy was performed in all cases. Persistent rhinologic symptoms and radiological lesions were considered as a failure of surgery. In these cases, revision surgery was performed, either by endoscopic approach or by Caldwell-Luc procedure. Mean follow-up period was 2 years.

RESULTS

Mean age of patients was 30.7 years (5-71 years) and sex-ratio: 1. Sinonasal allergy was found in 5%, asthma in 3.5%, and aspirin intolerance in 2% of patients. Previous septoplasty, polypectomy and Caldwell-Luc procedure were noted respectively in 3%, 1% and 0.5% of patients. Nasal obstruction (84.6%), rhinorrhea (68.7%), facial pain (45.3%) hyposmia (14.4%) and nasal hyperreactivity (12.9%) were the most frequent symptoms. Nasal endoscopy found a polyp in 28.9%, and a tumor in the middle meatus in 4% CT scan showed hypertrophy of the maxillary sinus mucosa in 63.9% and an ostiomeatal complex obstruction in 14.7% of sides. A maxillary sinus opacification was noted in 15.9% of sides.

The indication of EMMA was the presence of chronic sinusitis, benign lesions or benign tumors in 53.2%, 41.8% and 5% of cases, respectively. Chronic sinusitis was bilateral in 55 cases. One patient had bilateral cysts of the maxillary sinuses (Table I).

Indications	Number of EMMA	Number of patients	Persistent symptoms (patients)	Revision Surgery (patients)
Chronic sinusitis	162	107	30	11
Rhinogenic	155	100	29	10
Dental	7	7	1	1
Benign lesions	85	84	16	8
Polyps	59	59	15	7
Cysts	12	11	1	1
Aspergillosis	11	11	0	0
Mucocele	3	3	0	0
Benign tumors	10	10		
Inverted papilloma	8	8	0	0
Osteoma	1	1		
Granuloma	1	1		
Total	257	201	46 (22.9%)	19 (9.4%)

Table 1. Indications and results of EMMA.

	Adhesions or synechia	Ostium stenosis	Comorbidity and medical causes (patients)	Persistent/ recurrent lesions	Missed natural ostium
Chronic sinusitis	18	13	10	4	5
Benign lesions	9	4	1	7	0
Benign tumors	0	0	0	0	0
Total	27 (38%)	17 (24%)	11 (15.5%)	11 (15.5%)	5 (7%)

Table 2. Causes of failure in EMMA.

All patients underwent EMMA. This procedure was bilateral in 56 cases (27.9%). Septoplasty, turbinoplasty and turbinectomy were associated in 21.9%, 15.9% and 10.9% of cases, respectively. No major complications were happened during or after surgery. Results were evaluated through clinical symptoms, endoscopic examination of the maxillary sinus and computed tomography.

Forty-six patients (22.9%) continued to be symptomatic. Seventy-one EMMA procedures failed (27.6%). Synechia was the most frequent cause of failure (38%). Surgical causes of failure were mainly represented by maxillary ostium stenosis (24%), persistent or recurrent lesions (15.5%) and missed natural ostium (7%), (Table 2). Medical causes (15.5%) included nasal hyperreactivity (7 cases) and asthma (4 cases). Nineteen patients (9.4%) required revision surgery because of persistent symptoms after medical therapy. This surgery includes revision EMMA (widening the maxillary sinus ostium, connecting the natural ostium with the surgically made one, removing of the persistent or recurrent lesions), Caldwell-Luc procedure and laser section of synechia (Table 3). Seventy-three percent of the revision cases respond to surgical treatment with complete resolution of symptoms.

Revision surgery	No. of procedures	No. of patients
EMMA	14	10
EMMA + Caldwell-Luc	5	5
Section of synechia (Laser)	5	4
Total	24	19

Table 3. Revision procedures.

DISCUSSION

The introduction of endoscopic middle meatus antrostomy has revolutionized the surgical treatment of patients with chronic sinusitis and benign sinonasal tumors.[3] In contrast to traditional surgical approaches based on opening the sinuses and extensive removal of inflamed mucosa, EMMA constitutes a minimal invasive surgery on the osteomeatal unit. Several long-term outcome studies on endoscopic sinus surgery show a 76% to 97.5% success rate.[1,3,4] However, some patients fail to respond to this type of surgery and 2.5% to 24% continue to be symptomatic,[5] this failure leading to revision endoscopic procedures and even to vestibular approaches.

CAUSES OF EMMA FAILURES

Causes of failure of EMMA in some patients having chronic sinusitis are numerous and variable.[16] First, these patients are typically characterized by sinonasal extensive disease with bilateral lesions and comorbidity such as asthma, allergy, aspirin intolerance, and immunodeficiency. All of these factors have been identified as adverse prognostic factors.[1,6,7,10] In addition, nasal endoscopy often reveals adhesions or synechia caused by chronic mucosal inflammation and repeated surgical interventions. This was the most common cause of failure in our series (10.5%). Signs of damaged ciliary function like mucus entrapment can also be observed. Moreover, chronic inflammatory involvement of the underlying bone (osteitis) is an important cause of endoscopic sinus surgery failure.[8]

On the other hand, surgical causes of failure are important to identify, to improve the success rate of primary EMMA and then to reduce the need for revision surgery. Stenosis of the maxillary sinus ostium is the major cause for surgical failures in most series[16] (6.6% in the ours). Missed natural ostium is another important cause of failure; a middle meatal antrostomy that was separate from the natural ostium

with recirculation of the mucus flow back into the sinus may be seen in 15% of failed endoscopic surgery[5] (1.9% in our series). Persistent or recurrent mucosal lesions can also be seen after EMMA and depends essentially on the surgeon's experience and the postoperative care.

Concerning the benign lesions or tumors of the maxillary sinus, EMMA with exeresis is now the technique of choice, allowing complete removal of them with minimally invasive approach and no aesthetic sequelae. Failures are mainly due to incomplete exeresis. Involvement of the anterior or the lateral walls of the maxillary sinus or loco-regional extension are the most common causes. A precise topographic diagnosis with preoperative imaging (CT, MRI) should prevent these failures.

MANAGEMENT OF EMMA FAILURES

The vast majority of first-time EMMA failures in patients with chronic sinusitis may benefit from an endoscopic revision procedure with good success percentages.[9] Indeed, the success of revision endoscopic surgery may be similar to the primary one, with an 8.8% complication rate.[14] This surgery includes release of adhesions, widening the sinus ostium and connecting both natural and surgically made ostium. However, these rates decrease with each following intervention. Then, a small percentage of patients remains with recurrent disease despite repetitive endoscopic procedures combined with medical therapy. The optimal management of this group of patients remains ill defined, because those failures are mainly due to medical causes and comorbidity. External radical surgery aiming at reduction of the inflammatory burden (including reduction of mucosal and bone surface), maximal drainage and aeration has been suggested as a last resort for these patients.[11,12,13] Caldwell-Luc procedure can be performed. The postoperative improvements are statistically significant (up to 92%) and made this type of surgery a viable treatment option in case of recurrent endoscopic surgery failure.[11,15] This attitude is also valid for benign lesions or tumors, for which an endoscopic revision surgery (eventually extended to the ethmoid or the sphenoid) and/or an external approach (Caldwell Luc, Denker, Degloving, transfacial) should be considered to remove all the remaining lesions.

In our series, 9.4% of patients required revision procedures. We reoperated only the patients having a symptomatic sinusitis after primary EMMA and postoperative medical therapy, and those having persistent benign lesions or tumors. We did not reoperated asymptomatic sinusitis even after identification of the cause of failure. Exclusive endoscopic approach was performed in 79.1% of the revision procedures (revision EMMA, laser section). Only 5 patients required combined approach to remove the diseased mucosa (4 cases) and a lateral maxillary polyp (1 case). Fourteen patients (73.7%) respond to revision surgery. All these results confirm the efficacy of EMMA either as primary or as revision procedure in selected cases. Nevertheless, endoscopic techniques have limitations especially in patients whom have been operated on many times and with complete alterations of the anatomical landmarks,[17] and in those having extensive disease. In these cases, external approaches should be considered. On the other hand, endoscopic surgery do not significantly improve symptoms in patients with comorbidity (especially allergic patients) and only medical treatment can achieve a good functional outcome.

CONCLUSIONS

Causes of failure in endoscopic middle meatus antrostomies are numerous. In chronic sinusitis, they are mainly represented by medical causes, synechia, maxillary ostium stenosis and missed natural ostium. Failed EMMA in the treatment of benign lesions or tumors is essentially due to incomplete exeresis. The knowledge of all these causes should improve the success rate of primary surgery and allow better management of patients with failed EMMA. This includes medical therapy, revision endoscopic surgery or external approaches. Optimal long-term results depend upon meticulous surgery and careful postoperative follow-up.

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Original Article موضوع أصيل

GASTRIC CANCER IN KHARTOUM; PRESENTATION AND MANAGEMENT

سرطان المعدة في الخرطوم: التظاهر والتدبير

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ملخص البحث

هدف البحث: يمثل سرطان المعدة حالة قاتلة مربكة حول العالم، كما يوجد من جهة أخرى تفاوت كبير في حدوث هذا الداء باختلاف المناطق حول العالم. إن المعلومات المتوافرة حول مظاهر هذا الداء وإنذاره في القارة الإفريقية هي معلومات قليلة ونادرة. يهدف هذا البحث إلى تحديد الخواص السريرية التشريحية المرضية ونتائج المعالجة عند مرضى خباثات المعدة في السودان.

طرق البحث: دراسة وصفية مستقبلية شملت 150 مريضاً بسرطان المعدة خلال مدة سنتين تمت في قسم الجراحة العامة في مشفى الخرطوم التعليمي.

النتائج: بلغ متوسط العمر عند تظاهر الداء 57 سنة (تراوح بين 23 و78 سنة)، حيث كان معظم المرضى من الذكور (75 مريضاً بنسبة 80% من الحالات). إن النمط الأكثر تواردا لتظاهر الحالة هو حدوث ألم شرسوفي (90% من الحالات)، نقص وزن (90%)، نقص شهية (70%). توضع الورم قي القسم العلوي للمعدة في 42% من الحالات. أما من الناحية النسيجية فقد شكلت السرطانة (Carcinoma) غالبية الحالات (100 مريض)، بينما لوحظ وجود لمفوما عند 3 مرضى وساركوما عضلية ملساء عند مريضين. كانت السرطانة الغدية هي الأكثر تواردا (94%)، كما شكلت السرطانة الغدية جيدة التمايز والسرطانة الغدية ذات النمط المعوي الأشكال الأشيع (31% و17% على الترتيب). لوحظ أن معظم المرضى هم من الزمرة الدموية O^+. تم إجراء استئصال ملطف للورم عند 48 مريضاً (45%) مع مدة بقاء بلغت 14 شهراً مقارنةً بـ 5 أشهر عند المرضى الذين لم يخضعوا لعملية الاستئصال (n=40). لوحظ أن معدل المراضة أعلى وبشكل هام عند مرضى الاستئصال الجراحي مقارنةً بالمرضى غير الخاضعين لعملية الاستئصال (18.8% و4.2% على الترتيب)، أما معدل الوفيات فلم يظهر فروقات هامة بين المجموعتين (15.9% و14.6% على الترتيب). أظهر مرضى الاستئصال الجراحي رضىً أكبر عن حالتهم مقارنةً بالمرضى غير الخاضعين للاستئصال.

الاستنتاجات: يشكل سرطان المعدة حالة مرضية تصيب الذكور في بداية الكهولة والذين يتظاهرون بمراحل متأخرة من الداء بحيث يكون الاستئصال الجراحي الملطف ممكناً عند 45% منهم فقط مع وجود نتائج مرضية ومدة بقاء وسطية تقدر بـ 14 شهراً.

ABSTRACT

Objective: *Gastric cancer is a dreadful killer worldwide. There is enormous variation in the occurrence of the disease throughout the world. Only scarce data is available about the features and the prognosis of the disease in Africa. This study was conducted to determine clinicopathological characteristics, and the treatment outcome of patients with gastric malignancy in Sudan.*

Methods: *A prospective descriptive study of 105 patients presented with gastric cancer over 2 year period in a general surgical unit in Khartoum Teaching Hospital (KTH).*

Results: *The mean age at presentation was 57 years (range 23–78 years), and most of patients were males (80%). The most frequent mode of presentation was epigastric pain (90%), loss of weight (90%) and anorexia (70%). Upper gastric tumor location accounted for 42%. Histologically; carcinoma accounted for 100 cases, lymphoma in 3 and leiomyosarcoma in 2 cases. Adenocarcinoma was the*

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most frequent (94%), well differentiated adenocarcinoma and intestinal type were also commonest varieties (31%) and (17%) respectively. Most of the patients had blood group O^+ (50%). Palliative resection was attempted in 48 patients (45%) with a survival duration of 14 months compared with 5 month for those who had no resection (n=20). Morbidity rate was significantly higher in the resection group compared with non-resection group, (18.8%) and (4.2%) respectively, while the mortality rate showed no difference, (15.9%) and (14.6%) respectively. Patients satisfaction was significantly better in the resection group.

Conclusions: *Gastric cancer is a disease affecting younger males presenting very late where palliative resection is an option in 45% of patients with satisfactory outcome and a mean of 14 months survival.*

INTRODUCTION

Although the incidence of gastric cancer is decreasing, it still remain the leading cause of cancer death in the world. Only lung cancer causes more deaths worldwide.[1,2,3,4] The combination of relatively low prevalence, lack of pathognomonic symptoms, and lack of defined risk factors are associated with delay in diagnosis leading to dismal prognosis. In recent reports from Iran, locally advanced and/or metasatic cancer accounted for more than 80% of 413 cases of gastric cancer studied.[5,6] Palliative treatment of advanced gastric cancer may be considered local or systemic. While chemotherapy is considered the most effective treatment modality for patients with metastatic gastric cancer, it is not effective for the palliation of local symptoms.[7]

There is accumulating evidences that palliative resection for gastric cancer results in longer symptom relief, less operative mortality and longer survival than non-resective surgery.[8-12] This proved true even when patients undergoing different treatments were stratified according to the spread of the disease.[13]

Surgical palliation has become less important in recent years as interventional radiology and endoscopy techniques have been developed for the same purpose.[14] When such facilities are lacking as in most hospitals in the developing world, surgery will continue to play a major role in the treatment of advanced cases.

In this study, we present the clinicopathological characteristics, the diagnosis and the management outcome in sudanese patients with advanced gastric malignancy.

METHODS

This is a prospective descriptive study on 105 patients with gastric malignant neoplasm admitted in Khartoum Teaching Hospital during the period from February 2003 till February 2005.

The clinicopathological characteristics of the patients were recorded.

The diagnosis of advanced malignancy was based on the presence of distant metastasis, serosal invasion or local spread beyond the stomach either during the patient work up or at laparotomy.

Some patients (n=30) were too ill or their disease is so advanced to benefit from surgery. The rest of the patients underwent surgery with the intention of resection. This was feasible in 48 patients only, the remainder had non-therapeutic laparotomy or gastroenterostomy. All patients were followed up and the outcome of different interventions determined.

RESULTS

The mean age of the patients was 57 years (range 23-78 years). The male to female ratio is 3.8:1.0. More than 80% of patients were from low socioeconomic group. Nearly half the patients were from Central Sudan (a mixture of Arab and African population). Only one patient was from Southern Sudan (Pure African population), (Table 1).

The mean duration of symptoms at time of diagnosis was 8.8 months (range 1-48 months). The majority of patients received H_2-receptor blocking agents and/or proton pump inhibitor. The presenting symptoms and signs are shown in Table 2. Virchow's lymph node was found in 6 patients, and sister Mary Joseph's nodule in 4 patients.

Sex	No.	%
Male	75	80
Female	30	20
Age (Years)	No.	%
>60	50	48
<60	55	52
Location	No.	%
Upper third	43	41.1
Middle third	12	11.4
Lower third	42	40.0
Whole stomach	7	6.6
Gastric stump	1	0.9
Histology	No.	%
Adenocarcinoma	100	95.0
Lymphoma	3	2.9
Leiomyosarcoma	2	1.9
Blood group	No.	%
O	53	50.5
A	35	39.0

Table 1. Shows clinicopathological characteristics of 105 patients with advanced gastric malignancy.

Symptom	Frequency	Sign	Frequency
Epigastric Pain*	90	Pallor	60
Weight Loss	90	Abdominal mass**	44
Anorexia	77	Dehydartion	40
Vomiting*	67	Ascitis**	15
Heartburn	62	Lymph nodes	10
Nausea*	55	Hepatomegaly	7
Symptoms of anemia	37	Splenomegaly	5
Dysphagia*	36	Lower limb oedema	
Melena*	32		
Backache	22		
Haematemesis*	12		
Regurgitation*	10		

*symptoms warranted palliation
**signs of advanced disease

Table 2. Symptoms and signs of patients with gastric cancer (n=105 patients).

The mean hemoglobin concentration was 7 g/dl (range 3 12 g/dl), the mean blood urea value was 30 mg/dl (range 12-97 mg/dl), the mean serum albumin was 3.8 g/dl (range 1.8-5.4 g/dl). Fifty four patients were of blood group O (50%) and 35 patients (39%) were group A. Fiberoptic flexible upper endoscopy was done for all patients with 88% accuracy rate on first occasion, and 17 (16%) had repeated endoscopies and biopsies (1-3 times) to reach the diagnosis.

Three patients who were reported to have adenocarcinoma on endoscopic biopsy proved to have gastric lymphoma on the resected specimen. Ultrasonography was done for all patients and had a false negative report to detect metastatic disease (liver metastases, peritoneal seeding with ascites and lymph node enlargement) in 32% of patients (n=70).

All treatment options are shown in Table 3. The operative findings on 57 patients with advanced disease showed invasion of local nearby tissues in

	Non Resection group (No=57)			Resection group (No=48)		
	No surgery (No.=30)	Laparatomy (No.=20)	Gastroenterostomy (No.=7)	Partial gastrectomy (No.=16)	Total gastrectomy (No.=22)	Extended gastrectomy* (No.=10)
Operative morbidity No. (%)	0	1 (5.0)	1 (14.3)	3 (18.8)	4 (18.2)	1 (10.0)
Operative 30 days mortality No. (%)	0	3 (15.0)	4 (57.1)	2 (12.5)	2 (9.1)	3 (30.0)
Survival in months (died patients) mean (range)	4.7 (0-26)	5.2 (3-10)	5 (0.5-10)	14.5 (2-22.5)	9.5 (2-27)	6 (2.5-11.5)
Alive at time of analysis No. (%)	2 (6.7)	3 (15.0)	1 (14.3)	5 (31.3)	7 (31.8)	1 (10.0)

*resection of adjacent organs

Table 3. Operative procedures and outcome in 105 patients with advanced gastric malignancy.

52%, pancreas in 26%, liver in 21% and transverse colon in 6%. There was ascites in 20% and there were 3 patients with Krukenberg secondaries.

Forty eight patients underwent gastrectomy; it was partial in 16, total in 22 and extended in 10 patients. In the non resection group; 7 had gastroenterostomy, 20 had non therapeutic laparotomy and 30 were treated non surgical.

The overall mean survival duration of patients who underwent resection was 14 versus 5 months for those who had no resection ($p<0.001$). The operative morbidity was 13% (16% in the resection versus 11% in the non resection group). The major complications occurred were anastomotic leak (oesophagojejunal) in 2 patients, duodenal blow out in one patient, wound dehiscence in one patient and wound sepsis in 3 patients. The 30 days operative mortality was 14% in the resection group (7 out of 48 patients) versus 26% in the non resection group (7 out of 27 patients).

Thirty four patients in studied group received chemotherapy. Twenty two patients received chemotherapy alone as a palliative measure without resection and only 7 patients of them survived to complete the scheduled dose. The overall patient satisfaction was poor and the mean survival duration was found to be 6.3 months.

One patient with Virchow's lymph node who received chemotherapy alone survived for 26 months. Post-resection chemotherapy was given for 12 patients and only 5 of them completed the dose without significant survival benefit (mean survival was 6 months).

DISCUSSION

Although the risk of gastric cancer is low in Sudan, with a relative frequency of 2.7 and 1.5 for males and females respectively,[15] the epidemiological characteristics of our patients mimics those in high risk areas.[5,6]

In all the patients in this study the disease was beyond curative treatment. Advanced gastric cancer not being amenable for curative resection is found in variable frequencies around the world. In western countries a potential curative resection is performed in 40-60% of patients, compared to 75-80% in Japan.[5,6,16]

The average delay in diagnosis of 8 months in our series match six months reported by Eskander.[6] Many patients were delayed being treated as benign peptic ulcer disease. A high index of suspicion and early referral of patients with dyspeptic symptoms for endoscopy could result in picking more patients with early disease.

The rate of non-therapeutic laparotomies of 19% (20/105) is lower than (36%) which reported by Bozzetti et al (1987) for patients who didn't receive curative surgery.[13] In modern practice the proper pre operative work up includes CT, MRI and PET scan.[14]

These are either not available or too expensive. The ultrasonography used in this study for abdominal staging proved ineffective. We recently adopted the routine use of abdominal CT for staging, although it is very specific it showed only moderate sensitivity in predicting free tumor cells or peritoneal metastasis in recent studies.[17] Thus justified that operability of locally advanced gastric malignancy could be only judged intraoperatively since some of the deceiving existing adhesions were amenable for dissection and/or excision with the paramount benefits in terms of improving quality of life and survival benefits.

The operative mortality of 14% in the resection group is lower than the 18% reported by Ekbom et al in 1980[9] and Johnson et al in 2000 in Ethiopia.[18] However, it is higher than the 11.% and 11.5% reported by Prudencio and Bozzetti respectively for surgery in advanced gastric cancer 20 years back.[12,13] This rate didn't change much since recent studies by Mascianaro and Kotan reported an operative mortality of 7.9 and 9.6% respectively.[19,20]

The post operative complication of 13% is comparable to that of other studies. The operative morbidity ranged between 10.5-86.7%.[9,19,20] This range diversity is probably due to the differences in authors' opinions with regard to the complications included in each study (i.e, some authors including more minor complications).

The remarkable survival benefit with adjuvant chemotherapy seen in one study was not observed in our patients.[5]

In this study the mean survival of 14 months after palliative resection of advanced cancer is better than that reported by Kotan month,[19] Bozzetti (8 months).[12] It is also better than the 7 months reported by Sadighi for surgery alone, however.

CONCLUSIONS

In conclusion, gastric malignancy is at advanced stage when become symptomatic, since none of our patients had curable early stage disease. Failure of the preoperative tools for proper staging of the disease was significant and the main cause of unnecessary laparotomy. Careful selection of patients who may benefit from palliative resection is essential since it is not beneficial for all patients with advanced gastric malignancy.

Gastrojejunostomy is needed for selected patients, otherwise it will add to the malignancy associated operative deaths. Survival benefits of palliative resection overweighed the co-morbidity and mortality. Quality of life was improved with resective operation in term of palliating most bothering features, and also improving survival duration. The role of chemotherapy as a palliative measure for advanced gastric malignancy needs further assessment.

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Original Article

موضوع أصيل

TOTAL ANOMALOUS PULMONARY VEINS CONNECTION: THE PERIOPERATIVE RISK FACTORS

شذوذ انصباب الأوردة الرئوية التام: دراسة عوامل الخطورة الجراحية

Yousef Diab, *MD*

د. يوسف دياب

ABSTRACT

Objective: *Operative reconstruction of total anomalous pulmonary veins connection (TAPVC) in the literature has high morbidity and mortality. The aim of the study was to investigate the perioperative risk factors to lower the mortality rate.*

Methods: *We retrospectively studied the cases of 42 infants operated for Total Anomalous Pulmonary Veins Connection between August 2002 to August 2007 at Damascus University Cardiovascular Surgical Center. We evaluate the role of right ventricle pressure, Left Ventricle End Diastolic Volume (LVEDN), the anatomical type of anomalous, age and weight of patients, pulmonry infections and delay in doing surgery as perioperative risk factors.*

Results: *Our study demonstrates that neither Left Ventricle End Diastolic Volume nor RV pressure were risk factors. Pulmonary infections secondary to long-standing pulmonary congestion was the only important risk factor.*

Conclusions: *It is highly recommended to operate in the first months of life before the occurring of any pulmonary infection.*

ملخص البحث

هدف البحث: دراسة عوامل الخطورة لعمليات إصلاح شذوذ انصباب الأوردة الرئوية بغية تقليل نسبة الوفيات والاختلاطات.

طرق البحث: تم إجراء دراسة راجعة للحالات التي عولجت جراحياً ما بين آب/2002 وآب/2007 في مركز جراحة القلب بجامعة دمشق وكان عددها 42 حالة. قمنا بدراسة جميع العوامل المؤثرة في العلاج الجراحي: ضغط البطين الأيمن، حجم البطين الأيسر، الشكل التشريحي للانصباب الشاذ للأوردة الرئوية، أوزان وأعمار الاطفال، وتم التركيز على دور الإنتانات الرئوية المرافقة وتأخر دخول المريض إلى الجراحة في زيادة خطورة العمل الجراحي.

النتائج: لم يلعب كل من ضغط البطين الأيمن ولا حجم البطين الأيسر في نهاية الانبساط (LVEDV) دوراً في نسبة نجاح العملية، بينما شكلت الإنتانات الرئوية الناتجة عن حالة الاحتقان الرئوي طويلة الأمد عامل الخطورة الوحيد الذي أظهر أهمية.

الاستنتاجات: توصلنا إلى أن التداخل الجراحي المبكر خلال الأشهر الأولى من الحياة وقبل حدوث أي إنتان رئوي كان له الفضل الأكبر في إنقاص نسبة الوفيات بعد الجراحة.

INTRODUCTION المقدمة

يقوم هذا الداء على أساس عدم وجود أي اتصال مباشر بين الأوردة الرئوية كافة والأذينة اليسرى، حيث تصب هذه الأوردة مجتمعة في الأذينة اليمنى إما مباشرة أو على أحد روافدها. ويشكل وجود فتحة في الحجاب بين الأذينتين أو ثقبة بيضية سالكة عاملاً أساسياً في بقاء حاملي هذا الداء على قيد الحياة.

يقسم هذا الداء تشريحياً إلى ثلاثة أنواع:

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1- فوق القلبي ***Supracardiac***: حيث يكون انصباب المجمع الوريدي الرئوي على الوريد اللا اسم له ومن ثم على الأذين الأيمن (30-45%).[1.2.3]

2- القلبي ***Cardiac***: حيث يكون انصباب المجمع الوريدي الرئوي على الجيب الوريدي الإكليلي ضمن الأذين الأيمن (30-35%).[1.2.3]

3- تحت القلبي ***Infracardiac***: حيث يكون انصباب مجمع الأوردة الرئوية على الوريد الأجوف السفلي أو على الأوردة فوق الكبد مباشرة وبعده إلى الأذين الأيمن (5%).[1.2.3]

بينت العديد من الدراسات التشريحية وجود صغر نسبي في حجم البطين الأيسر، في حين أن الدراسات التي تعتني بالباثولوجيا الكمية quantitative pathology بينت أن كتلة البطين الأيسر كانت دوماً قريبة من الطبيعي، حيث يعزى هذا الصغر النسبي لوجود انحراف في الحجاب بين البطينين نحو الأيسر بسبب الضغط المرتفع في البطين الأيمن.[2.3]

سريرياً يتظاهر هذا الداء لدى الأطفال ومنذ الأسابيع الأولى للحياة بسرعة التنفس tachypnea، وحتى الرضاعة تصبح عبئاً على الرضيع فيتناقص وزنه بدل أن يزيد.

تعود هذه الأعراض جميعها إلى أرتفاع التوتر الرئوي الذي يسببه هذا الداء، والذي يقود بدوره إلى حدوث إنتانات تنفسية متكررة ومعندة على العلاج تؤدي إلى تخريب شديد وعميق في الأسناخ الرئوية وبطانة القصبات.

يعتمد تشخيص الداء بالدرجة الأولى على التصوير بالإيكو دوبلر تحت التخدير، ولا حاجة بنا لإجراء قثطرة لتصوير أجواف القلب لتأكيد التشخيص. وبالرغم من كل التطور في الجراحة والعناية المشددة مازالت نسبة الوفيات في معالجة هذا الداء جراحياً نسبة عالية تتراوح بين 10-15% عالمياً.[4.5]

يهدف هذا البحث إلى دراسة عوامل الخطورة الجراحية لوضع أسس لتفاديها ورفع نسبة نجاح العملية الجراحية.

طرق البحث METHODS

قمنا بإجراء 42 عملية إصلاح لشذوذ انصباب الأوردة الرئوية التام في مركز جراحة القلب بدمشق وذلك في الفترة بين آب 2002 وآب 2007. كان الاتصال ما بين الأوردة الرئوية والأذينة اليمنى عن طريق الوريد اللا اسم له في 17 حالة (اتصال فوق القلب)، ومن الجيب الإكليلي في 25 حالة (اتصال في مستوى القلب)، جميع الحالات التي راجعت المركز لم يكن فيها أية حالة من الاتصال تحت القلب.

