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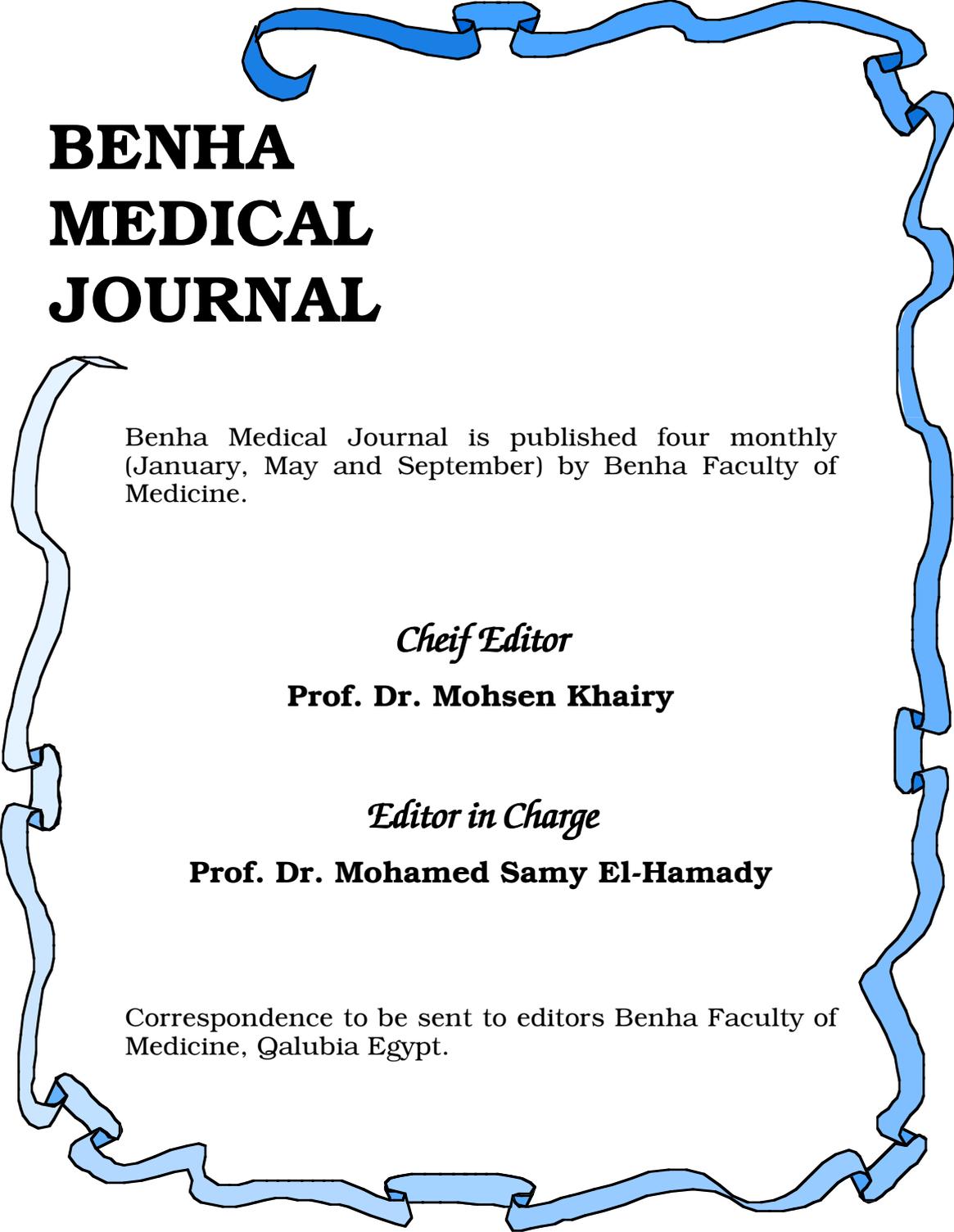
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**PROTECTIVE EFFECTS OF 4-METHYLPYRAZOL
IN COMPARISON WITH N-ACETYLCYSTEINE
AGAINST ACETAMINOPHEN-INDUCED
HEPATOTOXICITY IN RATS**