تراوحت أوزان الأطفال بين 3-10 كغ وتراوحت أعمارهم ما بين 3-15 شهراً. الإصابات المرافقة لشذوذ الأوردة الرئوية التام كانت فتحة بين البطينين عند طفل واحد بينما ترافقت الحالة مع قناة شريانية لدى 3 أطفال.

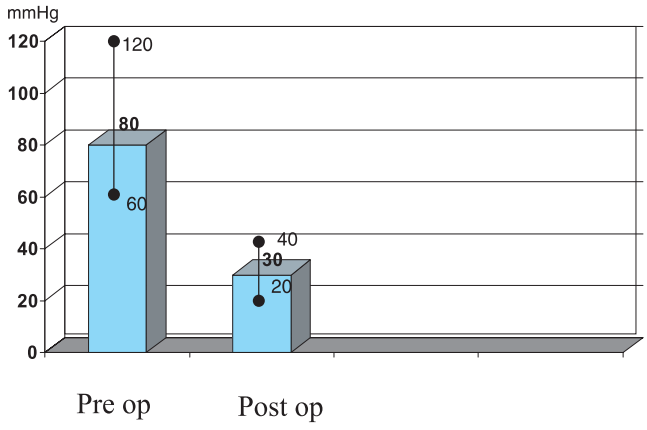
النتائج RESULTS

قمنا بتقسيم الأطفال إلى قسمين:

- القسم الأول (الفئة A): هم الأطفال الذين لم يصابوا بإنتان رئوي أو حصل لديهم الإنتان لمرة واحدة ولم تمتد الإصابة به أكثر من أسبوع واحد وكان عددهم 20 طفلاً.
- القسم الثاني (الفئة B): هم الأطفال الذين حصل لديهم نوبتان أو أكثر من نوب الإنتان الرئوي القصبي، وبلغ عددهم 22 طفلاً.

لوحظ أن الفتحة بين الأذينتين كانت صغيرة الحجم في المجموعة B وتراوحت ما بين 7-12 ملم، أما في المجموعة A فكانت تقيس 15 ملم أو أكثر.

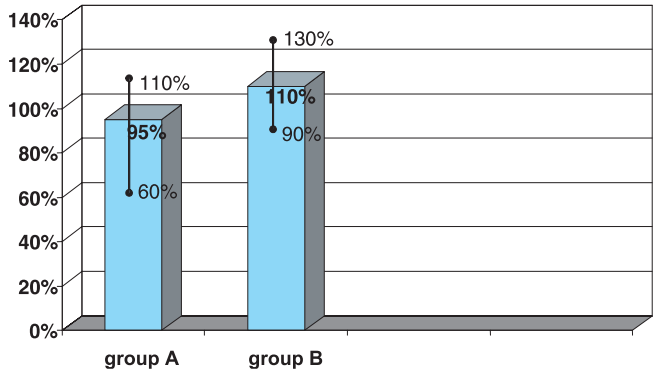
في جميع الحالات لم نجد مماثلاً بين البطين الأيمن والشريان الرئوي وتراوحت الضغوط الانقباضية في البطين الأيمن ما بين 60-120 ملم.زئبق (وسطياً 80 ملم. زئبق) وذلك قبل العمل الجراحي، وهبطت هذه الضغوط إلى 20-40 ملم. زئبق (وسطياً 30 ملم. زئبق) بعد الجراحة (p=0.2)، الشكل (1).



الشكل 1. ضغط البطين الأيمن الأعظمي قبل وبعد الجراحة.

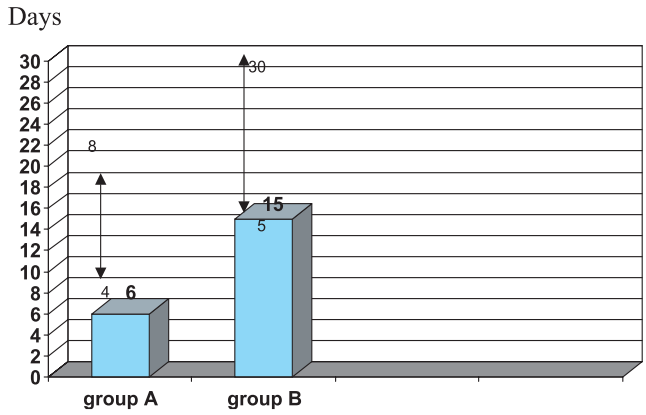
وبدراسة الحالات بالتفصيل لم نجد أي فرق في النتائج ما بين المجموعة A والمجموعة B في مجال انخفاض ضغط البطين

الأيمن بعد العملية (في كلا الحالتين انخفض ضغط البطين الأيمن من 80 ملم.زئبق وسطياً إلى 30 ملم.زئبق)، كما قمنا بدراسة حجم البطين الأيسر في نهاية الانبساط LVEDV فتراوحت نسبة حجم البطين الأيسر بالنسبة للطبيعي ما بين 60–110% (وسطياً 95%) لدى المجموعة A وكانت بين 90–130% (وسطياً 110%) لدى المجموعة B وهذه الفروق لم تكن ذات أهمية أحصائية (p=0.40)، الشكل 2.



الشكل 2. حجم البطين الأيسر في نهاية الانبساط بالنسبة للطبيعي.

تراوحت مدة الإقامة في المشفى بعد الجراحة لدى المجموعة A بين 4–8 أيام (وسطياً 6 أيام)، في حين كانت الإقامة لدى المجموعة B ما بين 5 و30 يوماً (وسطياً 15 يوم) وهذه الفروق كانت ذات أهمية إحصائية (p=0.02)، الشكل 3.



الشكل 3. مدة الإقامة بالمشفى.

حصلت في المجموعة B ثلاث وفيات تالية للجراحة مباشرةً وحالة وفاة متأخرة بعد ستة أسابيع، كما حصل أيضاً حالة إنتان قص في حالة سادسة، في حين حصلت حالة وفاة واحدة في المجموعة A (p=0.02).

كانت نسبة الوفاة بشكل عام 14%، حيث تراوحت ما بين 22% في الفئة الأولى و5% في الفئة الثانية.

المناقشة DISCUSSION

يشكل شذوذ انصباب الأوردة الرئوية لدى الرضع مرضاً يدعو إلى دق ناقوس الخطر على حياة هؤلاء المرضى فهو يؤدي سريعاً إلى ارتفاع توتر رئوي شديد يؤدي بدوره لحصول إنتانات رئوية متكررة، وبسبب عدم ورود دم كافٍ إلى البطين الأيسر يبدأ هذا الجوف بالضمور نسبياً ويضعف عمله في ضخ الدم إلى أنحاء الجسم، فيصبح الرضيع في حالة عامة سيئة جداً، حتى أن عملية الإرضاع تصبح عبئاً كبيراً عليه فيمتنع عن الرضاعة ويهزل جسده ويبدأ وزنه بالتناقص نسبة لأقرانه، مما يدعو إلى التداخل الجراحي المبكر خلال الأشهر الأولى من الحياة، وذلك منعاً لتفاقم المرض والوصول إلى حالة نهائية تصبح معها الجراحة حتى ولو نجحت عديمة الفائدة نظراً لحصول تخريب رئوي على مستوى الأسناخ قد يكون ناجماً عن طبيعة المرض وليس فقط بسبب الإنتانات الرئوية المتكررة والتي تقود أيضاً إلى التوتر الرئوي الشديد.[2،5]

وقد بينت الأبحاث التي أجراها Haworth and Reid زيادة ملحوظة في النسيج العضلي للسرير الوعائي الشرياني الرئوي لدى جميع الأطفال الذين توفوا جراء هذا المرض كما أثبت وجود سماكة غير طبيعية في جدر الأوردة الرئوية.

تدل جميع الإحصائيات الأمريكية والأوروبية على أن نسبة الحياة لا تتعدى 20% بعد عمر السنة ولا تتعدى 50% بعد عمر ثلاثة أشهر في حال عدم إجراء الجراحة المبكرة.[2،3،5] يهتم هذا البحث بدراسة عوامل الخطورة قبل العمل الجراحي لتفادي ارتفاع نسبة الوفاة في عمليات شذوذ انصباب الأوردة الرئوية التام والتي تبلغ في معظم المراكز ما بين 10–15%، في حين كانت النسبة لدينا حوالي 14%، علماً أنها كانت 5% لدى الأطفال الذين وصلوا إلى الجراحة في ظروف مثالية، و22% لدى الأطفال الذين تأخروا في الدخول للجراحة وحصلت لديهم إنتانات رئوية (p=0.02).

الاستنتاجات CONCLUSION

أثبت البحث أن حجم البطين الأيسر أو ضغط البطين الأيمن المرتفع لم يشكلا أي فارق في خطورة العمل الجراحي، في حين

بينت الدراسة أن إجراء العملية قبل حصول إنتان رئوي مزمن وتخريب الأسناخ الرئوية كان عاملاً أساسياً في خفض نسبة الوفيات إلى 5% بالمقارنة مع 22% في الحالات التي أجريت فيها الجراحة بعد حصول عدة نوب من الإنتان القصبي الرئوي، وحتى الاختلاطات التي حصلت كانت ضمن هذه الفئة أيضاً من إنتان قص ومنصف أو طول مدة البقاء في المستشفى.

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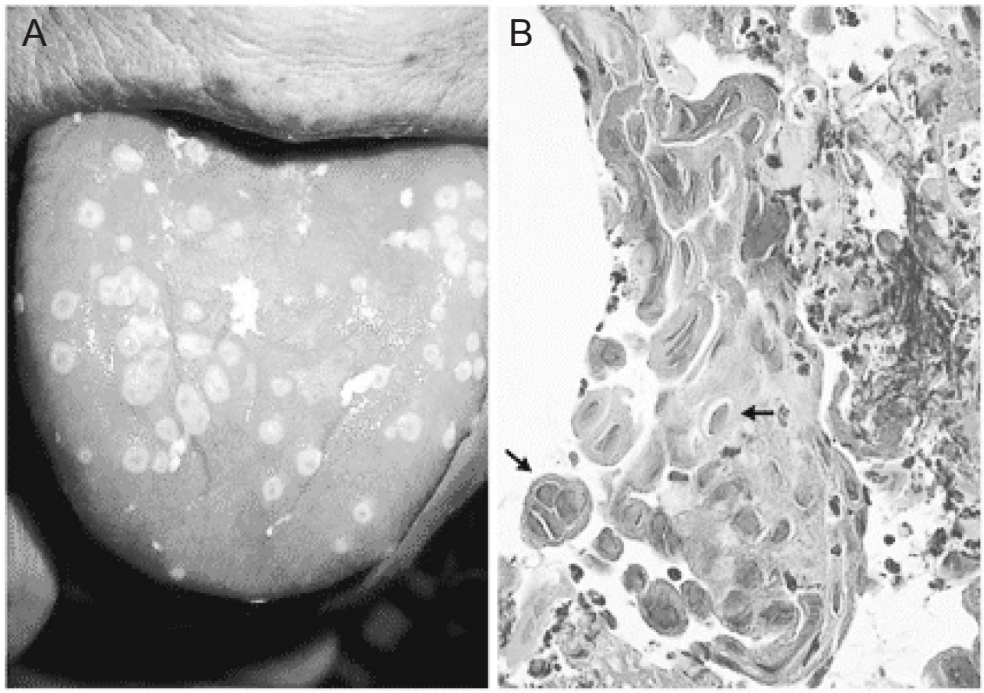
Interesting Case



Herpetic Glossitis

التهاب لسان حلئي

A 75-year-old woman with more than a 10-year history of hypertension and diabetes mellitus reported a 3-day history of throat discomfort and white eruptions on the tongue. On examination, multiple well-defined, white papules, 2 to 3 mm in diameter with a central punctum, were found on the surface of her tongue (Panel A). She reported only minimal oral pain. A shave biopsy revealed histologic findings typical of herpetic infection, including perinuclear halo, margination of chromatin, and multinucleated cells (Panel B, arrows). Culture of the lesions showed herpes simplex virus type 1 (HSV-1). Differing from herpetic vesicles on the skin, round, discrete areas of ulceration are the typical presentation of herpetic glossitis. Oral HSV-1 reactivation typically affects the keratinized surfaces of the mouth, whereas primary HSV-1 infection usually involves other mucosal surfaces as well. The typical clinical appearance of this condition differentiates it from oral candidiasis and aphthous ulcers. The lesions had healed completely, without any treatment, at the 2-week follow-up visit.

مريضة عمرها 75 سنة تعاني من ارتفاع توتر شرياني وداء سكري منذ 10 سنوات لديها حاليا حس انزعاج في الحلق منذ 3 أيام مع وجود اندفاعات بيضاء على اللسان. بالفحص لوحظ وجود حطاطات بيضاء متعددة، واضحة الحدود، ذات تنقط مركزي، بقطر 2–3 ملم على سطح اللسان (الصورة A). عبرت المريضة عن وجود ألم بسيط في الفم. أظهرت الخزعة بالكشط موجودات نسيجية وصفية لحالة إنتان بالفيروسات الحلئية تضمنت: هالة حول النواة، كروماتين هامشي، وخلايا متعددة النوى (السهم في الصورة B). أظهرت الزروع المجراة من الآفات فيروس الحلأ البسيط من النمط الأول (HSV-1). بخلاف الحويصلات الحلئية التي تلاحظ على الجلد فإن التظاهر النموذجي لالتهاب اللسان الحلئي هو المناطق المدورة المنفصلة عن بعضها من التقرحات. إن إعادة تفعل الإنتان الفموي بفيروس الحلأ البسيط (HSV-1) يصيب نموذجيا السطوح المتقرنة في الفم، أما الإنتان البدئي بهذه الفيروسات فيصيب بالإضافة لذلك السطوح المخاطية الأخرى. إن المظهر السريري النموذجي للآفة في هذه الحالة ساعد على تفريقها عن الإصابة الفموية بالمبيضات أو القرحات القلاعية. لوحظ شفاء هذه الآفات بشكل كامل دون أية معالجة خلال أسبوعين من المتابعة.

……..

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N Engl J Med 2007 September;357:e13, Images in Clinical Medicine
Prepared and translated by Samir Aldalati, MD

Case Report تقرير حالة طبية

COMPOUND VOLVULUS IN PREGNANCY
انفتال معوي مركب أثناء الحمل

Karam Kamal Y. Sharif, *M.D*
د. كرم كمال يونس شريف

ملخص الحالة

يمثل انفتال الأمعاء المركب حالة نادرة التوارد كسبب لانسداد الأمعاء، سيتم في هذا التقرير إيراد حالة انفتال أمعاء مركب حدثت عند امرأة في الثامنة والعشرين من العمر في الأسبوع الرابع والعشرين من الحمل الذي استمر بشكل طبيعي. تظاهرت الحالة عند هذه المريضة مع صعوبة في وضع التشخيص. سيتم أيضاً إيضاح مميزات هذه الحالة مع التأكيد على ندرة حدوثها أثناء الحمل مع مراجعة الأدب الطبي حول الحالات المشابهة لها.

ABSTRACT

Ileosigmoid knotting or compound volvulus is a very uncommon cause of intestinal obstruction. A case of compound volvulus is reported in a 28-year-old pregnant lady in week 24 of an otherwise uneventful pregnancy. She was presented with a diagnostic dilemma. The features of this uncommon condition with an emphasis on its rare occurrence in pregnancy and literature review are highlighted.

INTRODUCTION

Compound volvulus (also known as ileosigmoid knotting or double volvulus or intestinal knot) was first described by Riverius in the 16th century. It is a comparatively common condition in certain developing countries like African, Asian and Middle eastern nations.[1] However it is a rare entity in western world.[2] According to Alshawi JS, intestinal obstruction during pregnancy due to intestinal volvulus was considered extremely rare. Only 73 cases have been reported worldwide.[3] The factors responsible for ileosigmoid knot include a long small bowel mesentery and freely mobile small bowel, a long sigmoid colon on a narrow pedicle and finally the ingestion of a high bulk diet in the presence of an empty small bowel.[4] The empty loops of ileum and distal jejunum twist in a clockwise rotation around the base of narrow sigmoid colon. Further, peristalsis forms an ileosigmoid knot. The sigmoid colon, when full of feces and gas falls on the small bowel loops which when trying to free themselves from the weight of the colon turn itself around the base of the sigmoid forming a knot. The sigmoid colon is considered to be the passive knot component while small bowel is the active component.[5] Volvulus during pregnancy occurs most often in the last trimester, probably because the enlarging gravid uterus displaces the bowel from normal position.[6,7] Varoquaux et al stated that there are no clinical features specific for diagnosis[8] which is difficult due to its infrequency and atypical radiological features, so it is usually made during exploratory laparotomy.[9] The present report describes the occurrence of this rare condition in pregnancy.

CASE PRESENTATION

A 28-year-old pregnant woman gravida 5 para 4 in her week 24 of an otherwise uneventful pregnancy referred at night to the surgical emergency department in Aljamhoory teaching hospital in Mosul from Al-Batool obstetric and gynecology hospital after 1 day history of sudden severe generalized cramping abdominal pain, obstipation, progressive abdominal distension and frequent bile stained vomiting. She

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reported a history of trivial blunt abdominal trauma 4 days earlier. There was no history of nausea, fever, chills, or prior abdominal surgery. Her previous pregnancies were normal vaginal deliveries for normal full term neonate. Physical examination revealed a dehydrated, pale patient who could'nt lie flat because of pain. Her PR 130 B/M weak, BP 80/40 mmHg, RR 26/M and she was a febrile. Abdominal examination showed a centrally distended abdomen, generalized guarding and tenderness with bowel sounds minimally audible. Per rectal examination was normal.

Investigations showed Hb 7 g/dl, WBC ($14x10^3$/ml), normal serum electrolytes, normal renal function tests and oxygen saturation of 90. Due to our concern about possible hazards of an X-ray in pregnancy and unavailability of ultrasound (US) at night, neither an abdominal X-ray nor an ultrasound were done. After admission, aggressive IV fluid and blood transfusion to correct her hypotension and pallor were instituted. A nasogastric tube was inserted which was draining bile stained fluid and urinary catheterization that revealed a normal urine output and color. Parenteral antibiotics were administered with close observation. During the observation period, there was no result or change of abdominal pain. An hour later, the patient started to deteriorate with worsening abdominal distension and pain. Thus, an exploratory laparotomy was decided under the impression of an acute abdomen complicating pregnancy. Operative findings revealed a long gangrenous jejunoileal segment (Figure 1 and 2) with its base firmly knotted around the mesentery of massively distended gangrenous sigmoid colon (Figure 3 and 4). Resection of gangrenous small bowel and primary anastomosis with resection of gangrenous sigmoid and Hartmann's colostomy were done. The patient did well post operatively with no impact on her current pregnancy. The patient was started on liquids on the 4th postoperative day. The postoperative course was unremarkable and was discharged home after 1 week of hospitalization.

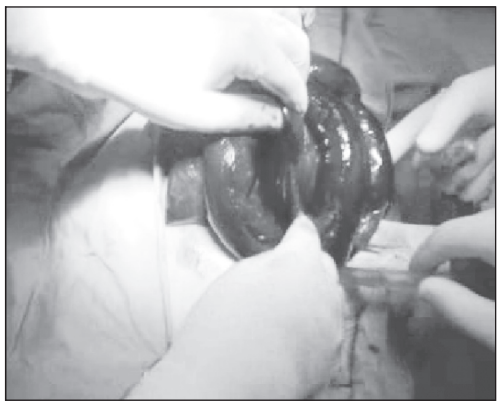

Figure 1. Gangrenous small bowel.

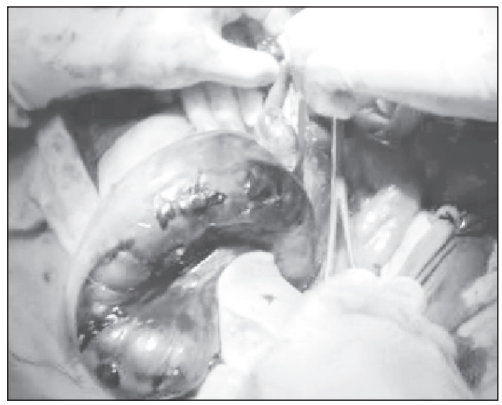

Figure 2. Gangrenous sigmoid colon.

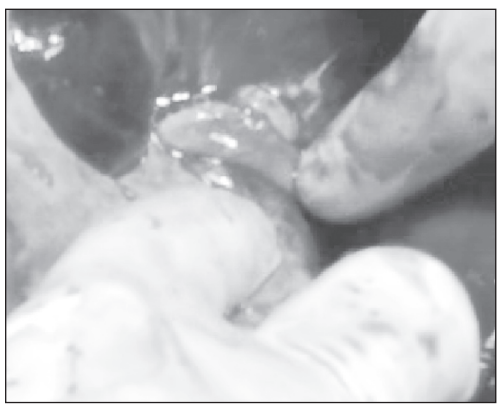

Figure 3. The occluding mesenteric band.

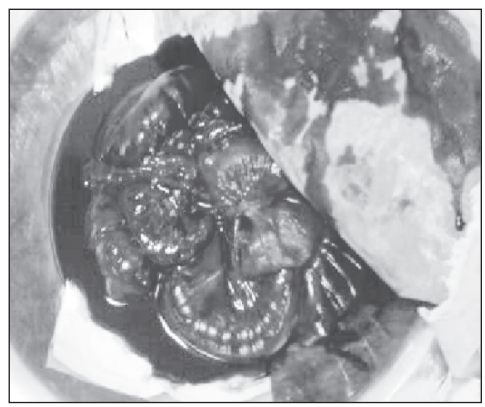

Figure 4. The resected specimen.

DISCUSSION

Volvulus during pregnancy is a potentially devastating development with significant morbidity and mortality. It should be suspected in a patient with worsening abdominal pain and evidence of bowel obstruction.[10] Pregnancy masks the signs and symptoms of intestinal obstruction. A high index of suspicion is required for proper and timely diagnosis.[11] In the case reported herein; the diagnosis was done incidentally at laparotomy. It seems from the intra-operative findings that a history of prior trivial abdominal trauma has no impact in the etiology and is just a coincidence. Bile stained vomiting in the presentation could point to other possibilities for diagnosis as acute upper intestinal obstruction thus; an abdominal X-ray is diagnostic and not absolutely contraindicated at this gestational age although it was lacking in our case. The pallor detected on examination had raised our suspicion of an acute gynecological problem complicating pregnancy as abruptio placentae or ruptured uterus. These suspicions could have been resolved if an US was available at that time to exclude such possibilities. Regarding the minimally audible bowel sounds during auscultation; these could be attributed to intestinal strangulation and atony complicating bowel gangrene. In his review of 16 patients with ileosigmoid knotting, Akgun showed that aggressive preoperative resuscitation, appropriate antibiotic therapy, effective surgery and post operative metabolic support help to minimize morbidity and mortality rates.[12] It was stated that resection of necrotic small bowel with restoration of intestinal continuity by primary anastomosis is the best job.[13] Hartmann's procedure is a safe and efficacious option for surgeons confronted with the complex pathology of colonic area with acceptable morbidity and mortality.[14] These surgical options were followed in the current case and the post operative course was smooth and uneventful.

CONCLUSIONS

In reviewing literature; compound volvulus in pregnancy is an uncommon and potentially serious condition that should be recognized as a surgical emergency. The closed loops of bowel become gangrenous in few hours where generalized peritonitis, sepsis and dehydration are the main complications therefore early stabilization with prompt laparotomy will optimize survival. The clear lesson from this case stems from the delay in presentation, occurrence in pregnancy and lack of investigations (X-ray and US) that all were masking events complicating the diagnosis. We present this condition to remind obstetricians too of such a rare cause of acute abdomen during pregnancy.

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Case Report تقرير حالة طبية

GANGRENOUS THUMBS OF BOTH HANDS POST UNUSUAL METHOD OF THUMB SUCKING PREVENTION

تطور غانغارينا في الإبهام في كلا الكفين نتيجة استخدام طريقة غريبة لمنع مص الإبهام

Hisham Abd Alkarem Alkattan, *MD*

د. هشام عبد الكريم القطان

ملخص الحالة

تعكس محاولات الأهل لمنع عملية مص الإبهام عند الأطفال قلقهم الكبير على أطفالهم، إلا أن تغطية الإبهام بغطاء من النايلون مثبت بواسطة حلقة مطاطية تستخدم لحمل النقود يمثل حالة غريبة وغير مسجلة سابقاً في منع هذه العادة. حدث ذلك لطفل عمره سنة ونصف حين تم جلبه من قبل والدته وهي في حالة ذهول شديد لما أصاب إبهامي الطفل من غانغارينا في كلتا اليدين. تم إجراء عملية بتر للإبهام على مستوى المفصل السنعي السلامي في كلتا اليدين.

ABSTRACT

Trial of stopping thumb sucking reflecting the parents worry about their infants and children, but using a covered nylon fixing with an elastic band to both thumbs represents unusual and not reported method as in the present case, ending with gangrene and amputation of both thumbs at the level of metacarpophalengeal joints.

INTRODUCTION

In fetuses, the sucking reflex is present from an early age, and thumb sucking has been observed from as early as 18 weeks of gestation. Ultrasound pictures of intrauterine life have even shown fetuses sucking their thumbs. Thumb sucking is the most common form of nonfeeding oral activity in childhood. Between 75 and 95 percent of all infants suck their thumbs. Most children begin this activity during the first year of life, and the prevalence then diminishes with age. Six percent of thumb sucking babies continue the habit past 1 year of age and only 3% continue beyond the age of 2 years. Thumb sucking should be considered normal before the age of 4 years and usually ignored.[1-7]

CASE PRESENTATION

One and a half year old child presented on May 1993 with blackish discoloration of the terminal phalanx down to the middle of the proximal phalanx for both thumbs, mother said she wrapped both thumbs with a nylon cover secured firmly by thin elastic band to prevent child sucking his thumbs, child started crying continuously day and night for about 72 hours, the mother was shocked when she noticed blackish discoloration of both thumbs.

On examination, blackish discoloration of both thumbs was observed (Figure 1). Both thumbs showed gangrenous changes, encircled with redness, and ulceration.

Decision of amputation was given to the mother. Primarily she refused, then she was obliged to agree about the operation. Disarticulation was done at the level of the metacarpophalengeal joints for both

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thumbs under cover of antibiotic, smooth postoperative period has been passed, wounds healed without infection.

Two years later, patient examination has been done. Figure 2 shows the front view of both hands one year later, Figure 3 shows the way the child manage holding spoon pencil after operation.

Radiological examination was done on 2004 during regular check up, no abnormal changes were observed, (Figure 4).

On May 2007, the patient presented complaining of painful thickened stump of the right hand. Mother worried about further amputation, no more than thickened yellowish skin at the terminal stump of the

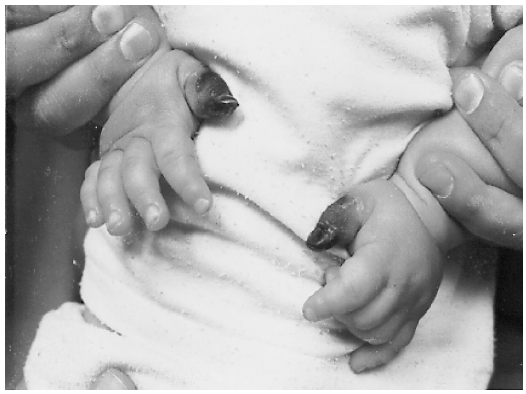

Figure 1. Anterior views of both hands with gangrenous changes of thumbs.

Figure 2. Front view of both hands two years later after the amputation.

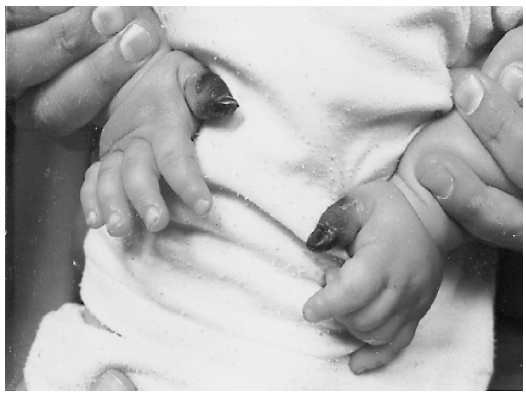

Figure 3. Child holding both spoon and pencil two years after the operation on his own way.

Figure 4. Anterioposterior view both hand showed the level of disarticulation without any evidence of calcification.

Figure 5. Fourteen years age, yellowish discoloration of the right thumb stump for the case.

Figure 6. Fourteen years later, the case holding the pencil on his own way.

right thumb on the palmar aspect of the first ray, (Figure 5).

Hands function examination carried out for writing, on patient's own way, (Figure 6).

X-Ray examination showed calcification appeared on the dorsal aspect of the head first metacarpal bone of the right hand (1*0.5). Left hand was not affected (Figure 7).

Figure 7. Anterioposterior view of both hands.

DISCUSSION

Finger sucking and especially thumb sucking is a common non-nutritive oral habit. It is more common in the higher socioeconomic groups and in girls than in boys. While it is very common in western societies, it is uncommon in some parts of Africa and Asia. Two essential reflexes present in the infant at birth and related to this drive, they are the sucking reflex (which remains until 12 months of age), and the rooting reflex (which remains until 7 months of age). However, it is unclear when normal sucking behavior becomes a habit that is not considered normal.[3]

Children suck their thumbs for a variety of reasons. For infants, it is a natural reflex that often begins in the womb. As babies grow, they learn a lot about their bodies and the world around them through sucking. They suck on their fingers, clothing, and toys. From this action they learn what is pleasing and what is uncomfortable. Sucking on an ice cube or cool teething ring feels good when those first teeth are trying to break through, but when the same teething child sucks on a hard plastic toy, child may experience discomfort. Young children also use sucking to soothe and comfort themselves. Since the action is relaxing, it often induces sleep.[8]

Meanwhile prolonged thumb-sucking can lead to serious dental and speech problems, persistent digit sucking habits are an important etiological factor for malocclusion due to increased maxillary prognathism; rotation of the maxillary plane downwards posteriorly and up wards anteriorly; other is inflammation of a digit caused by a chronic sucking habit. Also sucking habit is combined with trichotillomania that leads to alopecia.[3, 9]

There are some practical ways to help child to quit this habit, such as keeping child's hands busy with favorite activities, or using a bandage or a bad-tasting substance. If the bandage or coating comes off, replace it without being critical or embarrassing child, special glove, and thread ribbon through the glove so that it can be fitted to the hand during times of need.[10]

Mother's child trial to stop thumb sucking, by wrapping the thumbs with a piece of nylon firmly secured with elastic ring, reflects bad educational behavior. This is non reported method of thumb sucking prevention.

Mother's worry agreed with Timothy G,[10] who said that parents often begin to worry about a child if he or she continues thumb sucking. If the child continues thumb-sucking, parents may want to speak to a pediatrician or dentist to learn about devices of prevention.[3,10, 11,12]

A majority of specialists, said Ekaterina P[3] are not in favour of intervening with this habit before 4 to 5 years of age on the assumption that in most cases the habit disappears spontaneously, and for psychological reasons.

Continuous crying before removal of elastic ring and the applicants, has been explained by William M in Dublin and Stammers FA in England,[13,14] they mentioned that important clinical features of acute arterial interruption complicating a limb injury are: severe pain in the limb and this goes with the patient symptoms.

Thumbs cover fixed firmly by thin elastic band in our case which acts as tourniquet for more than 72 hours. Two hours is the most generally accepted upper limit. When the tourniquet time exceeded two hours there was a degree of tissue reaction in the form of local indurations after six hours, followed by vasoconstriction with complete cut blood supply to the fingers ends which have no collateral circulation end with gangrene.[13-19]

CONCLUSIONS

In conclusion bad education about thumb sucking prevention may lead to serious complication as in our case. Proper educational program in the community were advised to prevent such problem.

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Review Artical مراجعة طبية

UNDERSTANDING CLINICAL RESEARCH RESULTS
فهم نتائج البحوث السريرية

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د. محمد أديب العسالي

الخلاصة

يخشى معظم الأطباء التعامل مع الأرقام والإحصائيات، وكثيراً ما يلاقون صعوبةً في قراءة أقسام طرائق البحث والنتائج في البحوث المنشورة، مما يدفعهم إلى تجاهل هذه الأقسام والاكتفاء بقراءة المقدمة والاستنتاجات. كما يشكل تحليل النتائج عقبة كبيرة في وجه الأطباء الذين ينفذون أبحاثاً علميةً، لذلك فقد طور علماء الوبائيات أساليب لتحليل نتائج البحوث السريرية يسهل فهمها واستخدامها وربطها بتطبيقاتها السريرية.

يتضمن هذا المقال وصفاً موجزاً لهذه الأساليب مع وصف مختصر لمختلف طرق البحث العلمي السريري، ولكنه لا يشكل مرجعاً شاملاً لتصميم البحوث العلمية، بل ينصح بمراجعة مصادر أخرى للمعلومات عند تصميم البحوث وكتابة بروتوكولاتها بغية تجنب العوامل المتوهة والأخطاء الممكنة.

SUMMARY

Most physicians are phobic of statistics and numbers and usually skip reading the "methods" and "results" sections of published papers. Moreover, a main difficulty faced by clinicians conducting research project is data analysis. Epidemiologists have developed clinically meaningful, easy to apply and to understand, methods for clinical research data analysis. These methods are briefly described in this paper which also contains a summary description of different research methods. However, this paper is not a complete reference for designing research projects. Potential researchers are referred to other resources for information about designing studies, writing study protocols and avoiding potential biases and confounders.

INTRODUCTION

Clinical researcher should acquire some knowledge of research methods and statistics. However, statistics should be thought of as tools to help make sense of research data, rather than rules to follow slavishly. By understanding the meaning and accurate application of few terms, physicians can analyze their own data. The calculations contained in this article should not be a cause for concern. All calculation and associated 95% confidence intervals could be done automatically using many online calculators.[1]

CLINICAL RESEARCH

Clinical research projects may be classified in different ways. They can be observational or experimental.

An observational study is a study in which nature is allowed to take its course and can be descriptive or analytic. Examples of descriptive observational studies include case reports and series, cross-sectional surveys and qualitative studies. As these are generally conducted without a control group for comparison, they are purely descriptive and are only suitable for hypothesis generation. Examples of analytic observational studies include case-control studies and (some) cohort studies. These studies generally compare two subject groups, i.e. cases and controls,

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and differences in one characteristic are studied in relation to differences in other(s), without action by the investigator.

Experimental studies involve applying an intervention by the researcher. The main example of experimental studies is controlled clinical trials where an intervention is applied to the 'experimental' group but not to the control group, and any resulting differences in outcome are compared. The method of allocation to intervention and comparison groups is particularly important for experimental studies. Randomized allocation is the best way to avoid imbalances between the groups. The reasons for randomization are to reduce bias and to ensure that confounders are distributed randomly between the two groups. As most clinical outcome assessments are to some extent subjective, there is potential for error in their measurement. Blinding of participants and study staff to intervention status reduces these errors. However, single or double blinding is not always possible.

STUDY OUTCOMES

In principle, any type of studies could be quantitative or qualitative, but the former is much more common in medicine. Quantitative studies may measure outcome in a number of ways. Outcomes may be either continuous (dimensional) or dichotomous (binary). Continuous or dimensional data can have any value within the range of all possible values (e.g. weight and serum glucose level). Dichotomous or binary data, on the other hand, can only have only two mutually exclusive categories (e.g. ill/not ill, dead/alive). Dichotomous outcomes are easier to measure and to interpret. Moreover, dichotomous outcomes enable clinical researchers to use the GATE frame in analyzing their results, and to apply intention-to-treat analyses. Clinical researchers are usually advised to convert continuous outcomes into dichotomous by identifying cut-off points on whatever continuous scales they are using. So, instead of stating the body weight, a cut-off point for obesity is set and the study group is divided into obese and non-obese persons.

THE GATE FRAME

It has been suggested that all types of clinical research follow a generic design called the GATE (Graphic Appraisal Tool for Epidemiological studies) frame.[2] The GATE frame incorporates a triangle, a circle and a square (Figure 1). The circle represents 2 groups of participants (I) and (C). (I) may be the cases in case-control studies, or the group receiving the investigated drug in randomized clinical trials, or the group tested with the diagnostic test under study in a cross-sectional study, or the group exposed to harm (e.g. smoking) in controlled cohort studies. (C) may be the controls in case-control studies, or the group receiving placebo or a comparison drug in randomized clinical trials, or the group tested with the diagnostic gold standard in a cross-sectional study, or the group not exposed to harm (e.g. smoking) in controlled cohort studies.

Figure 1. The Gate frame.

The triangle represents the population (P) under study. The circle, divided into 2 sections by a vertical line, represents 2 groups of participants; the intervention (I) group and the control (C) group. The study outcomes (O) are represented by a square divided into 4 sections. The top row (a+b) of the square represents the participants from I and C who experience a specified study outcome. The bottom row (c+d) represents those participants who did not experience this outcome.

INTENTION-TO-TREAT ANALYSIS (ITT)

All participants should be accounted for at the completion of a study, and the numbers in the triangle (study participants) should equal the numbers in the circle (I+C), which should in turn equal the numbers in

the square (those with and without the specified study outcome). However, reduced compliance, and loss to follow-up are difficult to eliminate entirely, and can be an important source of bias.

Ideally, all patients who enter a study complete it. This is rarely the case, however, as patients may be lost to follow up for a variety of reasons. Deciding how many patients can drop out of a study before the results are jeopardized is difficult. The journal Evidence-Based Mental Health insists on 80% follow-up, but the most important consideration in how to interpret dropouts is the use of intention-to-treat analysis (ITT). ITT analyses people in the groups to which they were originally randomized, whether they completed the study or not. Thus, individuals who drop out of the study are usually regarded as treatment failures. Alternatively, missing data from study dropouts may be given the last known value ("last observation carried forward") or the mean for the group to permit an ITT analysis, but these approaches are less reliable.

Using the GATE frame to analyze study results:

All clinical research studies are designed for calculating the risk of health-related events in populations. This risk is calculated by measuring specified health outcomes in a population (a, b, c, or d in the GATE square) and dividing by the number of persons in that population (I or C in the GATE circle). The GATE frame may be used in all types of clinical research. To illustrate its use, the following sections will discuss its application in two important study types, namely diagnostic tests and randomized clinical trials.

DIAGNOSTIC TESTS

When studying a diagnostic test, it is important to compare that test against a gold standard, the results of which can be relied on to give a true account of whether or not the diagnosis is present. In order for this to be done reliably without the person applying the diagnostic test or gold standard being influenced by the findings of the other test, the comparison must be "blind". The researcher applying the diagnostic test should be blind to the presence or absence of the diagnosis according to the gold standard.

In a GATE frame for a diagnostic study, the triangle (P) presents the population entering the study. The circle represents the application of the studied diagnostic test (I) and of the gold standard (C). The top row of the square represents the participants who tested positive according to the studied test (a) and according to the gold standard (b). The bottom row of the square represents those participants who tested negative to the studied test (c) and to the gold standard (d). Characteristics of the studied test can be calculated from the GATE square (Figure 2) and are summarized in Table 1.

		Gold Standard	
		Positive	Negative
Studied Test	Positive	a	b
	Negative	c	d

Figure 2. Diagnostic test characteristics.

The sensitivity of the test is the proportion of people with the disorder (according to the gold standard =a+c) who have a positive test (a). The specificity of the test is the proportion of people without the disorder (according to the gold standard = b+d) who have a negative test (d). The proportion of people with a positive test (a+b) who have the disorder (a) is called the positive predictive value (PPV). When a diagnostic test is negative (c+d) it is useful clinically to know what proportion of those with a negative test will truly be free of the disorder (d). This is called the negative predictive value (NPV). The likelihood ratio of a positive test result (LR^+) is the value of a positive test in increasing the suspicion that an individual has the disorder. The likelihood ratio for a negative test result (LR^-) is the probability of a negative test in those with the disorder divided by the probability of a negative test in those without the disorder.

Sensitivity	= a/a+c
Specificity	= d/b+d
PPV	= a/a+b
NPV	= d/c+d
LR^+	= sensitivity / 1- specificity
LR^-	= 1-sensitivity /specificity

Table 1. Summary of diagnostic test characteristics.

RANDOMIZED CLINICAL TRIALS

The efficacy and safety of health interventions are best tested by means of randomized clinical trials. In a

GATE frame for a randomized clinical trial, the triangle (P) represents patients with certain diagnosis meeting specified inclusion and exclusion criteria. The circle represents the intervention group (I) and the control group (C). The top row of the square represents the participants who had an outcome among the intervention (a) and the control (b) groups. The bottom row of the square represents those participants who did not have the outcome among the intervention (c) and the control standard (d) groups. The GATE square is used to estimate the effect of the intervention on outcomes (Figure 3). Efficacy measures are summarized in Table 2.

		Study Group	
		Intervention	Control
Outcome	Yes	a	b
	No	c	d

Figure 3. Intervention efficacy measures.

The frequency of the event in question in the control group is called the control event rate (CER), and is calculated by dividing the number of control subjects experiencing the event (b) by the total number of control subjects (b+d). The experimental event rate (EER) is similarly calculated for the intervention group. The event rates (or risk) in the intervention and control group are compared to assess the "effect" of the intervention on outcomes. The standard measures of efficacy are the relative risk, absolute risk reduction and the number needed to treat.

Control event rate (CER)	= b/b+d
Experimental event rate (EER)	= a/a+c
Relative risk (RR)	=EER÷CER
Absolute risk reduction (ARR)	=EER–CER
Number needed to treat (NNT)	=1/ARR

Table 2. Intervention efficacy measures.

The relative risk (RR) is the risk of the event in question in the experimental group (EER) divided by the risk of the same event in controls (CER). The absolute risk reduction (ARR) is calculated from the difference between experimental and control event rates. The number needed to treat (NNT) is a very important statistic designed to measure the efficacy of a treatment in a clinically relevant and intuitive way. It is calculated from the reciprocal of the absolute risk reduction (ARR). NNT is the number of people need to be given the active treatment to prevent one event that would have occurred had they been treated with the comparison treatment. In studies where the outcome of interest is time to an event, calculations can be extended to show the NNT at any time point after the start of treatment.[3]

INTERPRETING CLINICAL RESEARCH RESULTS

Any research finding could, in theory at least, be true or false. False positive and false negative results can be attributable to bias, confounding or chance. Bias is introduced by poor research technique, and confounding is a relationship in nature that must be controlled in good research designs. The role of chance is a general problem, dealt with traditionally by statistical tests that give the probability (p value). It is, however, important to realize that stating a finding to be 'statistically significant' (when $p<0.05$) only means that such a difference would arise by chance less than 5% of the time. This arbitrary significance level means that this is unlikely to have occurred by chance: it does not mean it did not. Moreover, a 'statistically significant' result is not necessarily a clinically significant one. Researchers are increasingly using confidence intervals, rather than p values, to measure the precision of clinical research results. Confidence intervals give all the information of a 'p-values' plus the precision of the result.

CONFIDENCE INTERVAL

As any clinical research result can only be regarded as an estimate of the true situation in the population as a whole, confidence interval (CI) is usually calculated in order to measure the precision of the result. CI is the range within which the true result actually lies, with a specific degree of assurance (usually 95%), based upon the result obtained from the conducted clinical research.[4] In other words, one can be 95% certain that the true population value of a result is between the two limits of the 95% CI.

The confidence interval is related to 'p-value' -it is no accident that the usual values are 95% and 5%, respectively- but more informative. If, for instance, the CI for an ARR crosses 0, or that for an NNT crosses infinity, the results may be attributable to chance

alone. A narrow confidence interval means little variability in the result.

CONCLUSIONS

Clinical research should be an integral part of everyday clinical practice. Practical clinical problems should direct research projects, and research results should help practitioners in continuously developing their practice. Clinical research is best conducted by clinically active physicians, but most physicians find it difficult to deal with statistics. The aim of this paper was to present an easy approach to understanding and conducting clinical research. A more detailed account of this approach is freely available in English[5] and in Arabic.[6] (e.g. http://www.epiq.co.nz).

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Selected Abstracts

Public Health
صحة عامة

A Clinical Trial of a Whole-Virus H5N1 Vaccine Derived From Cell Culture
دراسة سريرية لاستخدام اللقاح المكون من الفيروس الكامل H5N1 المستخلص من المزارع الخلوية

Ehrlich HJ, et al.
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Background: Widespread infections of avian species with avian influenza H5N1 virus and its limited spread to humans suggest that the virus has the potential to cause a human influenza pandemic. An urgent need exists for an H5N1 vaccine that is effective against divergent strains of H5N1 virus.
Methods: In a randomized, dose-escalation, phase 1 and 2 study involving six subgroups, we investigated the safety of an H5N1 whole-virus vaccine produced on Vero cell cultures and determined its ability to induce antibodies capable of neutralizing various H5N1 strains. In two visits 21 days apart, 275 volunteers between the ages of 18 and 45 years received two doses of vaccine that each contained 3.75 μg, 7.5 μg, 15 μg, or 30 μg of hemagglutinin antigen with alum adjuvant or 7.5 μg or 15 μg of hemagglutinin antigen without adjuvant. Serologic analysis was performed at baseline and on days 21 and 42.
Results: The vaccine induced a neutralizing immune response not only against the clade 1 (A/Vietnam/1203/2004) virus strain but also against the clade 2 and 3 strains. The use of adjuvants did not improve the antibody response. Maximum responses to the vaccine strain were obtained with formulations containing 7.5 μg and 15 μg of hemagglutinin antigen without adjuvant. Mild pain at the injection site (in 9 to 27% of subjects) and headache (in 6 to 31% of subjects) were the most common adverse events identified for all vaccine formulations.
Conclusion: A two-dose vaccine regimen of either 7.5 μg or 15 μg of hemagglutinin antigen without adjuvant induced neutralizing antibodies against diverse H5N1 virus strains in a high percentage of subjects, suggesting that this may be a useful H5N1 vaccine.

خلفية البحث: إن الانتشار الواسع لإنتانات إنفلونزا الطيور H5N1 عند ذراري الطيور، والانتشار المحدود لهذا الفيروس إلى البشر يقترح إمكانية تسبب هذا الفيروس بجائحات من الإنفلونزا عند البشر، وهنا تظهر الحاجة الملحة للحصول على لقاح ضد هذا الفيروس يكون فعالاً ضد الذراري الأخرى المنبثقة منه.

طرق البحث: تم إجراء دراسة عشوائية، متزايدة الجرعة، ذات طورين شملت 6 مجموعات فرعية، حيث تم اختبار سلامة اللقاح المكون من الفيروس الكامل H5N1 والذي تم إنتاجه في مزارع خلايا Vero، وتحديد قدرته على تحريض إنتاج أضداد قادرة على تعديل ذراري الفيروس H5N1. تم إعطاء اللقاح لـ 275 من المتبرعين –أعمارهم بين 18 و45 سنة– على جرعتين بفواصل 21 يوماً بحيث احتوت كل جرعة على 3.75 مكروغرام، 7.5 مكروغرام، 15 مكروغرام، أو 30 مكروغرام من المستضد الراص الدموي مع مساعد من الشب alum adjuvant، أو بجرعات 7.5 مكروغرام، أو 15 مكروغرام من المستضد الراص الدموي دون مساعد. تم إجراء التحليل المصلي في بداية الدراسة (تحليل قاعدي)، وبعد 21 و42 يوماً من إعطاء اللقاح.

النتائج: لوحظ أن اللقاح قد حرض على تشكل استجابة مناعية معدلة ضد المجموعة 1 (A/Vietnam/1203/2004) من ذراري الفيروس، بالإضافة إلى المجموعات 2 و3 أيضاً. لم يلاحظ تحسن في استجابة الأضداد لدى استخدام المادة المساعدة. لوحظ حصول استجابة أعظمية للقاح عند استخدام التراكيب الحاوية على 7.5 و15 مكروغرام من المستضد الراص الدموي دون مادة مساعدة. شكل الألم الخفيف مكان الحقن (الذي لوحظ في 9–27% من الحالات) والصداع (الذي لوحظ في 6–31% من الحالات) التأثيرات الجانبية الأشيع حدوثاً لدى إعطاء التركيبات المختلفة من اللقاح.

الاستنتاجات: إن إعطاء جرعتين من اللقاح الحاوي على 7.5 أو 15 مكروغرام من المستضد الراص الدموي دون مادة مساعدة يحرض على تشكل أضداد معدلة ضد مختلف ذراري فيروس H5N1 عند نسبة كبيرة من المرضى وهو ما يقترح فائدته كلقاح ضد فيروس H5N1.

Adiposity and Alzheimer's Disease
البدانة وداء الزهايمر

Luchsinger JA, et al.
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Purpose of Review: Alzheimer's disease is the most common form of dementia. There are no known preventive or curative measures. There is increasing evidence for the role of total adiposity, usually measured clinically as BMI, and central adiposity, in Alzheimer's disease. This topic is of enormous public health importance given the global epidemic of high adiposity and its consequences.
Recent Findings: Salient publications in 2007 and 2008 showed that (a) central adiposity in middle age predicts dementia in old age; (b) the relation between high adiposity and dementia is attenuated with older age; (c) waist circumference in old age, a measure of central adiposity, may be a better predictor of dementia than BMI; (d) lower BMI predicts dementia in elderly people; and (e) weight loss may precede dementia diagnosis by decades, which may explain seemingly paradoxical findings.
Summary: The possibility that high adiposity increases Alzheimer's disease risk is alarming given global trends of overweight and obesity in the general population. However, prevention and manipulation of adiposity may also provide a means to prevent Alzheimer's disease. Treatment of weight loss in Alzheimer's disease may also be important but is beyond the score of this review.

هدف المراجعة: يمثل داء الزهايمر الشكل الأشيع من حالات العتاهة، كما لا توجد وسائل وقائية أو علاجية معروفة لهذا الداء حتى الآن. توجد دلائل متزايدة على وجود دور للبدانة الكلية –المقاسة سريرياً باستخدام مشعر كتلة الجسم BMI– والبدانة المركزية في هذا الداء. يمثل هذا الموضوع أمراً بالغ الأهمية للصحة العامة وذلك للانتشار الوبائي العالمي للبدانة المفرطة والنتائج المترتبة عنها.
الموجودات الحديثة: أظهرت منشورات Salient في عام 2007 و2008 ما يلي: 1– البدانة المركزية في منتصف العمر تفيد في التنبؤ بالعتاهة في المراحل المتأخرة من العمر، 2– العلاقة بين البدانة المفرطة والعتاهة تضعف مع تقدم العمر، 3– إن محيط الخصر في المراحل المتأخرة من العمر –كقياس للبدانة المركزية– قد يكون مشعراً أفضل من مشعر كتلة الجسم BMI في التنبؤ بالعتاهة، 4– انخفاض مشعر كتلة الجسم BMI يفيد في التنبؤ بالعتاهة عند المسنين، 5– نقصان الوزن قد يسبق تشخيص العتاهة بعقود من الزمن وهو ما قد يفسر الموجودات المتناقضة ظاهرياً.
الخلاصة: إن إمكانية تسبب البدانة المفرطة في زيادة خطر تطور حالات داء الزهايمر تعطي إنذاراً للتوجهات العالمية بالنسبة لموضوع زيادة الوزن والبدانة عند عامة الناس، كما أن التعامل مع حالات البدانة والوقاية منها قد يفيد أيضاً في الوقاية من داء الزهايمر. من جهة أخرى قد يكون من المهم معالجة نقص الوزن عند مرضى الزهايمر إلا أن ذلك يقع خارج نطاق هذه المراجعة.

Pediatrics
طب الأطفال

Probiotic Preparation VSL#3 Induces Remission in Children With Mild to Moderate Acute Ulcerative Colitis
تحريض هجوع الحالات الخفيفة والمتوسطة من التهاب الكولون القرحي الحاد عند الأطفال باستخدام مستحضرات الطلائع الحيوية VSL#3

Huynh HQ, et al.
Inflamm Bowel Dis 2008 Dec 9.

Background: Ulcerative colitis (UC) is a form of inflammatory bowel disease (IBD) that has periods of exacerbated symptoms and periods that are symptom-free. The treatment of active UC with probiotic bacteria could

possibly induce remission. We evaluated the clinical efficacy and safety profile of probiotic preparation VSL#3 in the treatment of mild to moderate acute UC in the pediatric population.

Methods: Eighteen eligible patients between the ages of 3-17 with mild to moderate acute UC received open-label VSL#3 daily in 2 divided doses for 8 weeks. The disease activity pre- and post-VSL#3 therapy was assessed by the simple clinical colitis activity index (SCCAI); Mayo ulcerative colitis endoscopic score; inflammatory markers: erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP); serum cytokine profiling; and rectal tissue microbial profiling done at baseline and at week 8.

Results: Thirteen patients completed 8 weeks of VSL#3 treatment and 5 patients were withdrawn due to lack of improvement. Remission (defined as SCCAI </=3) was achieved in 56% of children (n=10); response (decrease in SCCAI >/=2, but final score </=5) in 6% (n=1); and no change or worsening in 39% (n=7). Post-VSL#3 treatments demonstrated a bacterial taxonomy change in rectal biopsy. The VSL#3 was well tolerated in clinical trials and no biochemical and clinical adverse effects attributed to VSL#3 were identified.

Conclusion: Treatment of pediatric patients diagnosed with mild to moderate UC with VSL#3 resulted in a remission rate of 56% and a combined remission/response rate of 61%.

خلفية البحث: يمثل التهاب الكولون القرحي أحد أشكال الداء المعوي الالتهابي (IBD) والذي يتميز بفترات من تفاقم الأعراض مع وجود فترات هجوع. إن معالجة التهاب الكولون القرحي بجراثيم الطلائع الحيوية قد يفيد في تحقيق هجوع للحالة. سيتم في هذا البحث تقييم الفعالية السريرية وسلامة استخدام مستحضرات الطلائع الحيوية VSL#3 في معالجة الحالات الخفيفة والمتوسطة من التهاب الكولون القرحي الحاد عند الأطفال.

طرق البحث: تم اختيار 18 مريضاً من مرضى الحالات الخفيفة أو المتوسطة من التهاب الكولون القرحي الحاد أعمارهم بين 3 و17 سنة بحيث خضعوا لمعالجة بجرعتين يومياً من مستحضرات الطلائع الحيوية VSL#3 لمدة 8 أسابيع. تم تقييم فعالية الداء قبل وبعد المعالجة باستخدام المشعر السريري البسيط لفعالية التهاب الكولون (SCCAI)، نقاط Mayo التنظيرية لالتهاب الكولون القرحي، الواسمات الالتهابية (سرعة التثفل ESR والبروتين الارتكاسي C (CRP))، سيتوكينات المصل، ونمط المتعضيات الحيوية لأنسجة المستقيم وذلك في الحالة القاعدية وبعد 8 أسابيع من المعالجة.

النتائج: أتم 13 مريضاً المعالجة الممتدة لـ 8 أسابيع، في حين انسحب 5 آخرين لعدم وجود تحسن في حالتهم. حدث هجوع للحالة (والمعرف بنقاط SCCAI ≤3) عند 56% من الحالات (n=10)، في حين حدثت استجابة للعلاج (والمعرفة بتناقص نقاط SCCAI ≤2 مع قيمة نهائية للنقاط≤5) في 6% من الحالات (n=1)، بينما لوحظ تراجع للحالة أو بقاءها على حالها دون تغير عند 39% من المرضى (n=7). لوحظ حدوث تغير في تصنيف الجراثيم الملاحظة بخزعة المستقيم بعد المعالجة بالطلائع الحيوية VSL#3. لوحظ من خلال الدراسات السريرية أن الطلائع الحيوية VSL#3 جيدة التحمل من قبل المرضى، كما أنه لم تلاحظ تأثيرات جانبية سريرية أو كيميائية حيوية ناتجة عن هذه المعالجة.

الاستنتاجات: حققت معالجة الأطفال مرضى الحالات الخفيفة والمتوسطة من التهاب الكولون القرحي باستخدام الطلائع الحيوية VSL#3 معدلات هجوع بلغت 56%، مع معدلات هجوع/استجابة إجمالية وصلت حتى 61%.

Risk Factors For Hospital Readmission Within 30 Days: A New Quality Measure For Children With Sickle Cell Disease

عوامل الخطورة لإعادة القبول في المشفى خلال 30 يوماً: أداة جديدة لقياس نوعية العناية الصحية عند الأطفال المصابين بالداء المنجلي

Frei-Jones MJ, et al.
Pediatr Blood Cancer 2008 Dec 4.

Background: The National Association of Children's Hospitals and Related Institutions (NACHRI) established hospital readmission within 30 days as a benchmark for quality care in children with Sickle Cell Disease (SCD).

Among children with SCD, limited data exists to identify risk factors for readmission and whether they are modifiable.
Procedure: We performed a retrospective cohort study to identify risk factors for readmission. All admissions for children with SCD in a 1-year period were reviewed; cases were defined as children with SCD readmitted within 30 days after their first admission during the study period and controls, children with SCD who were not readmitted.
Results: We identified 30 cases and 70 controls. No difference in demographic data was found between groups. The most common admission and readmission diagnosis was pain, 78 and 70%, respectively. The greatest risk factor for readmission was no outpatient hematology follow-up within 30 days of discharge (OR 7.7, 95% CI 2.4-24.4). A diagnosis of asthma was also a risk factor for readmission (OR 2.9, 95% CI 1.2-7.3). Patients who required supplemental oxygen to maintain saturations in the normal range and were on room air for </=24 hr at discharge were also more likely to be readmitted (OR 3.3, 95% CI 1.1-9.7). Multivariate analysis identified lack of outpatient follow-up and disease severity, defined as >/=3 admissions in the previous 12 months as predictors for readmission (R(2) = 0.41).
Conclusion: Potentially modifiable risk factors exist to decrease the rate of readmission of children with SCD admitted to the hospital for pain.