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Abstract

N- acetylcysteine (NAC) is the only available antidote for acetaminophen (APAP) poisoning. 4- methylpyrazole (4-MP), a well known inhibitor of alcohol dehydrogenase, has also been shown to inhibit CYP2E1 (one of the cytochrome P450 system) which has been identified to be involved in APAP bioactivation in human beings. The aim of this study was to evaluate the hepatoprotective effect of 4-MP in comparison with NAC against APAP - induced hepatic necrosis in rats. APAP (2.000 ,g/kg) was given to 6 groups of animals by gavage; group 7 acted as control. After 4 hours, group 3 received 4-MP (200 mg/kg) orally; group 4 received 200 mg/kg 4-MP followed by 4 doses at 12 hours intervals; group 5 received 140 mg/kg NAC and group 6 received 140 mg/kg NAC followed by 70 mg/kg every 4 hours for 12 doses.

The results obtained from this study indicated that the administration of 4-MP or NAC (both single and repeated - dose regimen), after 4 hours of toxic dose of APAP significantly inhibited hepatotoxicity in the rate with little superiority of 4-MP as reflected by significantly lower levels of serum transaminases (AST and ALT) and lesser degrees of hepatic necrosis.

ASSOCIATION BETWEEN CAROTID INTIMA-MEDIA THICKNESS ON ULTRASONOGRAPHY AND SEVERITY OF CORONARY ATHEROSCLEROSIS

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Abstract

The aim of this study was to evaluate the usefulness of noninvasive assessment of common carotid artery (CCA) intima-media thickness (IMT) in prediction of presence and severity of coronary atherosclerosis. B-mode ultrasound of carotid arteries was performed on 80 patients (mean age 51 ± 6 yrs, range 40-60; 43 were males) who had coronary angiography performed within 3 months. According to the results of coronary angiography patients were divided into control group (normal coronary angiography no=18) and coronary disease group (22 patients with single vessel disease and 40 patients with multivessel disease). Diabetic patients and those with peripheral artery and cerebral vascular diseases were excluded from the study. IMT less than 1.0 mm was considered as normal. IMT equal or more than 1.0 mm was considered as initial atherosclerotic lesion of carotid arteries, and IMT more or equal to 2.0 was considered as a sign of mild carotid plaque.

Results: The IMT of the common carotid artery in coronary heart disease group and in control group was 1.05 ± 0.65 mm and 0.58 ± 0.20 mm respectively, ($P<0.001$). There was no any sign of carotid atherosclerosis in the majority of patients without overt coronary lesions (control group): 88.9% of them had normal (<1.0 mm) carotid IMT. The remaining 11.1% of patients of this group showed only moderate thickness (< 2.0 mm), and no one had signs of carotid plaque (IMT more than 2.0 mm). Single-vessel disease was associated with significant increase of IMT. Signs of carotid

atherosclerosis were observed in 31.8% of patients (22.7% with IMT 1.0-2.0 mm, and 9.1% with IMT more than 2.0 mm), albeit 68.2% of patients had normal IMT. 62.5% of patients having multivessel disease have had signs of carotid atherosclerosis on ultrasound examination. 30% of them showed IMT more than or equal to 1.0 mm while in 32.5% of them carotid ultrasound detected severe increase of IMT (more than or equal to 2.0 mm). Only 37.5% of patients had normal carotid IMT. The sensitivity of IMT 1.0-2.0 mm in multi-vessel CAD was 62% with specificity 86%. Using criterion IMT more than 2.0mm the specificity dramatically rose to 95%, whereas sensitivity lowered to 32%.

Conclusions: The common carotid artery IMT measured by simple, non-invasive method is greater in patients with coronary artery disease as compared with that in patients without the disease. IMT showed good correlation with the severity of coronary atherosclerosis, especially in patients with multi-vessel disease, having worse long-term prognosis. The ultrasonographic screening of carotid arteries thus offers a valuable complement to other noninvasive tests used for the initial identification of patients with ischemic heart disease. However, standardized protocol for IMT measurements is needed before it can be widely implemented in the clinical practice.