خلفية البحث: تعتبر الهيئة الدولية لمشافي الأطفال والمؤسسات المتعلقة بها (NACHRI) موضوع عودة قبول المريض في المشفى خلال 30 يوماً من العلامات الدليلة على جودة العناية الصحية بالأطفال المصابين بالداء المنجلي SCD. وضمن هذه المجموعة من المرضى توجد معطيات قليلة تتعلق بعوامل الخطورة لتكرر القبول في المشفى ومدى كون هذه العوامل قابلة للتعديل.
طرق البحث: تم إجراء دراسة راجعة أترابية cohort لتحديد عوامل الخطورة لإعادة القبول في المشفى. تمت مراجعة جميع حالات القبول في المشفى للأطفال المصابين بالداء المنجلي خلال مدة سنة، شملت مجموعة الحالات الأطفال المصابين بالداء المنجلي الذين أعيد قبولهم في المشفى خلال 30 يوماً من القبول الأول خلال مدة الدراسة، أما مجموعة الشاهد فشملت الأطفال المصابين بالداء المنجلي الذين لم يعاد قبولهم في المشفى ضمن نفس المدة.
النتائج: تم تحديد 30 حالة و70 حالة شاهد، لم يلاحظ فرق في البيانات السكانية بين المجموعتين. لوحظ أن السبب الأشيع لقبول المريض وإعادة قبوله في المشفى هو الألم (بنسبة 78 و70% على الترتيب). تبين أن عامل الخطورة الأهم لإعادة قبول المريض في المشفى هو عدم وجود متابعة خارجية للمريض من الناحية الدموية خلال 30 يوماً من خروجه من المشفى (نسبة الأرجحية 7.7، بفواصل ثقة 95%، 2.4–24.4)، كما أن تشخيص وجود ربو شكل أيضاً عامل خطورة هام لإعادة القبول في المشفى (نسبة الأرجحية 2.9، بفواصل ثقة 95%، 1.2–7.3). لوحظ أن المرضى الذين يحتاجون إلى دعم بالأوكسجين للمحافظة على حالة الإشباع ضمن الحدود الطبيعية والذين كانوا معتمدين على هذا الدعم الأوكسجيني (لمدة معينة من اليوم) خلال فترة قبولهم في المشفى هم أكثر قابلية لإعادة قبولهم في المشفى (نسبة الأرجحية 3.3، بفواصل ثقة 95%، 1.1–9.7). تم من خلال التحليل متعدد المتغيرات تحديد كون نقص المتابعة خارج المشفى وشدة الداء (المعرفة بوجود 3 حالات قبول على الأقل خلال مدة 12 شهراً الماضية) كعوامل تنبؤية لإعادة القبول (R(2) = 0.41).
الاستنتاجات: توجد مجموعة من عوامل الخطورة القابلة للتعديل تساعد على تقليل معدلات إعادة قبول الأطفال المصابين بالداء المنجلي والذين قبلوا في المشفى بسبب الألم.

Antibodies Against Synthetic Deamidated Gliadin Peptides For Celiac Disease Diagnosis And Follow-Up in Children

استخدام أضداد ببتيدات الغليادين الصنعية منزوعة الأميد في التشخيص والمتابعة في حالات الداء الزلاقي عند الأطفال

Basso D, et al.
Clinical Chemistry 2009;55:150-157.

Background: AGA IgA II and AGA IgG II have recently been suggested as reliable tools for celiac disease (CD) diagnosis. We compared their utility for diagnosis and monitoring CD in children with that of tTG IgA, an established CD marker.

Methods: We studied a cohort of 161 CD and 129 control children in whom CD was histologically confirmed or ruled out. We followed 37 children with CD on a gluten-free diet for 12 84 months. In fasting sera, we measured AGA IgA II, AGA IgG II, and tTG IgA using ELISAs.
Results: The best sensitivity (92.5%), specificity (97.6%), positive predictive value (98%), and negative predictive value (91.2%) were obtained using tTG IgA. AGA IgG II correctly identified 3 of 3 children with CD with total IgA deficiency who had negative AGA IgA II and tTG IgA results. In children <2 years old without total IgA deficiency, AGA IgG II and tTG IgA performed equally well (sensitivity 96.4% and specificity 100%). AGA IgA II, AGA IgG II, and tTG IgA concentrations diminished significantly (P<0.0001) after 1 year of a gluten-free diet, reaching values below the cutoff in 87%, 70%, and 51% of cases, respectively.
Conclusion: The best available index for diagnosing CD in children was tTG IgA. In infants <2 years old, AGA IgG II performed as well as tTG IgA in cases without total IgA deficiency and allowed detection of CD when total IgA was <0.06 g/L. Gluten-free diet monitoring can be achieved using any of the studied serum markers.

خلفية البحث: تم مؤخراً اقتراح استخدام أضداد الغليادين AGA IgA II وAGA IgG II كأدوات معتمدة في تشخيص الداء الزلاقي CD. سيتم في هذا البحث مقارنة فائدة هذه الأضداد في التشخيص والمراقبة في حالات الداء الزلاقي بالمقارنة مع استخدام أضداد الترانس غلوتاميناز النسيجي tTG IgA والذي يمثل إحدى الواسمات المعتمدة للداء الزلاقي.
طرق البحث: تم إجراء دراسة أترابية cohort شملت 161 طفلاً مصابين بالداء الزلاقي مع 129 طفلاً آخرين كمجموعة شاهد حيث تم تأكيد أو نفي تشخيص الداء الزلاقي عبر الفحص النسيجي. تمت متابعة 37 طفلاً مصاباً بالداء الزلاقي وضعوا على حمية خالية من الغلوتين لمدة 12–84 شهراً. تم قياس مستويات أضداد الغليادين AGA IgA II وAGA IgG II وأضداد الترانس غلوتاميناز النسيجي tTG IgA في المصل المأخوذ على الصيام باستخدام تقنية المقايسة المناعية الامتزازية المرتبطة بالأنزيم ELISA.
النتائج: لوحظت القيم الأفضل بالنسبة للحساسية (92.5%)، النوعية (97.6%)، القيمة التنبؤية الإيجابية (98%)، والقيمة التنبؤية السلبية (91.2%) باستخدام أضداد الترانس غلوتاميناز النسيجي tTG IgA. ساهمت أضداد الغليادين AGA IgG II في تحديد دقيق للحالة عند 3 من أصل 3 أطفال مصابين بالداء الزلاقي مع وجود عوز في قيم IgA الكلي لديهم أدى إلى سلبية نتائج كل من أضداد AGA IgA II و tTG IgA. أما عند الأطفال دون سن الثانية مع عدم وجود عوز في IgA الكلي فقد كان أداء كل من أضداد AGA IgA II وtTG IgA متعادلاً (بحساسية 96.4% ونوعية 100%). لوحظ أن تراكيز أضداد الغليادين AGA IgA II وAGA IgG II وأضداد الترانس غلوتاميناز النسيجي tTG IgA تتناقص بشكل كبير بعد سنة من الحمية الخالية من الغلوتين (P<0.0001) بحيث تصل إلى مستويات دون القيمة الحرجة عند 87%، 70% و51% من الحالات على الترتيب.
الاستنتاجات: تمثل أضداد tTG IgA المشعر الأفضل في تشخيص الداء الزلاقي عند الأطفال حالياً. لوحظ لدى الأطفال دون الثانية من العمر أن أداء أضداد AGA IgG II كان مضاهياً لأداء أضداد tTG IgA في حالة عدم وجود عوز في IgA الكلي، كما أنها ساعدت على كشف حالات الداء الزلاقي عندما تكون مستويات IgA الكلي أقل من 0.06 غ/ل. يمكن مراقبة الحمية الخالية من الغلوتين باستخدام أيٍّ من المشعرات المصلية الثلاثة السابقة على حدٍ سواء.

Prevalence and Impact of Respiratory Viral Infections in Young Children With Cystic Fibrosis

انتشار وتأثير الإنتانات التنفسية الفيروسية عند الأطفال المصابين بالتليف الكيسي

Ewijk BE V, et al.
Pediatrics 2008 Dec;122(6):1171-6.

Objective: We aimed to investigate differences in upper and lower respiratory tract symptoms in relation to respiratory viral infections detected with polymerase chain reaction assays in young children with cystic fibrosis and healthy control subjects.
Methods: In a 6-month winter period, 20 young children with cystic fibrosis and 18 age-matched, healthy, control subjects were contacted twice per week for detection of symptoms of an acute respiratory illness. If any symptom

was present, then a home visit was made for physical examination and collection of nasopharyngeal swabs for viral analysis. In addition, parents were instructed to collect nasopharyngeal swabs every 2 weeks.
Results: Children with cystic fibrosis and healthy control subjects had similar frequencies of acute respiratory illnesses (3.8 +/- 1.0 and 4.2 +/- 1.7 episodes, respectively). Although there were no significant differences in upper respiratory tract symptoms, the children with cystic fibrosis had longer periods of lower respiratory tract symptoms (22.4 +/- 22.2 vs 12.8 +/- 13.8 days) and a higher mean severity score per episode (2.35 +/- 0.64 vs 1.92 +/- 0.46). In addition, similar increases in upper respiratory tract symptom scores were associated with significantly greater increases in lower respiratory tract symptom scores in children with cystic fibrosis. No differences in the seasonal occurrences and distributions of respiratory viruses were observed, with picornaviruses and coronaviruses being the most prevalent.
Conclusion: Although there were no differences in the seasonal occurrences and distributions of polymerase chain reaction-detected respiratory viruses, acute respiratory illnesses were frequently associated with increased lower respiratory tract morbidity in young children with cystic fibrosis.

هدف البحث: يهدف هذا البحث إلى استقصاء الاختلافات في أعراض السبيل التنفسي العلوي والسفلي وعلاقتها بالإنتانات التنفسية الفيروسية التي تم كشفها من خلال المقايسة باستخدام تفاعل سلسلة البوليميراز PCR وذلك عند الأطفال المصابين بالتليف الكيسي مقارنةً مع مجموعة من الأسوياء صحياً كمجموعة شاهد.
طرق البحث: خلال فترة الشتاء الممتدة لـ 6 أشهر تمت متابعة حالة 20 طفلاً مصاباً بالتليف الكيسي مع 18 حالة شاهد من الأسوياء صحياً الموافقين لمجموعة المرضى من حيث العمر، تم الاتصال بالمرضى مرتين أسبوعياً لتحري وجود أعراض تدل على وجود مرض تنفسي حاد، مع زيارة المريض عند وجود هذه الأعراض وإجراء الفحص السريري وأخذ مسحات من البلعوم الأنفي للتحليل الفيروسي. بالإضافة لذلك فقد طلب من الوالدين جمع مسحات البلعوم الأنفي كل أسبوعين.
النتائج: لوحظ تواتر متشابه لحدوث الأمراض التنفسية الحادة لدى مجموعة المصابين بالتليف الكيسي ومجموعة الشاهد (3.8±1.0، و4.2±1.7 نوبة على الترتيب). وعلى الرغم من عدم وجود اختلافات هامة في أعراض السبيل التنفسي العلوي، إلا أن الأطفال المصابين بالتليف الكيسي أظهروا مدة أطول من أعراض السبيل التنفسي السفلي (22.4±22.2 و12.8±13.8 يوماً على الترتيب)، مع نقاط شدة وسطية أعلى في كل نوبة (2.35±0.64 مقابل 1.92±0.46). بالإضافة لما سبق فإن الزيادة المشابهة في نقاط أعراض السبيل التنفسي العلوي تترافق مع زيادة أكبر في نقاط أعراض السبيل التنفسي السفلي عند الأطفال المصابين بالتليف الكيسي. لم تلاحظ فروقات فصلية في حدوث وانتشار الفيروسات التنفسية حيث كانت فيروسات Picorna و Corona هي الأكثر انتشاراً.
الاستنتاجات: على الرغم من عدم وجود اختلافات فصلية في حدوث وانتشار الفيروسات التنفسية المعزولة بواسطة تفاعل سلسلة البوليميراز PCR، إلا أن الأمراض التنفسية الحادة ترافقت وبشكل متكرر مع زيادة في مراضة السبيل التنفسي السفلي عند الأطفال اليافعين المصابين بالتليف الكيسي.

Obstetrics And Gynecology
التوليد والأمراض النسائية

A Prospective Randomized Controlled Trial of Preimplantation Genetic Screening in The "Good Prognosis" Patient
دراسة مستقبلية عشوائية مضبوطة لاستخدام المسح الوراثي قبل الغرس PGS عند النساء ذوات الإنذار الجيد

Meyer LR, et al.
Fertil Steril 2008 Sep 17.

Objective: To determine whether the routine use of preimplantation genetic screening (PGS) in "good prognosis" women improves in vitro fertilization (IVF) cycle outcome. DESIGN: Randomized, controlled, prospective clinical study.

Setting: Private infertility clinic.
Patients: Infertile women predicted to have a good prognosis as defined by: age <39 years, normal ovarian reserve, body mass index <30 kg/m(2), presence of ejaculated sperm, normal uterus, </=2 previous failed IVF cycles.
Interventions: Patients were randomized to the PGS group or the control group on day 3 after oocyte retrieval; 23 women underwent blastomere biopsy on day 3 after fertilization (PGS group), and 24 women underwent routine IVF (control group). All embryos were transferred on day 5 or 6 after fertilization.
Main Outcome Measures: Pregnancy, implantation, multiple gestation, and live birth rates.
Results: No statistically significant differences were found between the PGS and control groups with respect to clinical pregnancy rate (52.4% versus 72.7%). However, the embryo implantation rate was statistically significantly lower for the PGS group (31.7% versus 62.3%) as were the live birth rate (28.6% versus 68.2%) and the multiple birth rate (9.1% versus 46.7%).
Conclusion: In a "good prognosis" population of women, PGS does not appear to improve pregnancy, implantation, or live birth rates.

هدف البحث: تحديد فائدة الاستخدام الروتيني للمسح الوراثي قبل الغرس PGS في تحسين نتائج الإخصاب في الزجاج (طفل الأنبوب) عند النساء ذوات الإنذار الجيد.
نمط البحث: دراسة سريرية مستقبلية عشوائية مضبوطة.
مكان البحث: عيادة خاصة لأمراض العقم.
مرضى البحث: مجموعة من النساء منخفضات الخصوبة مصنفات بكونهن من ذوات الإنذار الجيد لإجراء إخصاب في الزجاج IVF والمعرف من خلال: العمر دون 39 سنة، احتياطي مبيضي طبيعي، مشعر كتلة الجسم BMI أقل من 30 كغ/م^2، وجود النطاف المقذوفة، رحم طبيعي، وجود محاولتين فاشلتين سابقتين على الأكثر لإجراء إخصاب في الزجاج.
التداخلات: تم في اليوم الثالث لاستخلاص الخلية البيضية تقسيم المريضات إلى مجموعتين: الأولى هي مجموعة إجراء المسح الوراثي قبل الغرس PGS، والثانية هي مجموعة الشاهد. خضعت 23 من النساء لإجراء خزعة من القسيمات الأرومية blastomere في اليوم الثالث لإجراء التخصيب (مجموعة PGS)، بينما خضعت 24 أخريات إلى العملية الروتينية للإخصاب في الزجاج دون إجراء خزعة (مجموعة الشاهد). تم نقل جميع الأجنة في اليوم الخامس أو السادس من التخصيب.
قياس النتائج الأساسية: الحمل، الانغراس، الحمول المتعددة، ومعدلات الولادات الحية.
النتائج: لم تلاحظ فروقات هامة إحصائياً بين المجموعتين بالنسبة لمعدل حدوث الحمل السريري (52.4% مقابل 72.7%)، إلا أن معدل انغراس الجنين كان أقل وبشكل هام إحصائياً لدى مجموعة المسح الوراثي قبل الغرس PGS (31.7% مقابل 62.3%) وكذلك بالنسبة إلى معدل الولادات الحية (28.6% مقابل 68.2) ومعدل الحمول المتعددة (9.1% مقابل 46.7%).
الاستنتاجات: لا يظهر تطبيق المسح الوراثي قبل الغرس PGS عند النساء ذوات الإنذار الجيد فائدة في تحسين معدلات الحمل، الانغراس أو الولادات الحية.

Serum Levels of Angiopoietin-Related Growth Factor Are Increased in Preeclampsia
زيادة المستويات المصلية لعامل النمو المتعلق بالأنجيوبويتين في حالات ما قبل الإرجاج

Stepan H, et al.
Am J Hypertens 2008 Dec 4.

Background: Preeclampsia is a serious complication in pregnancy with an increased future cardiovascular and metabolic risk for both mother and newborn. Recently, angiopoietin-related growth factor (AGF) was introduced as a novel liver-derived protein with proangiogenic and insulin-sensitizing effects. In the current study, we hypothesized that serum levels of AGF would be lower in preeclamptic patients as compared to healthy controls.
Methods: AGF was quantified by enzyme-linked immunosorbent assay (ELISA) in control and preeclamptic patients during pregnancy (Control: n=22, Preeclampsia: n=22) and 6 months after delivery (Control: n=20,

Preeclampsia: n=20). Furthermore, circulating AGF was correlated to clinical and biochemical measures of renal function, glucose, and lipid metabolism, as well as inflammation.
Results: During pregnancy, median maternal AGF concentrations were significantly higher in preeclampsia (191.6 microg/l) as compared to control subjects (136.3 microg/l) (P=0.004). Furthermore, preeclampsia and systolic blood pressure (SBP) were associated with AGF levels in multivariate analyses independent of maternal age. However, higher circulating AGF concentrations in preeclampsia did not persist 6 months after delivery.
Conclusion: Maternal AGF serum levels are significantly and paradoxically higher in preeclampsia during pregnancy. However, median postpartum circulating AGF levels are similar in preeclampsia and normal pregnancies.

خلفية البحث: تمثل حالة ما قبل الإرجاج إحدى الاختلاطات الخطرة خلال الحمل والتي تقود إلى زيادة الخطورة المستقبلية القلبية الوعائية والاستقلابية عند كل من الأم والوليد على حدٍّ سواء. تم مؤخراً التعرف على عامل النمو المتعلق بالأنجيوبويتين (AGF) كأحد البروتينات كبدية المنشأ والذي يظهر تأثيرات محسسة للأنسولين وتأثيرات وعائية المنشأ. تم في هذا البحث افتراض وجود انخفاض في المستويات المصلية لعامل النمو المتعلق بالأنجيوبويتين (AGF) عند مرضى ما قبل الإرجاج مقارنةً بحالات الشاهد السوية صحياً.
طرق البحث: تم عبر تقنية المقايسة المناعية الامتزازية المرتبطة بالأنزيم ELISA تقييم كمية عامل النمو المتعلق بالأنجيوبويتين (AGF) عند مجموعة من حالات الشاهد ومرضى ما قبل الإرجاج وذلك خلال الحمل (عدد حالات الشاهد 22، عدد حالات ما قبل الإرجاج 22)، وبعد 6 أشهر من الولادة (عدد حالات الشاهد 20، عدد حالات ما قبل الإرجاج 20). علاوةً على ذلك فقد تم ربط مستويات عامل النمو المتعلق بالأنجيوبويتين (AGF) في الدوران مع القياسات السريرية والكيميائية الحيوية للوظيفة الكلوية، الغلوكوز، استقلاب الشحوم بالإضافة إلى الالتهاب.
النتائج: لوحظ خلال الحمل أن وسيط تراكيز عامل النمو المتعلق بالأنجيوبويتين (AGF) عند الأم كان أعلى وبشكل ملحوظ عند مرضى ما قبل الإرجاج (191.6 مكروغرام/ل) مقارنةً بحالات الشاهد (136.3 مكروغرام/ل) (P=0.004). كما لوحظ من خلال التحليل المتعدد المتغيرات وجود ترابط بين ما قبل الإرجاج والضغط الشرياني الانقباضي مع مستويات عامل النمو المتعلق بالأنجيوبويتين وبشكل مستقل عن عمر الأم. من جهة أخرى لم يلاحظ استمرار ارتفاع مستويات عامل النمو المتعلق بالأنجيوبويتين في الدوران بعد ستة أشهر من الولادة.
الاستنتاجات: يلاحظ ارتفاع تناقضي هام في المستويات المصلية لعامل النمو المتعلق بالأنجيوبويتين عند الأم في حالات ما قبل الإرجاج خلال الحمل، إلا أن مستويات عامل النمو المتعلق بالأنجيوبويتين في الدوران في الفترة ما بعد الولادة تكون متشابهة في حالات ما قبل الإرجاج وحالات الحمل الطبيعية.

Risk Factors Associated to Female Infertility
عوامل الخطورة المرافقة للعقم الأنثوي

Ramos R, et al.
Ginecol Obstet Mex 2008 Dec;76(12):717-21.

Background: Incidence of female infertility is growing worldwide and its rate varies from 10 to 20%. It has been reported diverse risk factors associated with this medical complication.
Objective: To identify the risk factors with significant association with female infertility.
Material and methods: A case-control study was carried out. There were included 440 patients, divided into 220 women with primary or secondary female infertility (cases) and 220 women without infertility recruited at mediate postpartum (controls). Twenty sociodemographic and clinical risk factors for female infertility were analyzed. Statistical analysis was performed with percentages, arithmetic media, standard error, Student t test and chi squared. An alpha value was set at 0.05.
Results: There were 6 factors with statistical significance: advanced age (p<0.001), elevated body mass index

(p<0.001), age of onset of sexual activity (p<0.001), prior pelvic surgeries (p<0.001), and presence of stress (p<0.001). Other risk factors such as smoking, chemical and radiological treatments, pelvic inflammatory disease, exercise, contraceptive use, alcohol intake, drugs, coffee, solvents, glue and insecticides, were not significant.
Conclusion: There are clinical and demographic risk factors associated with female infertility. Their identification in women at reproductive age could diminish the frequency of female infertility and, thus, avoid their consequences.

خلفية البحث: يزداد معدل حدوث العقم الأنثوي حول العالم زيادة مضطردة حيث تتراوح معدلاته بين 10 و20%. تم إيراد العديد من عوامل الخطورة المرافقة لهذه الحالة.
هدف البحث: تحديد عوامل الخطورة ذات الترافق الهام مع حالة العقم الأنثوي.
مواد وطرق البحث: تم إجراء دراسة من نمط دراسة الحالة والشاهد case-control تضمنت 440 مريضة تم تقسيمهن إلى مجموعتين: الأولى (220 مريضة) لديهن حالة عقم أنثوي بدئي أو ثانوي (مجموعة الحالات)، والثانية (220 مريضة) لا توجد لديهن اضطرابات في الخصوبة تم إلحاقهن بالدراسة في طور التعافي لفترة ما بعد الولادة (مجموعة الشواهد). تم تحليل عشرين عاملاً من عوامل الخطورة السريرية والسكانية الاجتماعية. تم إجراء التحليل الإحصائي باستخدام النسب المئوية، الوسائل الرياضية الحسابية، الخطأ المعياري، اختبار Student t واختبار chi squared. تم اعتماد قيمة ألفا المساوية لـ 0.05.
النتائج: لوحظ وجود ستة عوامل خطورة ذات أهمية إحصائية تشمل: تقدم العمر (P<0.001)، زيادة مشعر كتلة الجسم BMI (P<0.001)، العمر عند بداية النشاط الجنسي (P<0.001)، وجود جراحات سابقة على الحوض (P<0.001) ووجود شدة نفسية (P<0.001). أما عوامل الخطورة الأخرى وهي التدخين، المعالجات الكيميائية والشعاعية، الداء الحوضي الالتهابي، التمارين الرياضية، استخدام مانعات الحمل، تناول الكحول، المخدرات، القهوة، المذيبات، والمواد اللاصقة ومبيدات الحشرات فلم تصل للأهمية الإحصائية المعنوية.
الاستنتاجات: توجد مجموعة من عوامل الخطورة السريرية والسكانية الاجتماعية التي تترافق مع حالة العقم عند الأنثى. إن تحديد هذه العوامل خلال فترة الحياة التناسلية قد يساهم في الحد من تواتر العقم الأنثوي وتفادي النتائج المترتبة عنه.

Surgery
الجراحة

Risk Factors Affecting Pancreatic Fistulas After Pancreaticoduodenectomy
عوامل الخطورة المؤثرة على حدوث النواسير البنكرياسية إثر عمليات استئصال البنكرياس والعفج

Choe YM, et al.
World J Gastroenterol 2008 Dec 7;14(45):6970-6974.

Aim: To analyze the risk factors of pancreatic leakage after pancreaticoduodenectomy.
Methods: We retrospectively reviewed 172 consecutive patients who had undergone pancreaticoduodenectomy at Inha University Hospital between April 1996 and March 2006. We analyzed the pancreatic fistula rate according to the clinical characteristics, the pathologic and laboratory findings, and the anastomotic methods.
Results: The incidence of developing pancreatic fistulas in patients older than 60 years of age was 21.7% (25/115), while the incidence was 8.8% (5/57) for younger patients; the difference was significant (P=0.03). Patients with a dilated pancreatic duct had a lower rate of post-operative pancreatic fistulas than patients with a non-dilated duct (P=0.001). Other factors, including clinical features, anastomotic methods, and pathologic diagnosis, did not show any statistical difference.
Conclusion: Our study demonstrated that pancreatic fistulas are related to age and a dilated pancreatic duct. The surgeon must take these risk factors into consideration when performing a pancreaticoduodenectomy.

هدف البحث: تحليل عوامل الخطورة لحدوث تسرب بنكرياسي بعد عمليات استئصال البنكرياس والعفج.
طرق البحث: تم بشكل راجع استعراض حالة 172 مريضاً خضعوا لعملية استئصال البنكرياس والعفج pancreaticoduodenectomy في مشفى جامعة Inhu خلال الفترة من نيسان 1996 وحتى آذار من عام 2006. تم تحليل معدل تشكل النواسير البنكرياسية تبعاً للمميزات السريرية، الموجودات المخبرية والتشريحية المرضية، وطرق المفاغرة المستخدمة.
النتائج: بلغ معدل تشكل النواسير البنكرياسية عند المرضى الذين تجاوزوا الستين من العمر 21.7% (25 من أصل 115 مريضاً)، بينما بلغ 8.8% (5 من أصل 57 مريضاً) عند المرضى الأصغر عمراً وبفارقٍ هامٍ من الناحية الإحصائية (P=0.03). لوحظ انخفاض معدل حدوث النواسير البنكرياسية بعد الجراحة عند مرضى القناة البنكرياسية المتوسعة مقارنةً مع المرضى ذوو القناة غير المتوسعة (P=0.001). لم تظهر العوامل الأخرى والتي شملت المميزات السريرية، طرق المفاغرة، التشخيص التشريحي المرضي فروقات هامة إحصائياً في معدل حدوث النواسير البنكرياسية.
الاستنتاجات: تظهر هذه الدراسة وجود علاقة للنواسير البنكرياسية مع عمر المريض وتوسع القناة البنكرياسية، وبناءً على ذلك يجب على الجراحين أخذ هذه العوامل بعين الاعتبار لدى إجراء عمليات استئصال البنكرياس والعفج.

Diagnosing Acute Appendicitis: Are We Overusing Radiologic Investigations?
تشخيص التهاب الزائدة الحاد: هل هناك زيادة في استخدامنا للاستقصاءات التشخيصية الشعاعية؟

Wong KK, et al.
J Pediatr Surg 2008 Dec;43(12):2239-41.

Purpose: Acute appendicitis is the most common emergency presenting to pediatric surgeons. With proper history and thorough physical examination, the diagnosis of the condition clinically should approach 90%. With the increasing ease of performing radiologic investigations because of technological advances, more ultrasound and computed tomography (CT) are used to help diagnosing appendicitis. The aim of this study is to review the trend of diagnosing appendicitis in a single center and discuss the implications.
Methods: A retrospective analysis was carried out for all patients who were admitted with acute appendicitis between 1997 and 2007. The methods of diagnosis were divided into 3 groups as follows: clinical, ultrasound, and CT. The demographics and operative findings were noted. Statistical analysis was done using Fisher's Exact test and paired t test when appropriate. A value of $P < .05$ was considered to be statistically significant.
Results: During this period, a total of 254 patients (167 boys and 87 girls) were admitted with appendicitis. The average age at presentation was 12 years, and the mean duration of symptoms before presentation was 2 days. For 11 years, there was an initial rise of the use of ultrasound (10% in 1997 to a peak of 60% in 2005). This percentage decreased with a corresponding rise of the use of CT scan (0% in 1997 to 35% in 2007). There was no correlation found between the use of adjunct investigations and the severity of appendicitis found at operation, suggesting an overreliance of CT.
Conclusion: It appears that there is an increasing trend in using radiologic investigations for the diagnosis of appendicitis for the past 11 years. With the association of cancer in later life and early radiation exposure well documented, it would be advisable to avoid the use of CT if possible.

هدف البحث: تمثل حالة التهاب الزائدة الحاد أشيع الحالات الإسعافية التي يواجهها جراح الأطفال. إن الفحص السريري الشامل مع القصة المرضية المفصلة تقود إلى وضع التشخيص سريرياً بنسبة يجب أن لا تقل عن 90%. إن سهولة إجراء الاستقصاءات الشعاعية نتيجة للتطور التقني الحالي أدت إلى زيادة استخدام الأمواج فوق الصوتية والتصوير الطبقي المحوري CT في تشخيص التهاب الزائدة. يهدف هذا البحث إلى مراجعة التوجهات التشخيصية المعتمدة في تشخيص حالة التهاب الزائدة في أحد المراكز ومناقشة التضمينات المتعلقة بها.

طرق البحث: دراسة تحليلية راجعة شملت جميع المرضى الذين تم قبولهم لوجود حالة التهاب زائدة حاد في الفترة بين عام 1997 وعام 2007. تم تقسيم الوسائل التشخيصية المستخدمة إلى ثلاث مجموعات: الوسائل السريرية، الأمواج فوق الصوتية (الإيكو) والتصوير الطبقي المحوري CT. تم تسجيل الملاحظات السكانية والموجودات الملاحظة خلال الجراحة. تم إجراء التحليل الإحصائي باستخدام اختبار Fisher's Exact test، اختبار paired t test عندما يكون ملائماً، واعتبرت قيمة P<0.05 قيمة ذات أهمية إحصائية.

النتائج: تم خلال الفترة السابقة قبول 254 مريضاً (167 صبياً و87 فتاة) لوجود التهاب زائدة. بلغ متوسط العمر عند تظاهر الحالة 12 سنة، أما المدة الوسطية للأعراض قبل تظاهر الحالة فكانت 2 يوم. لوحظ خلال مدة 11 سنة زيادة بدئية في استخدام الأمواج فوق الصوتية في تشخيص التهاب الزائدة (10% عام 1997 إلى ذروة 60% في عام 2005)، تبعتها فترة تراجع نتيجة الارتفاع الموافق في استخدام التصوير الطبقي المحوري CT (0% عام 1997 وحتى 35% في عام 2007). لم يلاحظ وجود علاقة بين استخدام الوسائل التشخيصية المساعدة وشدة التهاب الزائدة الملاحظ خلال الجراحة وهو ما يدل على زيادة في الاعتماد على التصوير الطبقي المحوري في التشخيص.

الاستنتاجات: يبدو أن هنالك زيادة في استخدام الاستقصاءات الشعاعية التشخيصية في تشخيص التهاب الزائدة الحاد خلال السنوات الإحدى عشرة الأخيرة. إن العلاقة بين التعرض الباكر للأشعة وحدوث السرطان في المراحل العمرية التالية هي علاقة قد تم تأكيدها، وبالتالي فمن المفضل عدم اللجوء للتصوير الطبقي المحوري CT إلا في حالات الضرورة.

Role of Robot-Assisted Surgery For Bladder Cancer
جراحة سرطان المثانة المعتمدة على الإنسان الآلي

Hemal AK.
Curr Opin Urol 2009 Jan;19(1):69-75.

Purpose of Review: To review the developments and current status of robot-assisted radical cystectomy (RARC) with pelvic lymphadenectomy (PLND) and urinary diversion for the treatment of bladder cancer.
Recent findings: RARC is growing steadily in 2008, and it is superseding pure laparoscopic radical cystectomy (LRC) at centers, where robot is available and increasingly becoming an option at major tertiary referral centers. RARC with PLND can be performed with tolerance and effectiveness. Urinary diversions with RARC are performed extra corporeally via a small incision as intracorporeal diversion takes a long operative time with associated morbidity and complications. Short-term oncologic follow-up data is satisfactory. Advantages of RARC are minimal blood loss, shorter hospital stay, quicker recovery, and possibly more precise and rapid removal of the bladder with PLND, though depends on the experience and skills of the surgeon.
Summary: The future of RARC with extracorporeal reconstruction of urinary diversion (ECUD) looks optimistic as favored by the patients and surgeons alike and emerging as an alternate technique. Lack of uniform PLND, devoid of long-term oncological and functional outcome data are still issues to be answered.

هدف المراجعة: مراجعة المعلومات الحالية والتطورات الطارئة على استخدام الإنسان الآلي في عمليات استئصال المثانة الجذري (RARC) واستئصال العقد اللمفاوية الحوضية (PLND) وتحويل المجرى البولي في سياق معالجة حالات سرطان المثانة.

الموجودات الحديثة: حدثت زيادة مضطردة في استخدام استئصال المثانة الجذري بمساعدة الإنسان الآلي RARC خلال العام 2008، بحيث قل اللجوء لاستئصال المثانة بتنظير البطن التقليدي LRC وذلك في المراكز التي يتوافر فيها الإنسان الآلي، وقد أصبحت هذه التقنية خياراً علاجياً متوافراً في المراكز الطبية الثالثية الكبرى. يمكن إجراء عمليات استئصال المثانة الجذري بمساعدة الإنسان الآلي (RARC) واستئصال العقد اللمفاوية الحوضية (PLND) بفعالية وتحمل جيدين. تجرى عمليات تحويل المجرى البولي مع عملية استئصال المثانة الجذري بمساعدة الإنسان الآلي (RARC) من خارج الجسم عبر شق صغير، ذلك أن عملية تحويل المجرى البولي من داخل الجسم تستغرق وقتاً أطول في العملية وما يترتب على ذلك من زيادة في المراضة والاختلاطات. إن المعطيات المتوافرة من خلال المتابعة الورمية قصيرة الأمد هي معطيات مرضية. تشمل فوائد استخدام الإنسان الآلي في عمليات استئصال المثانة الجذري RARC ما يلي: فقدان أقل للدم، فترة استشفاء أقصر، شفاء أسرع، كما أنها قد تكون أسرع وأكثر دقة في استئصال المثانة والعقد اللمفاوية الحوضية وذلك على الرغم من اعتمادها على خبرة ومهارة الجراح.

الخلاصة: إن مستقبل تقنية RARC مع إعادة تصنيع التحويل البولي من خارج الجسم ECUD يبدو مبشراً كتقنية بديلة، ولكن يبقى عدم وجود نمط موحد لاستئصال العقد اللمفاوية الحوضية PLND، عدم توافر معلومات حول النتائج الوظيفية والورمية على المدى البعيد موضوعات بحاجة للمزيد من الأجوبة.

Antioxidant Enriched Enteral Nutrition and Oxidative Stress After Major Gastrointestinal Tract Surgery

التغذية المعوية الغنية بمضادات الأكسدة والشدة التأكسدية بعد الجراحات الكبرى على السبيل المعدي المعوي

van Stijn MF, *et al.*
World J Gastroenterol 2008 Dec 7;14(45):6960-6969.

Aim: To investigate the effects of an enteral supplement containing antioxidants on circulating levels of antioxidants and indicators of oxidative stress after major gastrointestinal surgery.
Methods: Twenty-one patients undergoing major upper gastrointestinal tract surgery were randomised in a single centre, open label study on the effect of postoperative enteral nutrition supplemented with antioxidants. The effect on circulating levels of antioxidants and indicators of oxidative stress, such as F2-isoprostane, was studied.
Results: The antioxidant enteral supplement showed no adverse effects and was well tolerated. After surgery a decrease in the circulating levels of antioxidant parameters was observed. Only selenium and glutamine levels were restored to pre-operative values one week after surgery. F2-isoprostane increased in the first three postoperative days only in the antioxidant supplemented group. Lipopolysaccharide binding protein (LBP) levels decreased faster in the antioxidant group after surgery.
Conclusion: Despite lower antioxidant levels there was no increase in the circulating markers of oxidative stress on the first day after major abdominal surgery. The rise in F2-isoprostane in patients receiving the antioxidant supplement may be related to the conversion of antioxidants to oxidants which raises questions on antioxidant supplementation. Module AOX restored the postoperative decrease in selenium levels. The rapid decrease in LBP levels in the antioxidant group suggests a possible protective effect on gut wall integrity. Further studies are needed on the role of oxidative stress on outcome and the use of antioxidants in patients undergoing major abdominal surgery.

هدف البحث: دراسة تأثير العناصر الداعمة المعوية الحاوية على مضادات الأكسدة على مستويات مضادات الأكسدة الجائلة في الدوران ومشعرات الشدة التأكسدية بعد الجراحات الكبرى المجراة على السبيل المعدي المعوي.
طرق البحث: تم إدراج 21 مريضاً خضعوا لجراحات كبيرة على السبيل المعدي المعوي في دراسة عشوائية في مركز واحد حول تأثير التغذية المدعمة بمضادات الأكسدة في الفترة بعد الجراحة. تمت دراسة التأثيرات الملاحظة على المستويات الدورانية لمضادات الأكسدة ومشعرات الشدة التأكسدية مثل F2-isoprostane.
النتائج: لم تظهر التغذية المدعمة بمضادات الأكسدة تأثيرات جانبية غير مرغوبة حيث كانت جيدة الاحتمال. لوحظ بعد الجراحة تناقص في مستويات مضادات الأكسدة في الدوران. عادت مستويات السيلينيوم والغلوتامين فقط إلى مستوياتها الطبيعية قبل الجراحة وذلك بعد أسبوع من العمل الجراحي. لوحظت زيادة في مستوى F2-isoprostane خلال الأيام الثلاثة الأولى بعد الجراحة وذلك فقط عند المجموعة التي أعطيت دعماً بمضادات الأكسدة. تناقصت مستويات البروتين الرابط لعديدات السكريد الشحمية LBP بعد الجراحة بشكل أسرع عند المجموعة المدعمة بمضادات الأكسدة.
الاستنتاجات: على الرغم من انخفاض مستويات مضادات الأكسدة إلا أنه لم تلاحظ زيادة في مشعرات الشدة التأكسدية في الدوران في اليوم الأول من إجراء جراحة كبيرة على البطن. إن ارتفاع مستوى F2-isoprostane عند مجموعة المرضى المدعمين بمضادات الأكسدة قد يكون نتيجة لتحول مضادات الأكسدة إلى عوامل مؤكسدة وهو ما يثير التساؤلات حول دور المعالجة الداعمة بمضادات الأكسدة. إن التناقص السريع في مستويات البروتين الرابط لعديدات السكريد الشحمية LBP عند المجموعة المدعمة بمضادات الأكسدة يقترح وجود تأثير وقائي هام

لمضادات الأكسدة على سلامة الجدر المعوية. بالنتيجة لا بد من إجراء المزيد من الدراسات حول دور الشدة التأكسدية على النتائج بعد الجراحة وأهمية استخدام مضادات الأكسدة عند المرضى الخاضعين للجراحات البطنية الكبرى.

Cardiovascular Diseases
الأمراض القلبية الوعائية

Value of Cardiac Troponin I Cutoff Concentrations Below the 99th Percentile For Clinical Decision-Making
أهمية تراكيز القيمة الحرجة دون الشريحة المئوية 99 للتروبونين القلبي I في اتخاذ القرار السريري

Eggers KM, et al.
Clinical Chemistry 2009;55:85-92.

Background: The aim of this study was to evaluate factors influencing the 99th percentile for cardiac troponin I (cTnI) when this cutoff value is established on a highly sensitive assay, and to compare the value of this cutoff to that of lower cutoffs in the prognostic assessment of patients with coronary artery disease.
Methods: We used the recently refined Access AccuTnI assay (Beckman-Coulter) to assess the distribution of cTnI results in a community population of elderly individuals [PIVUS (Prospective Study of the Vasculature in Uppsala Seniors) study; n = 1005]. The utility of predefined cTnI cutoffs for risk stratification was then evaluated in 952 patients from the FRISC II (FRagmin and Fast Revascularization during InStability in Coronary artery disease) study at 6 months after these patients had suffered acute coronary syndrome.
Results: Selection of assay results from a subcohort of PIVUS participants without cardiovascular disease resulted in a decrease Men had higher rates of cTnI elevation with respect to the tested thresholds. Whereas the 99th percentile cutoff was not found to be a useful prognostic indicator for 5-year mortality, both the 90th percentile (hazard ratio 3.1; 95% CI 1.9 5.1) and the 75th percentile (hazard ratio 2.8; 95% CI 1.7 4.7) provided useful prognostic information. Sex-specific cutoffs did not improve risk prediction.
Conclusion: The 99th percentile of cTnI depends highly on the characteristics of the reference population from which it is determined. This dependence on the reference population may affect the appropriateness of clinical conclusions based on this threshold. However, cTnI cutoffs below the 99th percentile seem to provide better prognostic discrimination in stabilized acute coronary syndrome patients and therefore may be preferable for risk stratification.

خلفية البحث: يهدف هذا البحث إلى تقييم العوامل المؤثرة على الشريحة المئوية 99 (99th percentile) للتروبونين القلبي I (cTnI) عند تحديد القيمة الحرجة باستخدام مقايسة عالية الحساسية، ومقارنة هذه القيمة الحرجة بالقيم الحرجة الأخفض على صعيد تقييم الإنذار عند مرضى آفات الأوعية الإكليلية.
طرق البحث: تم استخدام مقايسة التروبونين I المطورة حديثاً (Access AccuTnI assay) (Beckman-Coulter) لتقييم توزع نتائج التروبونين I عند مجموعة من المسنين في شريحة من المجتمع (دراسة PIVUS، n=1005)، ومن ثم استخدام القيم الحرجة المحددة وفق هذه الدراسة لتقييم حالة 952 مريضاً من دراسة FRISC II بعد ستة أشهر من معاناتهم من متلازمة إكليلية حادة.
النتائج: إن اعتماد نتائج المقايسة في مجموعة PIVUS والتي تتضمن أشخاص سويين صحياً دون أمراض قلبية وعائية أدى إلى تخفيض الشريحة المئوية 99 من 0.044 مكروغرام/ل إلى 0.028 مكروغرام/ل. لوحظت لدى الرجال معدلات أعلى من ارتفاع cTnI بالنسبة إلى العتبات المدروسة. وبينما لم يلاحظ وجود فائدة للقيمة الحرجة للشريحة المئوية 99 كمشعر إنذاري للوفيات لمدة 5 سنوات، أعطت كل من الشريحة المئوية 90 (نسبة الخطورة 3.1، بفواصل ثقة 95%، 1.9 إلى 5.1)، والشريحة المئوية 75 (نسبة الخطورة 2.8، بفواصل ثقة 95%، 1.7 إلى 4.7) معلوماتٍ إنذارية هامة عن الحالة. لم تحسن القيم الحرجة الخاصة بالجنس من القدرة التنبؤية للخطورة المتوقعة.

الاستنتاجات: تعتمد الشريحة المئوية 99 للتروبونين I بشكل كبير على خصائص المجموعة السكانية المرجعية التي يتم العمل خلالها، وإن هذا الاعتماد على المجموعة المرجعية قد يؤثر على ملاءمة الاستنتاجات السريرية المبنية عليها. ورغم ذلك فإن القيم المرجعية للتروبونين I والتي تكون دون الشريحة المئوية 99 توفر أداة أفضل في تمييز الإنذار عند مرضى المتلازمات الإكليلية الحادة ذوو الحالة المستقرة ولهذا فإن لها الأفضلية في عملية تحديد الخطورة.

Pulmonary Diseases
الأمراض الصدرية

Increased Cell-Free DNA Concentrations in Patients With Obstructive Sleep Apnea
ارتفاع مستويات الدنا DNA الحر في الدم عند مرضى انقطاع النفس الانسدادي النومي

Shin C, et al.
Psychiatry Clin Neurosci. 2008 Dec;62(6):721-7.

Aim: Blood concentrations of cell-free DNA, which is considered to be released during apoptosis, are elevated under some pathological conditions such as cardiovascular disease and cancer. The association between obstructive sleep apnea (OSA) and cell-free DNA concentrations has not been reported so far. The purpose of the present study was to examine the association between OSA and plasma DNA concentrations.
Methods: A case-control study was conducted using a total of 164 men aged 39-67 years, who were free of coronary heart disease and cancer. Laboratory-based overnight polysomnography was performed for all participants.
Results: On the basis of polysomnography, patients with an apnea-hypopnea index (AHI)=5-30 events/h were defined as having mild-moderate OSA (n=33) and those with >30 events/h were defined as having severe OSA (n=49). All 82 controls had AHI<5 events/h. Plasma DNA concentrations from all participants were analyzed for the beta-globin gene using fluorescence-based real-time polymerase chain reaction. Patients with severe OSA had significantly higher plasma DNA concentrations than persons with mild-moderate OSA and those without OSA (P<0.05). AHI was significantly associated with body mass index (P<0.001), hypertension (P<0.001), and plasma DNA concentration (P<0.05).
Conclusion: After taking into account hypertension and other potential risk factors, persons with high plasma DNA concentrations (>8 microg/L) had approximately fourfold higher odds of OSA than those with low DNA levels. Further data are warranted to confirm the association for men and to evaluate the association for women.

هدف البحث: ترتفع مستويات الدنا DNA الحر في الدم –والتي يعتقد أنها تتحرر خلال عملية الاستماتة الخلوية apoptosis– في بعض الحالات المرضية كما في الأمراض القلبية الوعائية والسرطان. وحيث أنه لم يتم حتى الآن دراسة العلاقة بين حالة انقطاع النفس الانسدادي النومي (OSA) وتراكيز الدنا DNA الحر في الدم فإن هذه الدراسة تهدف إلى تحري وجود ترافق بين انقطاع النفس الانسدادي النومي (OSA) وتراكيز الدنا DNA الحر في بلازما الدم.
طرق البحث: تم إجراء دراسة للحالات والشواهد شملت 164 من الرجال بأعمار بين 39 و67 سنة، لا يعانون من أية أمراض قلبية إكليلية أو حالات سرطانية، خضع هؤلاء لإجراء تخطيط الجسم المتعدد PSG في المختبر خلال الليل.
النتائج: تم بناءً على تخطيط الجسم المتعدد PSG تعريف الحالات التي كان فيها مشعر انقطاع النفس– ضعف التنفس AHI= 5–30 حادث/ساعة بكونها حالات خفيفة إلى متوسطة من انقطاع النفس الانسدادي النومي (33 حالة)، أما الحالات التي كان فيها AHI >30 حادث/ساعة فعرفت كحالات شديدة من انقطاع النفس الانسدادي النومي (42 حالة). وفي حالات الشاهد فقد كان AHI <5 حادث/ساعة في جميع الحالات (82 حالة). تم تحليل تراكيز الدنا DNA في البلازما عند جميع حالات البحث لمورثة البيتا غلوبين باستخدام تفاعل سلسلة

البوليميراز التألقي بالزمن الفعلي real-time PCR. لوحظ أن التراكيز البلازمية للدنا DNA أعلى وبشكل ملحوظ عند مرضى الحالات الشديدة من انقطاع النفس الانسدادي النومي مقارنةً بالحالات الخفيفة والمتوسطة الشدة أو حالات الشاهد (P<0.05). لوحظ وجود علاقة وثيقة بين مشعر AHI ومشعر كتلة الجسم BMI (P<0.001)، ارتفاع التوتر الشرياني (P<0.001)، والتراكيز البلازمية للدنا DNA (P<0.05).

الاستنتاجات: بالأخذ بالاعتبار ارتفاع التوتر الشرياني وعوامل الخطورة الأخرى المحتملة، فإن احتمالية تطور حالة انقطاع النفس الانسدادي النومي تزداد لأربعة أضعاف عند المرضى ذوو التراكيز المرتفعة للدنا DNA في البلازما (>8 مكروغرام/ل) مقارنةً بحالات عدم وجود ارتفاع، وهنا لا بد من الحصول على المزيد من المعطيات التي تدعم هذا الترافق عند الرجال وتقيم وجود ترافق مشابه عند النساء في مثل هذه الحالات.

Endocrinology, Metabolism, And Diabetes Mellitus
أمراض الغدد الصم والاستقلاب والداء السكري

Antecedent Hypoglycemia Impairs Autonomic Cardiovascular Function – Implications For Rigorous Glycemic Control
التعرض السابق لنقص سكر الدم يضعف الوظيفة العصبية الذاتية القلبية الوعائية- تضمينات الضبط الصارم للسكر

Adler GK, et al.
Diabetes 2008 Dec 3.

Objective: Glycemic control decreases the incidence and progression of diabetic complications, but increases the incidence of hypoglycemia. Hypoglycemia can impair hormonal and autonomic responses to subsequent hypoglycemia. Intensive glycemic control may increase mortality in individuals with type 2 diabetes at high risk for cardiovascular complications. We tested the hypothesis that prior exposure to hypoglycemia leads to impaired cardiovascular autonomic function.

Research Design and Methods: Twenty healthy subjects (age 28+/-2 years; 10 males) participated in two 3-day in-patient visits, separated by 1-3 months. Autonomic testing was performed on days 1 and 3 to measure sympathetic, parasympathetic and baroreflex function. A 2 hour hyperinsulinemic [hypoglycemic (2.8 mmol/l) or euglycemic (5.0 mmol/l)] clamp was performed in both the morning and afternoon of day 2.

Results: Comparison of the day 3 autonomic measurements demonstrated that antecedent hypoglycemia leads to: (1) reduced baroreflex sensitivity (16.7+/-1.8 vs. 13.8+/-1.4 ms/mmHg, P=0.03); (2) decreased muscle sympathetic nerve activity response to transient nitroprusside-induced hypotension (53.3+/-3.7 vs. 40.1+/-2.7 bursts/minute, P<0.01); and (3) reduced (P<0.001) plasma norepinephrine response to lower body negative pressure (3.0+/-0.3 vs. 2.0+/-0.2 nmol/l at -40 mmHg).

Conclusion: Baroreflex sensitivity and the sympathetic response to hypotensive stress are attenuated following antecedent hypoglycemia. Because impaired autonomic function, including decreased cardiac vagal baroreflex sensitivity, may contribute directly to mortality in diabetes and cardiovascular disease, our findings raise new concerns regarding the consequences of hypoglycemia.

هدف البحث: يساعد ضبط السكر في الحد من حدوث وتطور اختلاطات الداء السكري، إلا أنه يزيد من جهة أخرى من حدوث نوب هبوط سكر الدم. يمكن لهبوط سكر الدم أن يضعف الاستجابة الهرمونية والعصبية الذاتية لهبوط سكر الدم. يمكن لضبط السكر الصارم أن يزيد من الوفيات عند مرضى النمط الثاني للداء السكري ذوي الخطورة العالية للاختلاطات القلبية الوعائية. سيتم في هذا البحث اختبار فرضية أن التعرض السابق إلى نقص سكر الدم يقود لحدوث ضعف في الاستجابة العصبية الذاتية القلبية الوعائية.

نمط البحث وطرقه: تم قبول 20 شخص من الأسوياء صحياً (أعمارهم 28±2 سنة، منهم 10 ذكور) للاشتراك في دراسة على مرحلتين كل منهما تتضمن زيارة كمريض داخل المشفى لمدة 3 أيام بفواصل 1–3 أشهر. تم إجراء الفحص العصبي الذاتي Autonomic testing في

اليوم الأول والثالث لقياس الوظائف الودية، نظيرة الودية ومنعكس الضغط. تم تطبيق حالة فرط أنسولينية لمدة ساعتين (منخفضة السكر (2.8 ممول/ل) أو سوية السكر (5.0 ممول/ل)) في فترة الصباح وفترة ما بعد الظهر من اليوم الثاني للدراسة.

النتائج: بمقارنة القياسات الذاتية في اليوم الثالث للدراسة لوحظ أن حالة نقص السكر السابقة قد أدت إلى: 1- تراجع في حساسية منعكس الضغط (16.7±1.8 مقابل 13.8±1.4 ميلي ثا/مم.زئبق، P=0.03)، 2- تناقص في الفعالية العصبية الودية في العضلة استجابةً إلى هبوط الضغط الدموي العابر المحرض بـ nitroprusside (53.3±3.7 مقابل 40.1±2.7 هبة/د، P<0.01)، و3- تناقص في استجابة الـ norepinephrine في البلازما للضغط السلبي المنخفض في الجسم (3.0±0.3 مقابل 2.0±0.2 نانومول/ل عند ضغط -40 مم.زئبق) (P<0.001).

الاستنتاجات: تضعف حساسية منعكس الضغط والاستجابة الودية للشدة الناتجة عن هبوط الضغط بعد حالات نقص سكر الدم. وبسبب التدخل المباشر لضعف الوظيفة العصبية الذاتية -ومن ضمنها حساسية منعكس الضغط القلبية المبهمية- في الوفيات عند مرضى السكري والآفات القلبية الوعائية، فإن نتائج هذا البحث تثير الكثير من الأمور المقلقة حول العواقب المترتبة عن هبوط سكر الدم.

Gastroenterology
الأمراض الهضمية

Overexpression of Pulmonary Surfactant Protein A like Molecules in Inflammatory Bowel Disease Tissues
زيادة التعبير عن الجريئات المشبهة ببروتين عامل التوتر السطحي الرئوي A (SP-A) في أنسجة الداء المعوي الالتهابي

Luo JM, et al.
Zhong Nan Da Xue Xue Bao Yi Xue Ban 2008 Nov;33(11):979-86.

Objective: To investigate the distribution of pulmonary surfactant protein A (SP-A) like molecules and the bridge of frontier host defense and adaptive immune response cell of CD68 positive macrophages in inflammatory bowel disease (IBD).

Methods: Surgical specimens derived from involved areas and normal area of the colon with Crohn disease (CD) and ulcerative colitis (UC) were obtained from Department of Pathology, Rhode Island Hospital, Brown University Medical Center. The distribution of SP-A like molecule in intestine of IBD was detected by immunohistochemistry.

Results: SP-A like molecule located in epithelia of intestine, the surface of intestine vili, blood vessels of connective tissue, and some inflammatory cells. The number of macrophages with both SP-A like molecule and CD68 positive was dramatically increased in the inflammatory area than the normal area. Some CD68 positive macrophages expressed SP-A like immunoreactivity by immunofluorescence double labeling.

Conclusion: SP-A is an important host defense molecule in lung, and SP-A expression in large intestine may reflect a close relation between 2 organs in immune response towards inflammation.

هدف البحث: دراسة توزع الجزيئات المشبهة ببروتين عامل التوتر السطحي الرئوي A (SP-A) والاستجابة المناعية الدفاعية والتلاؤمية عند الثوي الملاحظة في البالعات الكبيرة CD68+ في حالات الإصابة بالداء المعوي الالتهابي (IBD).

طرق البحث: تم الحصول على عينات جراحية من المناطق السليمة والمناطق المصابة من الكولون مأخوذة من المصابين بداء كرون (CD) أو التهاب الكولون القرحي (UC) من قسم التشريح المرضي بمشفى Rhode Island التابع لجامعة Brown. تمت دراسة توزع الجزيء المشبه بـ SP-A في الأمعاء المصابة بالداء المعوي الالتهابي IBD باستخدام الكيمياء النسيجية المناعية.

النتائج: لوحظ توضع الجزيئات المشبهة ببروتين عامل التوتر السطحي الرئوي A (SP-A) في ظهارة الأمعاء، سطح الزغابات المعوية، الأوعية الدموية للأنسجة الضامة وبعض الخلايا الالتهابية. لوحظ وجود زيادة واضحة في عدد البالعات الكبيرة إيجابية الجزيء المشبه بـ SP-

A وإيجابية CD68 في المناطق الالتهابية مقارنةً بالمناطق الطبيعية من الأمعاء. أظهرت بعض البالعات الكبيرة إيجابية CD68 تفاعلية مناعية معبرة عن الجزيء المشبه بـ SP-A تم كشفها بواسطة الوسم التألقي المناعي المضاعف.

الاستنتاجات: يمثل ببروتين عامل التوتر السطحي الرئوي A (SP-A) جزيء هام في الاستجابة المناعية الدفاعية في الرئتين، كما أن التعبير عنه في الأمعاء الغليظة قد يعكس علاقة وثيقة بين هذين العضوين في الاستجابة المناعية تجاه الالتهاب.

Hematology And Oncology
أمراض الدم والأورام

Utility of Kallikrein-Related Peptidases (KLKs) as Cancer Biomarkers
فائدة أنزيمات الببتيداز المتعلقة بالكاليكرين (KLKs) كواسمات حيوية سرطانية

Emami N, *et al.*
Clinical Chemistry 2008;54:1600-1607.

Background: The human kallikrein-related peptidase (KLK) family consists of 15 highly conserved serine proteases, which are encoded by the largest uninterrupted cluster of protease genes in the human genome. To date, several members of the family have been reported as potential cancer biomarkers. Although primarily known for their biomarker value in prostate, ovarian, and breast cancers, more recent data suggest analogous roles of KLKs in several other cancers, including gastrointestinal, head and neck, lung, and brain malignancies. Among the proposed KLK cancer biomarkers, prostate-specific antigen (also known as KLK3) is the most widely recognized member in urologic oncology.

Content: Despite substantial progress in the understanding of the biomarker utility of individual KLKs, the current challenge lies in devising biomarker panels to increase the accuracy of prognosis, prediction of therapy, and diagnosis. To date, multiparametric KLK panels have been proposed for prostate, ovarian, and lung cancers. In addition to their biomarker utility, emerging evidence has revealed a number of critical functional roles for KLKs in the pathogenesis of cancer and their potential use as therapeutic targets.