**MID-TERM CLINICAL AND ANGIOGRAPHIC
FOLLOW-UP AFTER PERCUTANEOUS
TRANSLUMINAL CORONARY ANGIOPLASTY
FOR TREATMENT OF CORONARY
IN-STENT RESTENOSIS**

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Neama El-Meligy MD*, Hesham B. Mahmoud MD **,
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Abstract

With increasing incidence of stent deployment, the problem of ISR "the Achilles heel of stenting" is becoming increasingly prevalent and remains the major limitation of coronary catheter based interventions. Aim of the work: To evaluate the mid-term clinical outcome after PCI for treatment of different patterns of ISR and to make angiographic follow-up for patients with clinical restenosis. Thirty patients with ISR underwent successful PCI from September 2002 in Nasr City Insurance Hospital and were followed-up clinically and by exercise stress testing for six months after the procedure. Angiographic follow-up was done for patients with recurrent symptoms (one patient) or with positive stress test results at follow-up (one patient). 80% of our patients underwent successful PCI using conventional balloon and in the remaining 20% cutting balloon was used. We found no difference between both for treatment of ISR at six months follow-up ($P=0.66$). In the current study, only two patients (6.7%) had clinical and angiographic ISR. The remaining (93.3%) had a favorable clinical outcome. In conclusion: Repeat balloon angioplasty for the treatment of ISR is an easy and safe procedure with high procedural success, but it's worthy to say that best management of ISR is not completely established. So, prevention of ISR at the outset should be the ultimate aim and in this issue drug-eluting stents (DES) may be an outstanding option.

CLINICAL OUTCOMES AFTER ANGIOPLASTY AND/OR STENT PLACEMENT IN PATIENTS WITH ILIAC OCCLUSIVE DISEASE

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Abstract

Introduction: Iliac angioplasty represents an important skill for the cardiovascular interventionist to master, not only to relieve patients lower extremity symptoms, but also to preserve vascular access for what may be lifesaving cardiovascular therapies such as coronary angioplasty or intra-aortic balloon counterpulsation.

Aim of the work: To evaluate the preliminary results of angioplasty in management of chronic iliac occlusive disease in Nasr City Insurance Hospital in 32 months.

Patients & methods: A prospective study was done in 9-patients presented to Nasr City Insurance Hospital during the period between Nov. 2000 to May 2003 complaining of intermittent claudication (77.8%), rest pain (33.3%) and/or peripheral ulcer and gangrene (66.6%). angioplasty was an intermediate stage before surgery in 5-patients (55.6%) changing surgery from a major one (from the aorta) to a simpler one (from the femoral artery) to a diffusely diseased peripheral vessels.

Results: A Successful angioplasty was done for all cases (7-right and 2-left iliac arteries). PTA was enough with good results in 6-patients. PTA balloon dilatations and stenting was done for 3-patients. We considered our angioplasty procedure is technically successful if the residual stenosis is lower than 30% of the reference diameter.

Follow up: Post intervention period passed smoothly in 7-patients but unfortunately 2-pateints died during follow up. No mortality was related to the procedure. Patient (No.1) died 23 days after angioplasty due to sep-

ticaemia and secondary infection after fem-pop. Bypass. The second patients (No.4) died 6-days after angioplasty due to AMI.

Conclusion: angioplasty has the following advantages:

- Lower initial procedure related morbidity and mortality.*
- No need for general anaesthesia.*
- Shorter hospital stay, and less trauma.*