Summary: KLKs have biomarker utility in many cancer types but individually lack sufficient specificity or sensitivity to be used in clinical practice; however, groups of KLKs and other candidate biomarkers may offer improved performance.

خلفية البحث: تتكون عائلة أنزيمات الببتيداز المتعلقة بالكاليكرين (KLK) عند الإنسان من 15 من أنزيمات السيرين بروتياز عالية الحفظ، والتي تشفرها التجمعات غير متقطعة الأكبر من مورثات البروتياز في الجينوم البشري. تم حتى الآن إيراد وجود دور لعدد من هذه الأنزيمات في هذه العائلة كواسمات حيوية سرطانية. وعلى الرغم من المعارف التي تقول بوجود أهمية لهذه الواسمات في سرطان البروستات، المبيض والثدي بالدرجة الأولى، إلا أن المعطيات الحديثة تقترح وجود دور مشابه لهذه الواسمات في سرطانات عديدة أخرى تشمل خباثات السبيل المعدي المعوي، الرأس والعنق، وخباثات الرئة والدماغ. ومن بين الواسمات الحيوية في عائلة KLK يمثل المستضد النوعي للبروستات PSA (والمعروف بـ KLK3) الواسم الأكثر انتشاراً واستخداماً في أورام السبيل البولي.

المحتوى: على الرغم من التطور الكبير الذي طرأ على فهم دور أنزيمات KLK كواسمات حيوية، إلا أن التحدي الحالي يبقى في تطوير مجموعات من الواسمات بهدف زيادة دقة تحديد الإنذار، التنبؤ بالعلاج ووضع التشخيص. تم حتى الآن اقتراح مجموعة من الثوابت المتعددة من مجموعات KLK في حالات سرطان البروستات، المبيض والرئة. وبالإضافة لفائدتها كواسمات حيوية، توجد أدلة جديدة على وجود أدوار وظيفية هامة لأنزيمات KLK في إمراضية السرطان وإمكانية استخدامها كعناصر مستهدفة في الخطط العلاجية.

الخلاصة: تمتلك أنزيمات KLK فائدة كواسمات حيوية في الكثير من الأنماط الورمية، ولكن تنقصها الحساسية والنوعية الكافيتين لتطبيقها في الممارسة السريرية، إلا أن الجمع بين أنزيمات KLK والواسمات الحيوية المرشحة الأخرى قد يحسن من أدائها.

Lymph Node Ratio As An Alternative to pN Staging in Node-Positive Breast Cancer

نسبة العقد اللمفاوية كبديل عن نظام pN في تقييم المرحلة الورمية في سرطان الثدي إيجابي العقد اللمفاوية

Vinh-Hung V, et al.
J Clin Oncol 2009 Jan 21.

Purpose: In the current pTNM classification system, nodal status of breast cancer is based on the number of involved lymph nodes and does not account for the total number of lymph nodes removed. In this study, we assessed the prognostic value of the lymph node ratio (LNR; ie, ratio of positive over excised lymph nodes) as compared with pN staging and determined its optimal cutoff points.
Patients and Methods: From the Geneva Cancer Registry, we identified all women diagnosed with node-positive breast cancer between 1980 and 2004 (n=1.829). The prognostic value of LNRs was calculated for values ranging from 0.05 to 0.95 by Cox regression analysis and validated by bootstrapping. Based on maximum likelihood, we identified cutoff points classifying women into low-, intermediate-, and high-risk LNR groups.
Results: Optimal cutoff points classified patients into low- (</=0.20), intermediate- (>0.20 and </=0.65), and high-risk (>0.65) LNR groups, corresponding to 10-year disease-specific survival rates of 75%, 63%, and 40%, and adjusted mortality risks of 1 (reference), 1.78 (95% CI, 1.46 to 2.18), and 3.21 (95% CI, 2.54 to 4.06), respectively. In contrast to LNR risk categories, survival curves of pN2 and pN3 crossed after 15 years, and their adjusted mortality risks showed overlapping CIs: 2.07 (95% CI, 1.69 to 2.53) and 2.84 (95% CI, 2.23 to 3.61), respectively.
Conclusion: LNR predicts survival after breast cancer more accurately than pN classification and should be considered as an alternative to pN staging.

هدف البحث: يعتمد تقييم حالة العقد اللمفاوية في نظام pTNM المستخدم حالياً على عدد العقد اللمفاوية المصابة دون الأخذ بالاعتبار العدد الكلي للعقد التي تم استئصالها. سيتم في هذا البحث تقييم القيمة الإنذارية لنسبة العقد اللمفاوية (LNR: وهي نسبة العقد المصابة إلى العقد المستأصلة) بالمقارنة مع نظام pTNM وتحديد القيمة الحرجة المثالية لهذه النسبة.
مرضى وطرق البحث: تم باستخدام سجل Geneva للسرطان تحديد جميع النساء اللواتي شخصن بوجود سرطان ثدي إيجابي العقد اللمفاوية خلال الفترة من عام 1980 وحتى 2004 (1829 حالة). تم حساب القيمة الإنذارية للنسبة LNR بالنسبة لقيم تتراوح بين 0.05 و0.95 من خلال تحليل التقهقر Cox regression analysis وتوثيقها من خلال بادئ bootstrapping. وبالاعتماد على الاحتمالية العظمى تم تحديد النقاط الحرجة cutoff points والتي صنفت المريضات على أساسها إلى مجموعات منخفضة، ومتوسطة وعالية الخطورة بالنسبة لـ LNR.
النتائج: إن القيم الحرجة المثالية صنفت المريضات إلى مجموعة منخفضة الخطورة (LNR≤0.20)، متوسطة الخطورة (0.20<LNR≤0.65) ومجموعة عالية الخطورة (0.65<LNR)، والموافقة لمعدلات بقيا نوعية للداء لمدة 10 سنوات تعادل 75%، 63% و40%، وخطورة وفاة معدلة تعادل 1 (القيمة المرجعية)، 1.78 (بفواصل ثقة 95%، 1.46 إلى 2.18)، و3.21 (بفواصل ثقة 95%، 2.45 إلى 4.06) على الترتيب. وبخلاف مجموعات الخطورة بالنسبة لـ LNR فإن منحنيات البقيا للمراحل pN2 وpN3 تقاطعت بعد 15 سنة، كما أظهرت خطورة الوفاة المعدلة فيها توافق في فواصل الثقة CI (فواصل ثقة 95%، 1.69 إلى 2.53) و(فواصل ثقة 95%، 2.23 إلى 3.61) على الترتيب.
الاستنتاجات: تساعد النسبة LNR على القيام بتنبؤ أكثر دقة بمعدلات البقيا في حالات سرطان الثدي بالمقارنة مع تصنيف pN ولهذا يجب اعتمادها كنظام تصنيف مرحلي بديل عن نظام pN.

Infectious Diseases
الأمراض الإنتانية

Rhinoviruses Are a Major Cause of Wheezing and Hospitalization in Children Less Than 2 Years of Age
الفيروسات الأنفية كسبب أساسي للأزيز ودخول المشفى عند الأطفال دون سن الثانية من العمر

Piotrowska Z, et al.
Pediatr Infect Dis J 2008 Dec 3.

Background: Human rhinoviruses (HRV) are now considered major respiratory pathogens. We sought to determine whether HRV are a cause of wheezing and/or hospitalization in children <2 years old.
Methods: A polymerase chain reaction assay was used to screen for HRV infection in 4 categories of children <2 years old: (1) with symptoms of respiratory tract disease without wheezing; (2) with wheezing with or without other symptoms; (3) who were asymptomatic and; (4) who had a respiratory specimen submitted to a diagnostic laboratory. All specimens were collected between January and December 2004. Phylogenetic analyses were performed on most HRV isolates.
Results: Twenty-eight (17%) of 165 children with symptoms of respiratory infection without wheezing; 21 (26.3%) of 80 children with wheezing; 3 (3%) of 93 asymptomatic children; and 47 (23.3%) of 202 children with specimens submitted to the diagnostic laboratory tested positive for HRV. The difference between the rates of infection in the asymptomatic group and in each of the 3 other categories was statistically significant (P </= 0.01). Among HRV-positive children with samples submitted to the diagnostic laboratory, 55% were hospitalized, which was similar to that observed for respiratory syncytial virus (52.7%) among children of a similar age group and time period (P = 0.85). Diverse groups of HRV were circulating during the 1-year study period.
Conclusion: HRV are important pathogens among children <2 years old and are responsible for a significant proportion of wheezing this age group. The hospitalization rates of HRV-positive children seem to be similar to that of respiratory syncytial virus.

خلفية البحث: تعتبر الفيروسات الأنفية حالياً المتعضيات الممرضة الأساسية في السبيل التنفسي. يهدف هذا البحث إلى تحديد دور الفيروسات الأنفية HRV في حالات الأزيز و/أو دخول المشفى عند الأطفال دون سن الثانية من العمر.
طرق البحث: تم من خلال المقايسة باستخدام تفاعل سلسلة البوليميراز PCR إجراء مسح لوجود إنتان بفيروسات HRV عند أربع مجموعات من الأطفال أعمارهم دون السنتين: 1- أطفال لديهم أعراض مرضية في السبيل التنفسي دون وجود أزيز، 2- أطفال لديهم أزيز مع أو بدون وجود أعراض أخرى، 3- أطفال لا عرضيين، و4- أطفال خضعوا لأخذ عينة مرضية من السبيل التنفسي لتحليلها في المختبر. تم جمع العينات في الفترة بين كانون الثاني وكانون الأول 2004. تم إجراء تحليل تطور السلالات على معظم الفيروسات الأنفية التي تم عزلها.
النتائج: لوحظت إيجابية وجود الفيروسات الأنفية HRV عند 28 من 165 طفلاً في المجموعة الأولى (بنسبة 17%)، وعند 21 من 80 طفلاً في المجموعة الثانية (بنسبة 26.3%)، وعند 3 من 93 طفلاً في المجموعة الثالثة (بنسبة 3%)، وعند 47 من 202 طفلاً في المجموعة الرابعة (بنسبة 23.3%). لوحظ أن الفرق في معدلات الإنتان في مجموعة الأطفال اللا عرضيين وفي كل من المجموعات الثلاث الأخرى هو فرق هام من الناحية الإحصائية (P≤0.01). لوحظ أن 55% من مرضى المجموعة الرابعة إيجابيي الفيروسات الأنفية قد أدخلوا للمشفى وهو معدل مقارب للمعدل الملاحظ في حالات الإصابة بالفيروسات الخلالية التنفسية RSV (البالغ 52.7%) وذلك عند الأطفال في نفس المجموعة العمرية وخلال نفس الفترة الزمنية (P=0.85). لوحظت المجموعات المتحولة من فيروس HRV بشكل جائل في الدوران خلال مدة الدراسة البالغة سنة واحدة.
الاستنتاجات: تمثل الفيروسات الأنفية HRV عوامل ممرضة هامة عند الأطفال دون السنتين من العمر، كما أنها مسؤولة عن نسبة هامة من

حالات الأزيز لدى هذه المجموعة العمرية. أظهرت معدلات دخول المشفى عند الأطفال إيجابيي الفيروسات الأنفية HRV مستويات مشابهة لما هو ملاحظ في حالات إنتانات الفيروسات الخلالية التنفسية RSV.

Clinical Management of HIV/hepatitis C Virus Coinfection
التدبير السريري للخمج المشترك بفيروس عوز المناعة البشري HIV وفيروس التهاب الكبد C

Pozza R.
J Am Acad Nurse Pract 2008 Oct;20(10):496-505.

Purpose: The purpose of this study was to review the current management of hepatitis C virus (HCV) in persons coinfected with HIV.
Data sources: Comprehensive review of current scientific literature derived from electronic databases, article bibliographies, and conference abstracts.
Conclusion: HCV treatment is feasible in the individual coinfected with HIV; however, therapy is complex and requires intensive monitoring and support to achieve the outcome of viral eradication. New strategies to improve HCV treatment rates, adherence to therapy, and virological response rates are needed in this patient population.
Implications for Practice: Nurse practitioners are crucial to the management of the HIV/HCV-coinfected patient. This patient population requires detailed clinical monitoring, education, side effect management, and strategies to improve adherence to therapy.

هدف البحث: مراجعة التدبير المعتمد حالياً في حالات الإصابة بالتهاب الكبد الفيروسي C عند المرضى المصابين بفيروس عوز المناعة البشري HIV.
مصدر المعطيات: تم الحصول على المعطيات عبر مراجعة شاملة للمنشورات العلمية الحالية وذلك عبر قواعد البيانات الالكترونية، ملخصات أعمال اللقاءات العلمية ومسارد المقالات المرجعية.
الاستنتاجات: إن علاج التهاب الكبد C عند مرضى HIV هو أمر ممكن، إلا أن خطوات هذا العلاج هي خطوات معقدة وتتطلب دعماً ومتابعة حثيثة للوصول إلى القضاء على الفيروس. وهنا ما تزال هنالك حاجة للمزيد من الاستراتيجيات لتحسين طرق معالجة التهاب الكبد C، وتطوير السبل الكفيلة بتحسين الالتزام بالعلاج وزيادة معدلات الاستجابة الفيروسية عند هذه المجموعة من المرضى.
الانعكاسات المحققة على الممارسة الطبية: يشكل وجود ممارسة تمريضية أمراً أساسياً في تدبير حالات HCV مع وجود إنتان مرافق بفيروس HIV، ذلك أن هذه المجموعة من المرضى تتطلب متابعة سريرية دائمة، تثقيف طبي عالي، تدبير التأثيرات الجانبية خلال العلاج، واستراتيجيات لتحسين الالتزام بالمعالجة.

Nephrology And Urology
أمراض الكلية والجهاز البولي

Increased Cardiovascular Risk Associated With Reduced Kidney Function
زيادة الخطورة القلبية الوعائية المرافقة لتراجع الوظيفة الكلوية

Ryan TP, et al.
Am J Nephrol 2009 Jan 19;29(6):620-625.

Background: Individuals with chronic kidney disease (CKD) are at substantial risk for cardiovascular mortality, but the risk associated with specific glomerular filtration rates (GFRs) is unknown. The objective of this study was to investigate the relationship between level of kidney function and the risk of cardiovascular mortality in a diverse population.

Methods and Results: This was a nonconcurrent cohort study of 34,982 ambulatory patients. Kidney function was entered into the model as a time-dependent variable to minimize misclassification and allow for improved estimate of the effect of decreasing GFR on cardiovascular mortality. The adjusted hazard ratio for cardiovascular mortality was 1.00 (95% CI 0.93-1.06) with an estimated GFR (eGFR) of 45-59; 1.77 (95% CI 1.65-1.89) with an eGFR 30-44; 3.75 (95% CI 3.47-4.06) with an eGFR 15-29, and 3.83 (95% CI 3.40-4.33) with an eGFR <15.
Conclusion: We demonstrate a graded risk of cardiovascular mortality with decreasing GFR, with a marked increase with an eGFR <45 ml/min/1.73 m(2). These data also suggest that the availability of eGFR to physicians has had little impact on reducing the cardiovascular risk facing individuals with CKD. Our findings further highlight the public health significance of CKD and the importance of its early identification and management to reduce cardiovascular mortality.

خلفية البحث: يمثل مرضى الآفات الكلوية المزمنة مجموعة عالية الخطورة للوفيات القلبية الوعائية، إلا أن الخطر المرافق لمعدلات معينة من الرشح الكبي GFR ما يزال غير معروف. يهدف هذا البحث إلى دراسة العلاقة بين درجة الوظيفة الكلوية وخطورة تطور الوفيات القلبية الوعائية عند مجموعة سكانية متنوعة.

طرق البحث والنتائج: دراسة أترابية cohort غير متزامنة شملت 34982 مريضاً قادرين على الحركة. تم اعتماد الوظيفة الكلوية كمتغير معتمد على الزمن للحد من سوء التصنيف والسماح بتحسين التنبؤ بتأثير انخفاض معدل الرشح الكبي GFR على الوفيات القلبية الوعائية. لوحظ أن نسبة الخطر المعدل للوفيات القلبية الوعائية تعادل 1.00 (بفواصل ثقة CI 95%، 0.93 إلى 1.06) عندما يكون معدل الرشح الكبي التقديري eGFR بين 45 و59، وتزداد هذه النسبة إلى 1.77 (بفواصل ثقة CI 95%، 1.65 إلى 1.89) عند انخفاض معدل الرشح الكبي التقديري إلى قيم بين 30 و44، وحتى 3.75 (بفواصل ثقة CI 95%، 3.47 إلى 4.06) عند انخفاض معدل الرشح الكبي التقديري إلى قيم بين 15 و29، وحتى 3.83 (بفواصل ثقة CI 95%، 3.40 إلى 4.33) عند انخفاض معدل الرشح الكبي التقديري إلى ما دون 15.
الاستنتاجات: يلاحظ زيادة متدرجة في الوفيات القلبية الوعائية لدى تناقص معدلات الرشح الكبي GFR، مع زيادة واضحة عند تناقص معدل الرشح الكبي التقديري إلى ما دون 45 مل/د/1.73 م^2. كما تقترح هذه المعطيات أيضاً أن اطلاع الطبيب على قيم معدل الرشح الكبي التقديري لم يكن له تأثير يذكر على التقليل من الخطورة القلبية الوعائية عند مرضى الآفات الكلوية المزمنة. كما توجه هذه الموجودات إلى أهمية الأمراض الكلوية المزمنة وانعكاساتها على الصحة العامة وضرورة التشخيص والعلاج الباكرين للحد من الوفيات القلبية الوعائية المرافقة لهذه الأمراض.

Health Literacy and Access to Kidney Transplantation
مستوى الثقافة الصحية والسعي لإجراء زرع الكلية

Grubbs V, et al.
Clin J Am Soc Nephrol 2008 Dec 3.

Background And objectives: Few studies have examined health literacy in patients with end stage kidney disease. We hypothesized that inadequate health literacy in a hemodialysis population is common and is associated with poorer access to kidney transplant wait-lists.
Design, setting, participants, & measurements: We enrolled 62 Black and White maintenance hemodialysis patients aged 18 to 75. We measured health literacy using the short form Test of Functional Health Literacy in Adults. Our primary outcomes were (1) time from dialysis start date to referral date for kidney transplant evaluation and (2) time from referral date to date placed on kidney transplant wait-list. We used Cox proportional hazard models to examine the association between health literacy (adequate versus inadequate) and our outcomes after controlling for demographics and co-morbid conditions.
Results: Roughly one third (32.3%) of participants had inadequate health literacy. Forty-seven (75.8%) of participants were referred for transplant evaluation. Among those referred, 40 (85.1%) were wait-listed. Participants with inadequate health literacy had 78% lower hazard of referral for transplant evaluation than those with adequate health literacy (adjusted hazard ratio [AHR] 0.22; 95% confidence interval 0.08, 0.60; P=0.003). The

hazard ratio of being wait-listed by health literacy was not statistically different (AHR 0.80, 95% CI, 0.39, 1.61), P=0.5).

Conclusion: Inadequate health literacy is common in our hemodialysis patient population and is associated with a lower hazard of referral for transplant evaluation. Strategies to reduce the impact of health literacy on the kidney transplant process should be explored.

خلفية وهدف البحث: لا توجد سوى دراسات قليلة بحثت في درجة الثقافة الصحية عند مرضى المراحل المتقدمة من الآفات الكلوية. تفترض هذه الدراسة أن الثقافة الصحية غير الكافية عند مرضى التحال الدموي هي أمر شائع وينعكس بدوره بانخفاض الانضمام إلى لوائح الانتظار لإجراء زرع الكلية.

نمط البحث، المشاركين فيه والقياسات المجراة خلاله: ضم البحث 62 مريضاً (من السود والبيض) موضوعين على تحال دموي بشكل مداوم أعمارهم بين 18 و75 سنة. تم تقييم درجة الثقافة الصحية باستخدام نموذج اختبار الثقافة الصحية الوظيفية عند البالغين. شملت النتائج الأساسية للبحث ما يلي: 1–المدة بين بدء جلسات التحال وتاريخ تحويل المريض للتقييم من أجل زرع الكلية، 2–المدة بين تاريخ تحويل المريض لزرع الكلية وتاريخ وضع المريض على قائمة الانتظار. تم استخدام نماذج الخطورة النسبية Cox proportional hazard models لتقييم الترافق بين الثقافة الصحية عند المريض (كونها كافية أو غير كافية) والنتائج النهائية الملاحظة بعد الأخذ بالاعتبار المشعرات السكانية ووجود حالات مرضية مرافقة.

النتائج: لوحظ مستوى غير كافٍ من الثقافة الصحية لدى ثلث المرضى تقريباً (32.3%). تم تحويل 75.8% من المرضى المشتركين في البحث للتقييم من أجل زرع الكلية، ومن بين هؤلاء فقد وضع 40 مريضاً (85.1%) على قائمة الانتظار. لوحظ أن المرضى ذوو الثقافة الصحية غير الكافية لديهم خطورة أقل بـ 78% للتحويل للتقييم من أجل زرع الكلية مقارنةً بالمرضى ذوو الثقافة الصحية الكافية (نسبة الخطورة المعدلة AHR=0.22، بفواصل ثقة 95%، 0.08 إلى 0.60، P=0.003). لم يلاحظ فارق هام إحصائياً بين المجموعتين من حيث خطورة وجـود المريض على قائمـة الانتظار لزرع الكليـة (نسبة الخطورة المعدلـة AHR=0.80، بفواصل ثقة 95%، 0.39 إلى 1.61، P =0.05).

الاستنتاجات: يلاحظ وجود ثقافة صحية غير كافية بشكل شائع عند المرضى وهو ما يترافق مع انخفاض تحويل المريض للتقييم من أجل زرع الكلية. وهنا يجب إيجاد استراتيجيات للحد من انعكاسات الثقافة الصحية على عملية زرع الكلية.

Rheumatology And Orthopedics
الأمراض الرثوية وأمراض العظام

Giant Osteoclast Formation and Long-Term Oral Bisphosphonate Therapy
تشكل كاسرات العظم العرطلة خلال المعالجة الفموية المطولة بـ Bisphosphonate

Robert S, et al.
N Eng J Med 2009 Jan;360(1):53-62.

Background: Bisphosphonates decrease bone resorption and are commonly used to treat or prevent osteoporosis. However, the effect of bisphosphonates on their target cells remains enigmatic, since in patients benefiting from therapy, little change, if any, has been observed in the number of osteoclasts, which are the cells responsible for bone resorption.

Methods: We examined 51 bone-biopsy specimens obtained after a 3-year, double-blind, randomized, placebo-controlled, dose-ranging trial of oral alendronate to prevent bone resorption among healthy postmenopausal women 40 through 59 years of age. The patients were assigned to one of five groups: those receiving placebo for 3 years; alendronate at a dose of 1, 5, or 10 mg per day for 3 years; or alendronate at a dose of 20 mg per day for 2 years,

followed by placebo for 1 year. Formalin-fixed, undecalcified planar sections were assessed by bone histomorphometric methods.
Results: The number of osteoclasts was increased by a factor of 2.6 in patients receiving 10 mg of alendronate per day for 3 years as compared with the placebo group (P<0.01). Moreover, the number of osteoclasts increased as the cumulative dose of the drug increased (r=0.50, P<0.001). Twenty-seven percent of these osteoclasts were giant cells with pyknotic nuclei that were adjacent to superficial resorption cavities. Furthermore, giant, hypernucleated, detached osteoclasts with 20 to 40 nuclei were found after alendronate treatment had been discontinued for 1 year. Of these large cells, 20 to 37% were apoptotic, according to both their morphologic features and positive findings from in situ end labeling.
Conclusion: Long-term alendronate treatment is associated with an increase in the number of osteoclasts, which include distinctive giant, hypernucleated, detached osteoclasts that are undergoing protracted apoptosis.

خلفية البحث: تستخدم مركبات الـ Bisphosphonates التي تقلل من ارتشاف العظم بشكل شائع في الوقاية والمعالجة في حالات ترقق العظم، إلا أن تأثير هذه المركبات على الخلايا الهدف ما يزال مبهماً حيث أن المرضى الذين يظهرون تحسناً يلاحظ لديهم تغير بسيط – أو حتى معدوم – في عدد الخلايا الكاسرة للعظم osteoclasts وهي المسؤولة عن عملية ارتشاف العظم.
طرق البحث: تم فحص 51 عينة من خزعات عظمية أخذت بعد 3 سنوات من بدء دراسة علاجية، عشوائية، مزدوجة التعمية، مضبوطة بمعالجة إرضائية، ومحددة الجرعة باستخدام عقار alendronate فموياً وذلك للوقاية من ارتشاف العظم عند نساء بعد سن الإياس، سويات صحياً، أعمارهن بين 40 و59 سنة. تم تقسيم المريضات إلى خمس مجموعات: مجموعة تتعاطى معالجة إرضائية لمدة 3 سنوات، مجموعة معالجة باستخدام alendronate بجرعة 1، 5، أو 10 ملغ يومياً لمدة 3 سنوات، مجموعة معالجة باستخدام alendronate بجرعة 20 ملغ يومياً لمدة سنتين تتبعها معالجة إرضائية لمدة سنة. تم تقييم مقاطع نسيجية مسطحة غير منزوعة الكلس، مثبتة بالفورمالين باستخدام طرق القياس النسيجي العظمي.
النتائج: لوحظ زيادة عدد الخلايا الكاسرة للعظم بعامل 2.6 عند المرضى المعالجين بجرعة 10 ملغ يومياً من alendronate لمدة 3 سنوات مقارنةً بمجموعة المعالجة الإرضائية (P<0.01). علاوةً على ذلك فقد لوحظت زيادة في عدد الخلايا الكاسرة للعظم لدى زيادة الجرعة التراكمية من alendronate (r=0.50، P<0.001)، لوحظ أن نسبة 27% من هذه الخلايا الكاسرة للعظم هي خلايا عرطلة، ذات نوى مكتنزة (تغلظية)، مجاورة لكهوف الارتشاف العظمي. من جهة أخرى لوحظت خلايا عرطلة كاسرة للعظم، مفرطة النوى (20–40 نواة) بعد سنة من إيقاف المعالجة بـ alendronate، لوحظ من خلال المميزات الشكلية وإيجابية موجودات وسم المراحل النهائية in situ end labeling أن 20–37% من هذه الخلايا الكبيرة هي خلايا بطور الاستماتة apoptosis.
الاستنتاجات: تترافق المعالجة المديدة بـ alendronate مع زيادة في عدد الخلايا الكاسرة للعظم، والتي تتضمن خلايا عرطلة مميزة، مفرطة النوى، تخضع لعملية استماتة مطولة.

Neurology
الأمراض العصبية

Role of Iron in Neurotoxicity: A Cause For Concern in the Elderly?
دور الحديد في السمية العصبية: هل يمثل مدعاة للقلق عند المسنين؟

Stankiewicz JM, et al.
Curr Opin Clin Nutr Metab Care 2009 Jan;12(1):22-29.

Purpose of Review: To explore the role of iron physiology in the brain of healthy adults and review how increased brain iron deposition has been associated with common neurodegenerative diseases that affect the elderly.
Recent Findings: Because iron plays a role in oxygen transportation, myelin synthesis, neurotransmitter production, and electron transfers, it serves as a crucial cofactor in normal central nervous metabolism. However, an increased level of brain iron may promote neurotoxicity due to free radical formation, lipid peroxidation, and

ultimately, cellular death. Advanced neuroimaging techniques and pathological studies have demonstrated increased brain iron with aging, and increased iron deposition has also been observed in patients with a constellation of neurological diseases, including Alzheimer's disease, Parkinson's disease, and stroke.

Summary: Pathologic and neurologic imaging coupled with experimentation have increased our understanding of the link between iron and neurodegeneration. A potential implication is that disease-modifying therapies aimed at removing excess iron may one day be part of the armamentarium employed by clinicians to decrease the burden of neurodegenerative diseases in the elderly.

هدف المراجعة: دراسة فيزيولوجية الحديد في الدماغ عند البالغين الأسوياء صحياً ومراجعة كيفية ترافق زيادة ترسبات الحديد في الدماغ مع الأمراض العصبية التنكسية الشائعة التي تلاحظ عند المسنين.

الموجودات الحديثة: يلعب الحديد دوراً هاماً كعامل مساعد في الاستقلاب العصبي المركزي الطبيعي، حيث أن له دور في نقل الأوكسجين، اصطناع الميلين، إنتاج النواقل العصبية ونقل الالكترونات، إلا أن زيادة مستوياته في الدماغ قد تحرض حدوث سمية عصبية عبر تشكل جذور حرة، فوق أكسدة للدسم، وحدوث موت خلوي في النهاية. لقد أظهرت تقنيات التصوير العصبي المتقدمة والدراسات التشريحية المرضية زيادة مستويات الحديد في الدماغ بتقدم العمر، كما لوحظت أيضاً زيادة في ترسبات الحديد عند مرضى كوكبة الأمراض العصبية والتي تتضمن داء الزهايمر، داء باركنسون والسكتة الدماغية.

الخلاصة: لقد ساهم التصوير العصبي والتشريح المرضي مع التجارب في زيادة فهم العلاقة الكائنة بين الحديد والتنكس العصبي، وهو ما يقود لتوجيه الخطط العلاجية لإزالة الحديد الزائد والتي قد تكون إحدى الأسلحة المستخدمة مستقبلاً من قبل الأطباء السريريين للحد من وطأة الأمراض التنكسية العصبية عند المسنين.

Diagnostic Radiology
طب الاستقصاءات الشعاعية

Contrast Administration in Pediatric Cardiac Catheterization: Dose and Adverse Events
استخدام المواد الظليلة في القثطرة القلبية عند الأطفال: الجرعة والحوادث الجانبية

Senthilnathan S, et al.
Catheter Cardiovasc Interv 2008 Nov 13.

Background: In pediatrics, contrast-related AE such as allergic reactions, seizures, and nephropathy have been reported to occur after cardiac catheterization, but their incidence remains unknown.

Objective: We sought to report adverse event (AE) rates attributed to contrast administration in a pediatric cardiac catheterization lab and identify characteristics related to higher doses.

Methods: A single institution prospective cardiac catheterization AE database identified AE in children <18 years old exposed to contrast. All AE were reviewed and classified by relationship to contrast. Medical records for the 50 cases who received highest contrast doses were retrospectively reviewed for AE. Patient and procedural characteristics were compared in the top quartile of contrast dose versus remaining cases.

Results: Over 3 years, 2,321 consecutive cases required median 3.9 cm(3)/kg [IQR: 2.0, 6.0] of contrast. Patients receiving high dose contrast (top quartile) were more likely to be <1 year (51% vs. 24%), weigh <10 kg (66% vs. 29%), have complex 2 ventricle disease (56% vs. 35%), be in a high procedure type risk group (57% vs. 26%), and undergo procedures >2 h (67% vs. 28%), all $P < 0.001$. Only 2 of 2,321 cases (0.09%, 95% CI 0.01-0.31%) had AE possibly related to contrast. These events were an acute neurological change and transient nephropathy. In 50 cases receiving the most contrast, no AE were attributed to contrast.

Conclusion: A large volume pediatric cardiac catheterization lab administered >/= 6 cm(3)/kg of contrast in a quarter of cases; however, AE related to contrast exposure were exceedingly rare.

خلفية البحث: لقد أورد حدوث بعض التأثيرات الجانبية غير المرغوبة إثر استخدام المواد الظليلة في القثطرة القلبية عند الأطفال مثل التفاعلات الأرجية، النوب الاختلاجية واعتلال الكلية، إلا أن تواتر حدوث هذه الحوادث ما يزال غير معروف.

هدف البحث: تقدير معدل الحوادث الجانبية الناتجة عن حقن المواد الظليلة في مختبر للقثطرة القلبية عند الأطفال، وتحديد الخصائص المتعلقة بالجرعات المرتفعة من المادة الظليلة.

طرق البحث: دراسة مستقبلية في مركز وحيد تتضمن بيانات الحوادث الجانبية الناتجة عند استخدام المواد الظليلة في القثطرة القلبية عند الأطفال بعمر دون 18 سنة. تم تضمين جميع الحوادث الجانبية الملاحظة وتصنيفها تبعاً لعلاقتها باستخدام المادة الظليلة. كما تم إجراء تحليل راجع شمل 50 حالة من الحالات التي أعطيت الجرعات الأعلى من المادة الظليلة ودراسة الحوادث الجانبية الملاحظة خلالها. تمت مقارنة الخصائص المتعلقة بالمرضى والإجراء المتبع في أعلى الشريحة الربعية لجرعة المادة الظليلة مقارنةً ببقية الحالات.

النتائج: خلال ثلاث سنوات احتاجت 2321 حالة إلى كمية وسطية 3.9 سم^3/كغ (6.0–2.0=IQR) من المادة الظليلة. تبين أن المرضى الذين تلقوا جرعات أكبر من المادة الظليلة (قمة الشريحة الربعية) هم أكثر قابلية ليكونوا دون عمر السنة الواحدة (51% مقابل 24%)، وزنهم دون 10 كغ (66% مقابل 29%)، لديهم آفة معقدة في البطينين (56% مقابل 35%)، مجموعة عالية الخطر بالنسبة للإجراء (57% مقابل 26%)، أو أنهم خضعوا لإجراءات لمدة تفوق الساعتين (67% مقابل 28%)، حيث كانت قيمة p في كل هذه البنود <0.001. لوحظ لدى حالتين فقط من أصل 2321 حالة تطور حوادث جانبية ذات صلة بالمادة الظليلة شملت تبدلات عصبية حادة واعتلال كلية عابر (0.09، بفواصل ثقة 95%، 0.01–0.31)، كما لوحظ عدم تطور أية حوادث جانبية ذات صلة بالمادة الظليلة في الحالات الخمسين التي تلقت الجرعات الأعلى من المادة الظليلة.

الاستنتاجات: تقوم مختبرات القثطرة القلبية عند الأطفال بإعطاء جرعة كبيرة تساوي أو تفوق 6 سم^3/كغ في ربع الحالات، ورغم ذلك فإن الحوادث الجانبية المتعلقة بإعطاء المادة الظليلة هي حوادث شديدة الندرة.

Anaesthesia And Intensive Care Medicine
التخدير والإنعاش

Experimental Evaluation of Hyaluronidase Activity in Combination With Specific Drugs Applied in Clinical Techniques of Interventional Pain Management and Local Anaesthesia
التقييم التجريبي لفعالية الهيالورونيداز بالمشاركة مع الأدوية النوعية المستخدمة في التقنيات السريرية لتدبير الألم والتخدير الموضعي

Schulze C, et al.
Pain Physician 2008 Nov-Dec;11(6):877-883.

Background: Hyaluronidase is an enzyme additive used in local anaesthesia and interventional pain reducing procedures such as adhesiolysis of epidural scar tissue after spinal surgery. Only a limited number of studies describe the influence of drugs on hyaluronidase activity. Postulated effects and effectiveness of hyaluronidase are only based on clinical observations.

Objective: The aim of this study is to investigate the influence of the combined drugs on the activity of hyaluronidase under standardized conditions and to verify the effectiveness of the enzyme.

Design: An ELISA-based microtiter-technique is used to evaluate the activity of hyaluronidase in combination with local anaesthetics, corticosteroids, NaCl 10%, and iodinated contrast media.

Methods: Microtiter plates were coated with biotinylated hyaluronate and incubated with hyaluronidase in combination with the above-mentioned drugs. The activity of hyaluronidase was determined by an avidin-peroxidase-based procedure using an ELISA reader. Incubations were carried out at room temperature as well as at 37 degrees C.

Results: The data show that drugs affect the activity of hyaluronidase in different ways. Iodinated contrast media, NaCl (10%), and the absence of corticosteroids reduce hyaluronidase activity. In contrast, higher activities were detected at a lower NaCl concentration (0.9%). We cannot attribute a significant influence to local anaesthetics.
Conclusion: Hyaluronidase is effective in all combinations with drugs. To get the maximum effect calculated use of accompanying drugs is necessary.

خلفية البحث: يمثل الهيالورونيداز أنزيماً يستخدم في التخدير الموضعي والوسائل التداخلية لتخفيف الألم كما في عمليات فك التصاقات الأنسجة التندبية فوق الجافية بعد العمليات على النخاع. لا تتوافر سوى دراسات قليلة بحثت في تأثير الأدوية على فعالية الهيالورونيداز، حيث أن تأثيرات الهيالورونيداز وفعاليته المفترضة هي حصيلة للمشاهدات السريرية فحسب.
هدف البحث: دراسة تأثير المشاركات الدوائية على فعالية أنزيم الهيالورونيداز ضمن الشروط المعيارية، والتحقق من فعالية هذا الأنزيم.
نمط البحث: تم استخدام تقنية المعايرة الدقيقة microtiter-technique المعتمدة على المقايسة المناعية الامتزازية المرتبطة بالأنزيم ELISA لتقييم فعالية الهيالورونيداز بالمشاركة مع أدوية التخدير الموضعي، الستيروئيدات القشرية، محلول كلور الصوديوم NaCl 10% والمادة اليودية الظليلة.
طرق البحث: تم حضن صفائح المعايرة الدقيقة المغلفة بـ biotinylated hyaluronate مع الهيالورونيداز بالمشاركة مع الأدوية المذكورة أعلاه. تم تحديد فعالية الهيالورونيداز من خلال طريقة أساس avidin-peroxidase باستخدام قارئ ELISA. تم إجراء الحضن بدرجة حرارة الغرفة وأعيد الإجراء بالحضن بالدرجة C 37.
النتائج: أظهرت المعطيات أن الأدوية تؤثر على فعالية الهيالورونيداز بطرق مختلفة، حيث تؤدي المواد اليودية الظليلة، NaCl 10%، وغياب الستيروئيدات القشرية إلى انخفاض فعالية الهيالورونيداز. وعلى العكس لوحظ ازدياد الفعالية بالتراكيز الأخفض من NaCl (0.9%). لا يمكن القول بوجود تأثير مهم لأدوية التخدير الموضعي.
الاستنتاجات: يظهر الهيالورونيداز فعالية مع جميع المشاركات الدوائية معه، إلا أن الوصول للفعالية العظمى له يتطلب أن يكون الاستخدام المرافق للأدوية الأخرى استخداماً مدروساً.

Psychiatry
الطب النفسي

Recurrence of Depression During Pregnancy: Psychosocial and Personal Functioning Correlates
نكس الاكتئاب خلال الحمل: العلاقات المتبادلة الوظيفية الشخصية والنفسية الاجتماعية

Goodman SH, et al.
Depress Anxiety 2008 Nov 21.

Background: This study examined psychosocial and personal functioning during pregnancy in women at risk for depression recurrence based on having had at least one major depressive episode (MDE) preceding the pregnancy.
Methods: Three groups of women, who differed in recurrence of depression during pregnancy, were compared: (1) women who had at least one recurrent episode meeting diagnostic criteria for a MDE (n=23), (2) women who had a recurrence of clinically significant levels of depressive symptoms but did not meet criteria for a MDE (n=18), and (3) women who had no recurrence of depression (n=38) during pregnancy.
Results: Results indicated that recurrences of depression during pregnancy are associated with a range of psychosocial and personal functioning correlates. Furthermore, the correlates of depression during pregnancy were the same for women who met diagnostic criteria for MDE and women who had subthreshold levels of depression.
Conclusion: The findings support extending psychosocial models of depression to depression recurrence during pregnancy with an emphasis on the broader context within which depression occurs. The findings also have implications for understanding subclinical depression during pregnancy as being associated with problems in functioning equal in severity and breadth to episodes of major depression.

خلفية البحث: يهدف هذا البحث إلى دراسة الحالة الوظيفية الشخصية والنفسية الاجتماعية خلال الحمل عند النساء المعرضات لخطورة نكس حالة الاكتئاب لديهن من خلال وجود نوبة واحدة على الأقل من نوبات الاكتئاب الكبير MDE في الفترة السابقة للحمل.
طرق البحث: تمت مقارنة ثلاث مجموعات من النساء تختلف فيما بينها بالنكس الملاحظ في الاكتئاب خلال الحمل: شملت المجموعة الأولى النساء اللواتي لديهن نوبة نكس واحدة على الأقل تحقق المعايير التشخيصية لنوب الاكتئاب الكبير MDE (23 حالة)، بينما شملت المجموعة الثانية النساء اللواتي حصل لديهن نكس لأعراض الاكتئاب بمستويات سريرية هامة دون أن تحقق معايير نوب الاكتئاب الكبير MDE (18 حالة)، أما المجموعة الثالثة فضمت النساء اللواتي لم يحدث لديهن نكس في الاكتئاب خلال الحمل (38 حالة).
النتائج: أظهرت النتائج أن نكس الاكتئاب خلال الحمل يترافق مع طيف من العلاقات الوظيفية الشخصية والنفسية الاجتماعية المتبادلة، كما أن هذه العلاقات الملاحظة في الاكتئاب خلال الحمل هي نفسها الملاحظة عند النساء اللواتي تحققت لديهن معايير نوب الاكتئاب الكبير MDE أو النساء اللواتي لديهن مستويات دون العتبة التشخيصية من الاكتئاب.
الاستنتاجات: تدعم هذه الموجودات فكرة توسيع النماذج النفسية الاجتماعية للاكتئاب لتشمل حالات نكس الاكتئاب خلال الحمل مع التأكيد على المجال الأوسع الذي يحدث فيه الاكتئاب، كما أن لهذه النتائج انعكاسات على عملية فهم حالة الاكتئاب تحت السريري خلال الحمل كونها تترافق مع اضطرابات وظيفية تعادل في شدتها واتساعها نوب الاكتئاب الكبير.

Ophthalmology
الأمراض العينية

Overdiagnosis in Glaucoma: A Real Problem?
الإفراط في تشخيص حالات الزرق: هل هو مشكلة فعلية؟

Zemba M, et al.
Oftalmologia 2008;52(3):81-6.

Purpose: To reassess the diagnosis in a group of patients with diagnosis and treatment for open-angle glaucoma.
Method: Group of 100 patients with diagnosis and treatment for open-angle glaucoma, sent in our clinic for automated perimetry. We assess: intraocular pressure, automated perimetry, the head of optic disc; sometimes we stopped the treatment and reassess the intraocular pressure; sometimes pachymetry. We confirm or not the diagnosis of open-angle glaucoma.
Results: In 41 patients the diagnosis of open-angle glaucoma was not real.
Conclusion: The diagnosis of open-angle glaucoma is made often without clear medical evidences.

هدف البحث: إعادة التقييم التشخيصي لمجموعة من المرضى الذين تم تشخيصهم ومعالجتهم لوجود زرق مفتوح الزاوية.
طرق البحث: تم إرسال مجموعة من 100 مريض مشخصين ومعالجين لوجود زرق مفتوح الزاوية إلى عيادة البحث الخاصة بقياس المجال البصري الآلي. تم تقييم ضغط باطن العين، إجراء قياس المجال البصري الآلي، قمة القرص البصري، كما تم في بعض الحالات إيقاف المعالجة وإعادة تقييم ضغط باطن العين وأحيانا قياس سماكة القرنية pachymetry. تم من خلال هذه الإجراءات تأكيد أو نفي التشخيص السابق بوجود زرق مفتوح الزاوية.
النتائج: لوحظ لدى 41 مريضاً أن تشخيص الزرق مفتوح الزاوية لم يكن حقيقياً.
الاستنتاجات: تشير النتائج السابقة إلى أن تشخيص الزرق مفتوح الزاوية يوضع في غالبية الحالات بشكل متسرع ودون دلائل طبية واضحة.

Dermatology
الأمراض الجلدية

Treatment Outcome of Acne Vulgaris With Oral Isotretinoin
نتائج معالجة العد الشائع باستخدام عقار Isotretinoin فموياً

Bener A, et al.
J Coll Physicians Surg Pak 2009 Jan;19(1):49-51.

Objective: To determine the clinical efficacy of oral isotretinoin in the treatment of severe acne and assess its effect on total serum cholesterol, triglycerides, HDL-cholesterol and Low-Density Lipoprotein-cholesterol (LDL-cholesterol).
Study Design: A cohort, descriptive, hospital-based study.
Place and Duration of Study: Al-Ain Medical District, Tawam Hospital, United Arab Emirates, from 1994 to 2002.
Methodology: A total of 198 patients seen at Tawam Hospital, referred with acne vulgaris for a minimum of 6 weeks, were treated by isotretinoin for the first time, were included in the study. Variables studied were as per objectives apart from demographics and distribution.
Results: The study included 63 (32%) males and 135 (68%) females of mean age (+/-SD) of 21.3+/-5.6 years. Majority (81%) of patients was under 25 years. Of them, 26 patients had family history of acne. The most common site of acne was on face (66.7%), followed by trunk (26.2%) and neck (9.1%). Of 198 patients treated, 32.8% were cured, 19.1% markedly improved, 11.1% moderately improved and 24.2% of patients were advised for further treatment. There was no marked change in total and LDL-cholesterol, while LDL and triglycerides changed markedly.
Conclusion: In acne patients, isotretinoin is effective in producing remission. In addition, it was safe and its effect on serum lipids was transient, especially in healthy and young patients with normal liver functions.

هدف البحث: تحديد الفعالية السريرية لاستخدام عقار isotretinoin عن طريق الفم في معالجة الحالات الشديدة من العد الشائع وتقييم تأثيراته على الكولسترول الكلي في المصل، الغليسيريدات الثلاثية، الكولسترول HDL، والكولسترول LDL.
نمط البحث: دراسة أترابية وصفية في بيئة المشفى.
مكان ومدة البحث: مقاطعة العين الطبية، مشفى التوام، الإمارات العربية المتحدة في الفترة من عام 1994 وحتى 2002.
طرق البحث: شملت الدراسة 198 مريضاً في مشفى التوام لديهم حالة عد شائع منذ 6 أسابيع على الأقل، تمت معالجة هؤلاء المرضى باستخدام isotretinoin وذلك للمرة الأولى. تمت دراسة المتغيرات كعناصر موضوعية بغض النظر عن الأمور السكانية والتوزع.
النتائج: تضمنت الدراسة 63 مريضاً من الذكور (بنسبة 32%) و135 مريضةً من الإناث (بنسبة 68%) بمتوسط أعمار (21.3±5.6 سنة). شكل المرضى دون سن الخامسة والعشرين من العمر غالبية المرضى (81%). لوحظ وجود قصة عائلية للعد الشائع عند 26 مريضاً. شكل الوجه المكان الأشيع لظهور الآفات العدية عند مرضى البحث (66.7%)، يليه الجذع (26.2%) والعنق (9.1%). لوحظ حدوث شفاء للحالة عند 32.8% من المرضى الذين تمت معالجتهم، بينما حدث تحسن واضح في الحالة عند 19.1% آخرين، تحسن متوسط عند 11.1%، في حين تم تحويل 24.2% من المرضى لمعالجات إضافية. لم يلاحظ حدوث تبدلات هامة في مستوى الكولسترول الكلي والكولسترول HDL في المصل خلال المعالجة، بينما لوحظت هذه التبدلات بشكل واضح في مستويات الغليسيريدات الثلاثية والكولسترول LDL.
الاستنتاجات: يمثل عقار isotretinoin عقاراً فعالاً في إحداث هجوع للحالة عند مرضى العد الشائع. من جهة أخرى فإن هذه العقار آمن الاستخدام كما أن تأثيراته على شحوم المصل هي تأثيرات عابرة وخاصة عند الأشخاص الأسوياء صحياً الذين يتمتعون بوظيفة كبدية طبيعية.

ENT
أمراض الأذن والأنف والحنجرة

Comparative Evaluation of Conventional Versus Endoscopic Septoplasty For Limited Septal Deviation and Spur
التقييم المقارن بين الجراحة التقليدية والتنظيرية في تصنيع الحاجز الأنفي في حالات انحراف الحاجز الأنفي المحدود والمهاميز الحاجزية

Bothra R, et al.
J Laryngol Otol 2008 Dec 2:1-5.

Objective: To compare the procedure, results and complications of conventional septoplasty with those of endoscopic septoplasty, in cases of limited septal deviation and septal spurs.
Design: Prospective study; interventional type; randomised block design; comparative clinical trial.
Methods: We included in the study 80 patients presenting with limited septal deviation, septal spur with nasal obstruction, or deviated septum with septal correction was required in order to access the ostio-meatal complex (OMC) for functional endoscopic sinus surgery. Of these 12 were children with septal deviation producing significant nasal obstruction. All patients were divided into two groups- with one undergoing conventional and the other endoscopic septoplasty. Post-operative assessment was carried out one month, three months and one to two years after the procedure.
Results: Post-operative complications such as haemorrhage, infraorbital oedema, nasal pain and in-patient hospital was slightly more in the conventional septoplasty group.
Conclusion: No statistically significant difference was found between the conventional and endoscopic septoplasty groups, as assessed by subjective and objective evaluation.

هدف البحث: مقارنة عملية تصنيع الحاجز الأنفي (الوتيرة) التقليدية وعملية التصنيع بالتنظير في حالات الانحراف المحدود في الحاجز الأنفي (الوتيرة) والمهاميز الحاجزية من حيث الإجراءات المتبعة، النتائج والاختلاطات.
نمط البحث: دراسة مقارنة سريرية، مستقبلية، تداخلية عشوائية.
طرق البحث: شمل البحث 80 مريضاً يعانون من حالات انحراف محدود في الحاجز الأنفي مع مهماز حاجزي وانسداد في الأنف، أو حالات انحراف في الحاجز الأنفي تتطلب إجراء تصحيح للوصول إلى المعقد الصماخي الفوهي (OMC) في جراحة الجيوب التنظيرية الوظيفية، من بينهم 12 طفلاً لديهم انحراف في الحاجز الأنفي يسبب انسداد هام في الأنف. تم تقسيم مجمل المرضى إلى مجموعتين إحداهما خضعت للجراحة التقليدية والأخرى خضعت للجراحة التنظيرية في تصنيع الحاجز الأنفي (الوتيرة). تم إجراء التقييم بعد الجراحة بعد مدة شهر، ثلاثة أشهر وبعد 1–2 سنة من الإجراء.
النتائج: لوحظ أن الاختلاطات الملاحظة بعد الجراحة كالنزف، الوذمة تحت الحجاج، الألم الأنفي ومدة البقاء في المشفى كانت أكبر وبدرجة بسيطة لدى مجموعة الجراحة التقليدية.
الاستنتاجات: لم تلاحظ فروقات هامة إحصائياً بين مجموعة الجراحة التقليدية ومجموعة الجراحة التنظيرية في تصنيع الحاجز الأنفي لدى إجراء التقييم الفعلي والموضوعي للحالات في هذه الدراسة.

Formation of Biofilm by Haemophilus Influenzae Isolated From Pediatric Intractable Otitis Media
تشكل فيلم حيوي عبر المستدميات النزلية المعزولة من الحالات المعندة لالتهاب الأذن الوسطى عند الأطفال

Moriyama S, et al.
Auris Nasus Larynx 2009 Jan 7.

Objectives: The aims of this study are to evaluate biofilm formation by nontypeable Haemophilus influenzae (NTHi) isolated from children with acute otitis media (AOM) and its relation with clinical outcome of the disease.

Methods: Biofilm formations by NTHi clinical isolates from pediatric AOM patients were evaluated by a crystal violet microtiter plate and a 98 well pin-replicator assay with a confocal laser scanning microscopy (CLSM). Optical density values of clinical isolates were compared with a positive control and the ratio of clinical isolates to a positive control was defined as biofilm formation index (BFI).
Results: 84.3% clinical isolates of NTHi were biofilm forming strains (BFI>/=0.4). The BFI represented the levels of biofilm formation and adherence on the surface. The identical strains isolated from both middle ear fluids (MEFs) and nasopharynx showed biofilm formation at the same level. The prevalence of biofilm forming isolates was significantly higher among the susceptible strains than resistant strains. The level of biofilm formation of NTHi isolated from AOM cases who was not improved by amoxicillin (AMPC) was significantly higher than that of NTHi isolated from AOM cases who was improved by AMPC.
Conclusion: We clearly showed the biofilm formation of clinical NTHi isolates from AOM children. In addition, the biofilm formed by NTHi would play an important role in persistent or intractable clinical course of AOM as a result of lowered treatment efficacy of antibiotics.

هدف البحث: تقييم تشكيل المستدميات النزلية غير المنمطة Haemophilus influenzae (NTHi) المعزولة من حالات التهاب الأذن الوسطى الحاد عند الأطفال لفيلم حيوي biofilm، وعلاقة ذلك بالنتائج السريرية لهذه الحالة.
طرق البحث: تم تقييم تشكل فيلم حيوي في ذراري المستدميات النزلية غير المنمطة المعزولة من مرضى التهاب الأذن الوسطى الحاد عبر صفيحة المعايرة الدقيقة بالبنفسجية المتبلورة و98 بئراً للمقايسة مع مجهر المسح المباشر بالليزر (CLSM). تمت مقارنة قيم الكثافة الضوئية للعينات السريرية مع عينات شاهد إيجابية مع اعتبار النسبة بين العينات السريرية والشاهد الإيجابي مشعراً لتشكل الفيلم الحيوي (BFI).
النتائج: لوحظ أن 84.3% من ذراري المستدميات النزلية في العينات السريرية كانت من الذراري المشكلة للفيلم الحيوي (BFI>/= 0.4). تعبر قيمة BFI عن مستوى تشكل الفيلم الحيوي والتصاقه على السطح. أظهرت الذراري المتطابقة المعزولة من سوائل الأذن الوسطى والبلعوم الأنفي مستويات متشابهة من تشكل الفيلم الحيوي. لوحظ أن انتشار الذراري المشكلة للفيلم الحيوي أعلى وبشكل هام في الذراري المتحسسة للصادات مقارنةً بالذراري المقاومة، كما أن مستوى تشكل الفيلم الحيوي في ذراري المستدميات النزلية غير المنمطة المعزولة من حالات التهاب الأذن الوسطى التي لم تظهر تحسناً باستخدام amoxicillin كان أعلى وبشكل ملحوظ بالمقارنة مع الذراري التي أظهرت تحسناً عند استخدامه في المعالجة.
الاستنتاجات: تظهر هذه الدراسة بوضوح تشكل الفيلم الحيوي في الذراري السريرية للمستدميات النزلية غير المنمطة في حالات التهاب الأذن الوسطى الحاد عند الأطفال، كما تبين أن الفيلم الحيوي الذي تشكله هذه الجراثيم قد يلعب دوراً هاماً في استمرار الحالة وتعنيدها على المعالجة نتيجة تناقص فعالية الصادات الحيوية.

Laboratory Medicine
الطب المخبري

Reactivation of Polyomavirus Hominis 1 (BKV) During Pregnancy and the Risk of Mother-to-Child Transmission
إعادة تفعل الإنتان بالفيروسات التوراسية البشرية BKV-1 خلال الحمل وخطر انتقال الإنتان من الأم للجنين

Kalvatchev Z, et al.
J Clin Virol 2008 Sep 24.

Background: Pregnancy is associated with down-regulation of immune responses of the mother. This might lead to reactivation and vertical transmission of latent viral infections such as BK virus (BKV).

Objectives: To determine the presence of BKV in the urine of pregnant women and in cord blood at delivery.
Study design: We examined urines from 52 pregnant women and 51 cord blood samples for BKV by real-time SYBR green PCR.
Results: BKV DNA was found in the urine of 18 (34.6%) pregnant women. No BKV DNA was detected by SYBR green PCR in the cord blood specimens.
Conclusion: BKV reactivation is common during pregnancy but this is not associated with BKV in cord blood.

خلفية البحث: يترافق الحمل مع تنظيم سلبي للاستجابة المناعية عند الأم وهو ما قد يقود إلى إعادة تفعل الإنتانات الفيروسية الكامنة مثل إنتان فيروس التورام BK والانتقال العمودي لهذه الإنتانات إلى الجنين.
هدف البحث: تحديد وجود فيروس BK في بول النساء الحوامل وفي دم الحبل السري عند الولادة.
نمط البحث: تم فحص عينات البول المأخوذة من 52 من الحوامل مع 51 من عينات دم الحبل السري لوجود فيروس BK باستخدام تقنية تفاعل سلسلة البوليميراز PCR بالزمن الفعلي (الأخضر SYBR).
النتائج: لوحظ وجود الدنا DNA الخاص بفيروس BK عند 18 من الحوامل (بنسبة 34.6%)، بينما لم يلاحظ وجوده في أي من عينات دم الحبل السري التي تم فحصها بتقنية (SYBR- PCR).
الاستنتاجات: يمثل تفعل الإنتان بفيروس BK أحد الأمور الشائعة خلال الحمل، إلا أنه لا يترافق مع وجود الفيروس في دم الحبل السري.

دليل النشر في مجلة المجلس العربي للاختصاصات الصحية

تتبع المقالات المرسلة إلى مجلة المجلس العربي للاختصاصات الصحية الخطوط التالية المعتمدة من قبل الهيئة الدولية لمحرري المجلات الطبية URN، وإن النص الكامل لها موجود على الموقع الألكتروني www.icmje.org

1- المقالات التي تتضمن بحثاً أصيلاً يجب أن لا تكون قد نشرت سابقاً بشكل كامل مطبوعة أو بشكل نص الكتروني، ويمكن نشر الأبحاث التي سبق أن قدمت في لقاءات طبية.

2- تخضع كافة المقالات المرسلة إلى المجلة للتقييم من قبل لجنة تحكيم مؤلفة من عدد من الاختصاصيين، بشكل ثنائي التعمية، بالإضافة إلى تقييمها من قبل هيئة التحرير. يمكن للمقالات أن تقبل مباشرةً بعد تحكيمها، أو تعاد إلى المؤلفين لإجراء التعديلات المطلوبة، أو ترفض.

3- تقبل المقالات باللغتين العربية أو الانكليزية. يجب أن ترسل صفحة العنوان باللغتين العربية والانكليزية، متضمنة عنوان المقال وأسماء الباحثين بالكامل باللغتين مع ذكر صفاتهم العلمية. يجب استخدام الأرقام العربية (1، 2، 3...) في كافة المقالات.

4- يجب أن تطابق المصطلحات الطبية الواردة باللغة العربية ما ورد في المعجم الطبي الموحد (موجود على الموقع الالكتروني www.emro.who.int/umd/ أو www.emro.who.int/ahsn)، مع ذكر الكلمة العلمية باللغة الانكليزية أو اللاتينية أيضاً (يمكن أيضاً إضافة المصطلح الطبي المستعمل محلياً بين قوسين).

5- يجب احترام حق المريض في الخصوصية مع حذف المعلومات التي تدل على هوية المريض إلا في حالات الضرورة التي توجب الحصول على موافقة المريض عند الكشف عن هويته بالصور أو غيرها.

6- تذكر أسماء الباحثين الذين شاركوا في البحث بصورة جدية، يجب تحديد باحث أو أثنين للتكفل بموضوع المراسلة حول الشؤون المتعلقة بالبحث مع ذكر عنوان المراسلة والبريد الالكتروني.

7- يجب أن تتبع طريقة كتابة المقال مايلي:

- يكتب المقال على وجه واحد من الورقة وبمسافة مضاعفة بين الأسطر (تنسيق الفقرة بتباعد أسطر مزدوج)، ويبدأ كل جزء بصفحة جديدة. ترقم الصفحات بشكل متسلسل ابتداء من صفحة العنوان، يليها الملخص، النص، ومن ثم الشكر والمراجع، يلي ذلك الجداول ثم التعليق على الصور والأشكال. يجب أن لا تتجاوز الأشكال الإيضاحية 203×254 ملم (8×10 بوصة)، مع هوامش لا تقل عن 25 ملم من كل جانب (1بوصة). ترسل كافة المقالات منسوخة على قرص مكتنز CD، مع إرسال الورقة الأصلية مع 3 نسخ. يمكن إرسال المقالات بالبريد الالكتروني على jabms@scs-net.org إذا أمكن من الناحية التقنية. يجب ان يحتفظ الكاتب بنسخ عن كافة الوثائق المرسلة.
- البحث الأصيل يجب أن يتضمن ملخصاً مفصلاً باللغتين العربية والانكليزية لا يتجاوز 250 كلمة يشمل أربع فقرات على الشكل التالي: هدف الدراسة، طريقة الدراسة، النتائج، والاستنتاجات.
- البحث الأصيل يجب ألا يتجاوز 4000 كلمة (عدا المراجع)، وأن يتضمن الأجزاء التالية: المقدمة، طرق البحث، النتائج، المناقشة، والاستنتاجات. يجب إيراد شرح وافٍ عن طريقة الدراسة مع تحديد مجموعة الدراسة وكيفية اختيارها، وذكر الأدوات والأجهزة المستعملة (نوعها واسم الشركة الصانعة) والإجراءات المتبعة في الدراسة بشكل واضح للسماح بإمكان تكرار الدراسة ذاتها. الطرق الإحصائية يجب أن تذكر بشكل واضح ومفصل للتمكن من التحقق من نتائج الدراسة. يجب ذكر الأساس العلمي لكافة الأدوية والمواد الكيميائية المستخدمة، مع تحديد الجرعات وطرق الإعطاء المعتمدة. يجب استخدام الجداول والصور والأشكال لدعم موضوع المقال، كما يمكن استخدام الأشكال كبديل عن الجداول مع مراعاة عدم تكرار نفس المعطيات في الجداول والأشكال. يجب أن يتناسب عدد الجداول والأشكال المستخدمة مع طول المقال، ومن المفضل عموماًعدم استخدام أكثر من ستة جداول في المقال الواحد. يجب أن تتضمن المناقشة النقاط الهامة في الدراسة والاستنتاجات المستخلصة منها، مع ذكر تطبيقات وانعكاسات النتائج ومحدوديتها، مع مقارنة نتائج الدراسة بدراسات مماثلة، مع تجنب دراسات غير مثبتة بالمعطيات. توصيات الدراسة تذكر حسب الضرورة.
- الدراسات في الأدب الطبي يفضل أن لا تتجاوز 6000 كلمة (عدا المراجع)، وبنية المقال تتبع الموضوع.
- تقبل تقارير الحالات الطبية حول الحالات الطبية السريرية النادرة. مع ضرورة إيراد ملخص موجز عن الحالة.
- تقبل اللوحات الطبية النادرة ذات القيمة التعليمية.
- يمكن استعمال الاختصارات المعروفة فقط، يجب ذكر التعبير الكامل للاختصار عند وروده الأول في النص باستثناء وحدات القياس المعروفة.
- يستعمل المقياس المتري (م، كغ، لتر) لقياسات الطول والارتفاع والوزن والحجم، والدرجة المئوية لقياس درجات الحرارة، والمليمترات الزئبقية لقياس ضغط الدم. كافة القياسات الدموية والكيماوية السريرية تذكر بالمقياس المتري تبعاً للقياسات العالمية SI.
- فقرة الشكر تتضمن الأشخاص الذين أدوا مساعدات تقنية، مع ضرورة ذكر الجهات الداعمة من حيث توفير المواد أو الدعم المالي.
- المراجع يجب أن ترقم بشكل تسلسلي حسب ورودها في النص، ترقم المراجع المذكورة في الجداول والأشكال حسب موقعها في النص. يجب أن تتضمن المراجع أحدث ما نشر من معلومات. تختصر أسماء المجلات حسب ورودها في Index Medicus ، يمكن الحصول على قائمة الاختصارات من الموقع الالكتروني www.nln.nih.gov يجب أن تتضمن المراجع المكتوبة معطيات كافية تمكن من الوصول إلى المصدر الرئيسي، مثال: مرجع المجلة الطبية يتضمن اسم الكاتب (يتضمن جميع المشاركين)، عنوان المقال، اسم المجلة، سنة الإصدار، رقم المجلد ورقم الصفحة. أما مرجع الكتاب فيتضمن اسم الكاتب (جميع المشاركين)، المحرر، الناشر، مؤسسة النشر ومكانها، رقم الجزء ورقم الصفحة. للحصول على تفاصيل أوفى حول كيفية كتابة المراجع الأخرى يمكن زيارة الموقع الالكتروني www.icmje.org مع التأكيد على مسؤولية الكاتب عن دقة المراجع الواردة في المقال.

8- إن المقالات التي لا تحقق النقاط السابقة تعاد إلى الكاتب لتصحيحها قبل إرسالها إلى هيئة التحكيم.

هذه المجلة مفهرسة في سجل منظمة الصحة العالمية IMEMR Current Contents
http://www.emro.who.int/HIS/VHSL/Imemr.htm.

مجلة المجلس العربي للاختصاصات الصحية

مجلة المجلس العربي للاختصاصات الصحية هي مجلة طبية محكمة تصدر كل ثلاثة أشهر، تعنى بكافة الاختصاصات الطبية، تهدف إلى نشر أبحاث الأطباء العرب لتقوية التبادل العلمي والطبي بين البلدان العربية، كما تقوم المجلة أيضاً بنشر ملخصات منتقاة من المقالات المهمة المنشورة في المجلات العلمية والطبية العالمية، مع ترجمة هذه الملخصات إلى اللغة العربية بهدف تسهيل إيصالها إلى الطبيب العربي. علاوة على ذلك تعمل المجلة على نشر أخبار وأنشطة المجلس العربي للاختصاصات الصحية .

نرسل كافة المراسلات إلى العنوان التالي:

مجلة المجلس العربي للاختصاصات الصحية
المجلس العربي للاختصاصات الصحية
ص.ب: 7669 دمشق – الجمهورية العربية السورية
هاتف: 6119249/6119742-11-963+ ، فاكس: 6119739/6119259-11-963+
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مجلة المجلس العربي للاختصاصات الطبية
المجلس العربي للاختصاصات الطبية
ص.ب: 7669 دمشق – الجمهورية العربية السورية

أخبار وأنشطة المجلس العربي للاختصاصات الطبية
خلال الفترة من 2009/1/1 لغاية 2009/3/1

أنشطة المجالس العلمية

اجتماع الهيئة العليا للمجلس العربي للاختصاصات الطبية

عقدت الهيئة العليا اجتماع الدورة الثالثة عشرة في القاهرة- جمهورية مصر العربية خلال الفترة 28/2-2009/3/1 حيث تم في هذا الاجتماع مناقشة العديد من المواضيع وأهمها اعتماد النسخة المعدلة من اللائحة الداخلية واللائحة التأسيسية للمجلس العربي للاختصاصات الطبية والإطلاع على قرارات اجتماع المكتب التنفيذي، وتوصيات المجلس العلمي الاستشاري وتحديد موعد اجتماع الهيئة العليا القادم.

اختصاص طب الأسرة

الامتحان السريري لاختصاص طب الأسرة:

جرى الامتحان السريري لاختصاص طب الأسرة بتاريخ 7/2/ 2009 في كل من المراكز التالية: الرياض، وجدة، والمنامة، والدوحة، ودبي. وقد تقدم لهذا الامتحان 100 طبيباً، نجح منهم 93 طبيباً، أي أن نسبة النجاح هي 93%.

اسم المركز	عدد المتقدمين	عدد الناجحين	%
الرياض	19	19	%100
المنامة	27	25	%92
دبي	27	25	%92
الدوحة	12	12	%100
جدة	15	12	%80
المجموع	100	93	%93

اختصاص الطب النفسي

1- اجتماع لجنة الامتحانات لاختصاص الطب النفسي:

اجتمعت لجنة الامتحانات لاختصاص الطب النفسي في دمشق بتاريخ 24-2009/2/27، حيث تم في هذا الاجتماع وضع أسئلة الامتحانات لشهر أيار وشهر تشرين الأول (الجزء الأول).

2- اجتماع لجنة التدريب لاختصاص الطب النفسي:

اجتمعت لجنة التدريب لاختصاص الطب النفسي في دمشق بتاريخ 26-2009/2/27.

3- اجتماع المجلس العلمي لاختصاص الطب النفسي:

عقد المجلس العلمي لاختصاص الطب النفسي في دمشق بتاريخ 2009/2/28.

4- اجتماع ورشة عمل لشؤون التدريب لاختصاص الطب النفسي:

اجتمعت ورشة عمل لشؤون التدريب لاختصاص الطب النفسي في دمشق بتاريخ 1-2009/3/2.

اختصاص التخدير والعناية المركزة

1- اجتماع المجلس العلمي لاختصاص التخدير والعناية المركزة:

عقد المجلس العلمي لاختصاص التخدير والعناية المركزة في مقر الأمانة العامة في دمشق يومي السبت والأحد بتاريخ 20-2/21/ 2009 بحضور كل من الأساتذة التالية أسماؤهم:

الأستاذ الدكتور عبد الرحمن فتح الله مقرر لجنة التدريب
الأستاذ الدكتور موسى المعلم عضو لجنة التدريب
الأستاذ الدكتور عدي أدهم عضو لجنة التدريب
الأستاذ الدكتور عبد العزيز بوكر عضو لجنة التدريب

حيث تم في هذا الاجتماع اتخاذ العديد من القرارات أهمها:

- تعديل دليل المجلس العلمي لاختصاص التخدير والعناية المركزة
- تم مناقشة تقرير الاعتراف بمشافي الاسكندرية في جمهورية مصر العربية حيث تم الاعتراف بكل من:

1- م. ج. الاسكندرية لمدة أربعة سنوات كامل مدة التدريب- عشرون متدرب في السنة.
2- م. جمال عبد الناصر لمدة سنتين على أن يكمل المتدربين فترة سنتين في جامعة الاسكندرية-ستة أطباء في السنة.
- مناقشة موضوع إعادة الاعتراف بالمشافي حيث تم وضع جدول زمني لإعادة الاعتراف.

اختصاص الولادة وأمراض النساء

1- اجتماع لجنة الامتحانات لاختصاص الولادة وأمراض النساء:
اجتمعت لجنة الامتحانات لوضع أسئلة الامتحان الأولي لاختصاص الولادة وأمراض النساء لدورتي نيسان وتشرين الأول في دمشق بتاريخ 16-2009/2/18.
2- امتحان الأوسكي لاختصاص الولادة وأمراض النساء:
جرى امتحان الأوسكي لاختصاص الولادة وأمراض النساء في مركز الرياض بتاريخ 3-2009/1/4. وقد تقدم لهذا الامتحان 65 طبيباً، نجح منهم 47 طبيباً، أي أن نسبة النجاح هي 72%.
3- امتحان الأوسكي لاختصاص الولادة وأمراض النساء:
جرى امتحان الأوسكي لاختصاص الولادة وأمراض النساء في مركز دمشق بتاريخ 3-2009/1/4. وقد تقدم لهذا الامتحان 65 طبيباً، نجح منهم 47 طبيباً، أي أن نسبة النجاح هي 72%.

اختصاص طب الأطفال

- الامتحان السريري والشفوي لاختصاص طب الأطفال:
جرى الامتحان السريري والشفوي لاختصاص طب الأطفال في دمشق بتاريخ 17-2009/2/19. وقد تقدم لهذا الامتحان 47 طبيباً، نجح منهم 43 طبيباً، أي أن نسبة النجاح هي 91%.

اختصاص الجراحة العامة

- الامتحان السريري والشفوي لاختصاص الجراحة العامة:
جرى الامتحان السريري والشفوي لاختصاص الجراحة العامة في الرياض بتاريخ 17-2009/1/18. وقد تقدم لهذا الامتحان 13 طبيباً، نجح منهم 8 أطباء، أي أن نسبة النجاح هي 62%.

خريجو المجلس العربي للاختصاصات الطبية
من 2009/1/1 حتى 2009/3/1

اختصاص طب الأسرة

اسم الطبيب	مركز التدريب
رشا مفتاح عبد الرزاق خليفة	م. حمد العام- الدوحة
هادية محمد اعجاز كريم براشا	م. البرنامج المشترك- جدة
رباب عباس حسين صالح	م. النعيم الصحي- البحرين
ألماس شعبان زبادة المطيري	م. القوات المسلحة- الرياض
ليلى عبد الله مفتاح الكعبي	م. القوات المسلحة- الرياض
أسيا ابراهيم علي الحمادي	م. الحرس الوطني- جدة
زوينة خميس حمد اليحياني	م. النعيم الصحي- البحرين
نجوى ابراهيم محمد الجنيد	م. حمد العام- الدوحة
وعد محمد عبيد المفتول	م. المكتوم- دبي
خديجة عبد الله الشحي	م. الرعاية الصحية - العين
لمياء حسين محمد البلوشي	ج. السلطان قابوس- مسقط
بدرية عبد الله سعيد الزعابي	ج. م. فيصل التخصصي- الخبر
أميرة حمد محمد البلوشي	م. القوات المسلحة- تبوك
أميرة جمعة حمود المغيري	ج. السلطان قابوس- مسقط
موزة عبد الله راشد المعمري	ج. السلطان قابوس- مسقط
ناهد ابراهيم يونس فلاته	دائرة الصحة- دبي
وفاء علاء الدين شيخ	دائرة الصحة- دبي
بهناز ابراهيم محمد تقي تدين	ج. السلطان قابوس- مسقط
رجاء عبد الأمير حسن الشيخ	ج. السلطان قابوس- مسقط
شهلة فهد فيصل فهد الدوسري	ج. السلطان قابوس- مسقط
مرام عبد الله حمد فوزان الفوزان	ج. القديس يوسف- بيروت
غادة عبد الرحمن عبد العزيز العرفج	ج. القديس يوسف- بيروت
إيمان عوض شايف محمد السعدي	ج. السلطان قابوس- مسقط
عالية العيدي صباح سالم الرويلي	ج. السلطان قابوس- مسقط
أمل عبد الله عبد العزيز عيسى العلي	ج. السلطان قابوس- مسقط
بيضاء ماجد فايز السبيعي	ج. السلطان قابوس- مسقط
جوهرة عبد الله عبيد عابد العصيمي	ج. السلطان قابوس- مسقط
إيمان محمد ترسن يعقوب بخاري	م. حمد العام- الدوحة
لمى عبد العزيز محمود رمال	م. النعيم الصحي- البحرين
أمل ابراهيم عثمان هوساي	م. م. فهد للحرس الوطني- الرياض
العنود سليمان سعيد الصعيري	م. النعيم الصحي- البحرين
حنان فهد عسكر العتيبي	م. النعيم الصحي- البحرين
زينب عيسى علي الحازمي	م. النعيم الصحي- البحرين
عبد الله أحمد عوض الشهري	م. النعيم الصحي- البحرين
عبد العزيز الحميدي نايظ العضياني	م. الرعاية الصحية- دبي
أسامة صالح علي العريض	م. العين الحكومي- العين
ضياء أحمد جاسم الخزاعي	م. العين الحكومي- العين
منيع ناصر منيع الحبلاني	م. العين الحكومي- العين
حمد عبيد حمد السليمي	م. م. فهد للحرس الوطني- الرياض
عيسى سعيد مبارك الفليتي	م. م. فهد للحرس الوطني- الرياض
نايف سعيد مزيد المطيري	م. م. فهد للحرس الوطني- الرياض
سامي سليم الرحيلي	م. م. فهد للحرس الوطني- الرياض

اسم الطبيب	مركز التدريب
عشرت غلوم حسين علي	ج. السلطان قابوس- مسقط
لولوة راشد شويطر	ج. السلطان قابوس- مسقط
عبد الرحيم نفاع لافي العمري	م. القوات المسلحة- الرياض
عبد الله صالح محمد القبلان	م. القوات المسلحة- الرياض
منى عبد العزيز حسن القاسمي	ج. السلطان قابوس- مسقط
منى عبد الله غلوم قادر	م. القوات المسلحة- الرياض
مها حسين عباس مهدي	م. البرنامج المشترك- السعودية
نورة محمد عبد الله الجار	م. البرنامج المشترك- السعودية
هلا سمير جعفر الصفار	م. البرنامج المشترك- السعودية
هالة عبدو القاعي معوض	م. البرنامج المشترك- السعودية
مايا خضر جلول	م. البرنامج المشترك- السعودية
مزنة محمد خلفان السعدي	م. م. فهد الجامعي- الخبر
أروى زاهر مبارك النوبي	م. السلمانية الطبي- البحرين
فاطمة سعيد خلفان الهديفي	م. السلمانية الطبي- البحرين
أمينة ابراهيم يوسف فخرو	م. السلمانية الطبي- البحرين
غيداء عبد الله منصور رضي	م. السلمانية الطبي- البحرين
منال عبد علي ابراهيم الدعيسي	م. السلمانية الطبي- البحرين
ريهام أحمد عبد الغفار الجرف	م. السلمانية الطبي- البحرين
شيخة عبد الرحمن بوعلي	م. السلمانية الطبي- البحرين
فوزية أحمد محمد علي عبدولي	م. السلمانية الطبي- البحرين
سميرة عبد الله الزرعوني	م. السلمانية الطبي- البحرين
ليلى محمد عمر البريكي	م. السلمانية الطبي- البحرين
فاطمة سيف عبد الله الشامسي	م. السلمانية الطبي- البحرين
نهى ابراهيم محمد الرويشد	م. السلمانية الطبي- البحرين
ياسر حسين علي أبو موسى	م. البرنامج المشترك- جدة
عبد السلام محمد الهادي البشير	م. البرنامج المشترك- جدة
كليثم سيف محمد المزروعي	م. البرنامج المشترك- جدة
عبد الرحمن هاشم أحمد المالكي	م. البرنامج المشترك- جدة
خالصة سيف حمد المعمري	ج. السلطان قابوس- مسقط
طارق محمد سلطان القرناس	م. القوات المسلحة- الرياض

اختصاص النساء وأمراض الولادة

اسم الطبيب	مركز التدريب
آلاء خالد عباس ريس	م. القوات المسلحة- الرياض
فايزة أحمد أنديجاني	م. م. فهد للحرس الوطني-الرياض
مريم علي محمد القحطاني	م. م. خالد الجامعي- السعودية
مها فؤاد مساوى	م. ج. الملك عبد العزيز-السعودية
أماني حسني جمال حريري	م. النور التخصصي- السعودية
عائشة سليمان الأسمري	م. القوات المسلحة- الرياض
لينا محمد عبد القادر الترتير	م. الملك فهد الطبي- السعودية
وضحة مرعي أحمد مهاوش	م. الملك فهد الطبي- السعودية
سلمى دسوقي الهمذان	م. ج. الملك عبد العزيز-السعودية
نعيمة يحيى حسين عبد القادر	م. الملك خالد الجامعي- السعودية
منى محمود العبيدلي	م. الولادة والأطفال- السعودية
فاطمة حسن محمد بندقجي	م. الملك عبد العزيز- السعودية
دينا لطفي الهواري	م. دلة- الرياض
بشير زين العابدين نمر	م. اليمامة- السعودية
أحمد محمد سميح المرستاني	م. الملك عبد العزيز- السعودية
استبرق غازي محمد الحاجم	م. الملك عبد العزيز- السعودية
نهاد حامد أبو السعود	م.م.فيصل التخصصي-السعودية
أمل عبد الله الملا	م. دبي- الإمارات
فاطمة خليفة العماري	م. قوة دفاع البحرين- البحرين
إسراء خالد علي	م. اليرموك التعليمي- بغداد
مفلح غضبان الرويلي	م. القوات المسلحة بالغربية - تبوك
سهيل اختر عبد اللطيف سرواني	م. القوات المسلحة بالغربية - تبوك
يوسف أحمد عبد الله نوح	م. القوات المسلحة- الرياض
علي محمد حسين اللواتيا	م. القوات المسلحة- الرياض
هشام صالح مبارك المسلماني	م. م. فهد للحرس الوطني- الرياض
عماد عبد علي أحمد البصري	م. القوات المسلحة بالغربية - تبوك
عبد الله سعود ابراهيم بن رخيص	م. القوات المسلحة- الرياض
عبد العزيز عبد الرحمن السليمان	م. حمد العام- الدوحة
عبد الرحمن عبد العزيز المشوح	م. حمد العام- الدوحة
خالد ناصر سويلم الشعلان	م. حمد العام- الدوحة
عبد العزيز سالم القرزعي	م. حمد العام- الدوحة
سعد مريح محمد القحطاني	م. حمد العام- الدوحة
خالد صالح عبد العزيز المديميغ	م. حمد العام- الدوحة
فريح عقيل غازي العنزي	م. حمد العام- الدوحة
يوسف عبد الله أحمد العمران	م. الرعاية الصحية الأولية- دبي
عمرو أحمد عباس جمال	م. القوات المسلحة- الرياض
حسين عبيد شريد المطيري	م. البرنامج المشترك- جدة
عبد المحسن الهاجري	م. البرنامج المشترك- جدة
مشعل عبد الله ناصر المسيفري	م. البرنامج المشترك- جدة
حسن عباس يوسف توفيق	م. البرنامج المشترك- جدة
سحر هشام عبد الرزاق	م. الكاظمية- العراق
نهلة غلام رضا محمد	م. العلوي- العراق
فدان نظمي ناظم	م. بغداد التعليمي- بغداد
إيناس صالح جواد	م. البصرة- العراق
لميس عبد علي محسن	مدينة الطب- العراق
إيناس عدنان عبد الرسول	م. الكاظمية- العراق
فرح مؤيد جبرائيل	م. الكاظمية- العراق
حميدة هادي عبد الواحد	م. بغداد التعليمي- العراق
معاني أحمد هاشم	م. بغداد التعليمي- العراق
لميس عدنان شبر	م. الكاظمية- العراق
شيماء صبري عذاب	م. الكاظمية- العراق
إيناس ثامر موسى	م. بغداد التعليمي- العراق
محمد صلاح الدين محمود	م. اليرموك- العراق
سهيلة ناجي عبد	م. اليرموك- العراق
أسماء علي لفتة	م. اليرموك- العراق
بتول عبد الواحد	م. اليرموك- العراق
نسرين مالك عبيد	م. الكاظمية- العراق
عزة خالد أحمد	م. بغداد التعليمي- العراق
لمى السباعي	م. دبي- الإمارات
مؤيد أحمد محمود يونس	م. حمد العام- الدوحة

اختصاص طب الأطفال

اسم الطبيب	مركز التدريب
مي علي عيسى آل حسن	م. القطيف المركزي- السعودية
سارة فاطم ثواب المطيري	م. القوات المسلحة- تبوك
رائف محمود عثمان	م. القوات المسلحة- تبوك
صالح جبر عبد المحسن بنات	م. الأردن- عمان

اسم الطبيب	مركز التدريب
أمينة محمد ساني اسماعيل	م. الأطفال- دمشق
حيان فائز الطويل	م. الأطفال- دمشق
سمية عبد الماجد السيخ	دار التوليد- دمشق
رونق عدنان عباس	م. بغداد التعليمي- بغداد
رنا محمد علي التل	م. المقاصد الخيرية- بيروت
جورج إلياس لولو	م. حلب الجامعي- حلب
ريمة محمد محمد	م. حلب الجامعي- حلب
أني ابراهيم توما	م. البشير- عمان
فدوى العبيد	م. حلب الجامعي- حلب
خالدية العرجة	م. حلب الجامعي- حلب
فاطمة محمد الحسين محسن	دار التوليد- دمشق
سلمى محمد علي المهدي	م. دبي- دبي
محمود عبد البواب	م. حلب الجامعي- حلب
ريما فتحي الهندي	دار التوليد- دمشق
هند صباح عبد السلام صالح	م. بغداد التعليمي- بغداد
روزان ياسين خليل	م. بغداد التعليمي- بغداد
إشراق محمد كاظم	م. بغداد التعليمي- بغداد
رانيا ابراهيم سميط	م. العلوي- العراق
بان هادي حميد	م. بغداد التعليمي- بغداد
لميس ناجي علي	م. بغداد التعليمي- بغداد
شيماء حميد حبيب	م. بغداد التعليمي- بغداد
أسامة حسين شحادة	م. حلب الجامعي- حلب
عباس طاهر المعمري	م. حلب الجامعي- حلب
مصطفى محمد شاكر عز	م. حلب الجامعي- حلب
نبيل محمود زحلوط	م. حلب الجامعي- حلب
ياسر محمد موصللي	م. حلب الجامعي- حلب
أحمد محمد الأحمدتي	م. دمشق- دمشق
سعيد أحمد ثلجة	م. دمشق- دمشق
عبد الرحيم نزال الحريري	م. دمشق- دمشق
عبده محمد حرفي	م. دمشق- دمشق
علياء محمد نزار العلبي	م. دمشق- دمشق
مؤيد ممدوح العلي	م. دمشق- دمشق
محمد بدر الدين العسالي	م. دمشق- دمشق
مهند أحمد عنتر	م. دمشق- دمشق
ناتالي عدنان ميني	م. دمشق- دمشق
نهى خالد المقت	م. دمشق- دمشق
ياسين محمد يونس	م. دمشق- دمشق
هيفاء علي بن دحمان	م. الحسين الطبية- عمان
عادل محمود سيد الشرقاوي	م. الوصل- أبو ظبي

اختصاص الجراحة العامة

اسم الطبيب	مركز التدريب
هيفاء مصطفى سلمان ملائكة	م.م. فهد للحرس الوطني-الرياض
علي محمد آل طيف المنتشري	م.م. فهد للحرس الوطني-الرياض
جلال محمد عيسى العويس	م.م. فهد للحرس الوطني-الرياض
جميلة خالد محمد الأزهري	م. قوى الأمن- الرياض
عبد الله حسن صالح الغامدي	م. القوات المسلحة- الرياض
خالد عبد الله حمد الزومان	م. القوات المسلحة- الرياض
أميرة محمد حسين العباسي	م. م. فيصل التخصصي- الرياض
أحمد محمد يوسف العصفور	م. السلمانية الطبي- المنامة
رندة عبد ديبو	م. الأطفال- دمشق
عصام مصطفى محمود	م. الأطفال- دمشق
كرمل فرحان أبو الهيجاء	م. الأطفال- دمشق
محمد حسن العبد الغني	م. الأطفال- دمشق
معاذ حسين الصيادي	م. الأطفال- دمشق
نعمان حيدر ادريس	م. الأطفال- دمشق
وسام فهيد النصر الله	م. الأطفال- دمشق
فاضل شنان حسين كاظم	م. الكاظمية التعليمي- العراق
حميد عبد الله مصطفى	م. الموصل- العراق
عبد العظيم حكمت يونس مال الله	م. الموصل- العراق
غزوان يونس محمد	م. الموصل- العراق
سيران عطاء الله فائق	م. اليرموك- العراق
أنس علي صاحب	م. حماية الأطفال التعليمي- العراق
بشار صاحب خلف حبيب	م. حماية الأطفال التعليمي- العراق
سماهر عبد الرزاق فاضل	م. حماية الأطفال التعليمي- العراق
نبال وائل سعدي	م. حماية الأطفال التعليمي- العراق
رأفت حماد سرور جادة	م. فهد للحرس الوطني- الرياض
أشرف مروان الراغب	م. حلب الجامعي- حلب
إياد أنطانيوس بيطار	م. حلب الجامعي- حلب