A RETROSPECTIVE STUDY OF FEBRILE NEUTROPENIA IN PEDIATRIC CANCER PATIENTS

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Abstract

This current retrospective study reviewed 75 febrile neutropenic episodes occurred in children with cancer treated at the Pediatric Oncology Unit of Benha Children Hospital. The aim of this work was to study clinical and laboratory parameters of infection in febrile neutropenic children with cancer ,as well as, the associated risk factors , therapeutic regimens and modification of therapy and their effects on the outcome of cases . We found 31 % of cases have clinically documented infection while 33% have bacteremia at the time of presentation. The lung was the most common site of infection (13 % of all cases) and gram positive bacteria accounted for 63% of culture positive cases. Improvement rate was significantly lower in malnourished group ($P < 0.05$) compared to well nourished group. Thrombocytopenia was a significant risk factor determining improvement rate . Platelet count $< 50.000/mm^3$ significantly decreased the rate of infection control ($P < 0.05$). Also absolute neutrophilic count (ANC) $\leq 500/mm^3$ had a bad outcome results . Four cases were died from group of ANC $\leq 500/mm^3$ and no one was died from other group ($P < 0.05$). High risk neutropenia (ANC $< 100/mm^3$ & > 7 days) showed significantly lower percentage of improvement ($P < 0.05$). Therapeutic regimen of ceftazidime - amikacin have higher rate of success ($P < 0.05$). Modification therapy with metronidazole, fluconazole or granulocyte stimulating factor have significant good results on rate of improvement of cases ($P < 0.05$). We concluded that fever in neutropenic children with cancer is an alarming sign of infection and empirical antibiotic therapy should started immediately. Infection control and improvement rate are affected significantly by degree & duration of neutropenia, degree of thrombocytopenia, nutritional status and regimen & modification of therapy.

**NATURAL KILLER-T (NKT) CELLS AND
HUMAN LEUKOCYTE ANTIGEN-G (HLA-G) IN
CHILDREN WITH INSULIN DEPENDENT
DIABETES MELLITUS**

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Abstract

Background: Natural killer T (NKT) Cells are unique immunoregulatory cells reported to be deficient in many autoimmune disorders as systemic sclerosis with controversy as regards their role in IDDM. HLA-G is a non classical HLA class 1 molecule with immunotolerant function through T and NK cells inhibition but its role in IDDM is not defined. Our aim was to evaluate NKT cells frequency and activity as well as the level and expression of HLA-G in children with IDDM to highlight their role in disease pathogenesis. Study design: This study included 28 children with IDDM who attended Mansoura University Children's Hospital consecutively from June, 2003 to March, 2004. A group of 18 healthy children with matched age and sex having no family history of diabetes mellitus served as control. All subjects were exposed to thorough history and clinical examination beside routine investigations that included random blood sugar and glycosylated hemoglobin. NKT cell receptors (V α 24-J α Q) were assessed by ELISA before and after mitogen stimulation. NKT cell receptor expression was also assessed by quantitative reverse transcriptase polymerase chain reaction (RT-PCR). Soluble HLA-G was also determined by ELISA and its expression was assessed by RT-PCR. Results: NKT cell receptors were significantly lower in patients before and after mitogen stimulation compared to control ($p < 0.001$). Similarly, NKT cell receptor expression was significantly lower in patients than control ($P < 0.001$). On the other hand, sHLA-G and HLA-G expression were significantly higher in patients than control ($p < 0.001$). A highly significant negative correlation was found be-

tween NKT receptors and HLA-G ($p < 0.001$), but no significant correlation was observed between NKT cell receptors or HLA-G and either age, duration of illness, random blood sugar, dose of insulin or level of glycosylated hemoglobin. Conclusion: NKT cells frequency and activity are decreased in children with IDDM which may contribute to disease development. HLA-G level and expression are increased in diabetic children suggesting a role for this molecule in IDDM pathogenesis.

REMIFENTANIL INFUSION COMBINED WITH SEVOFLURANE ANESTHESIA FOR LAPAROSCOPIC CHOLECYSTECTOMY IN OBESE PATIENTS

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Abstract

This study was designed to evaluate the use of a continuous remifentanil infusion during balanced anesthesia with sevoflurane, associated to reverse Trendelenburg position (RTP) in obese (OP) and morbid obese patients (MOP) undergoing laparoscopic cholecystectomy. The study comprised 40 patients (13 males and 27 females) with body mass index (BMI) of ≥ 30 -45. After preoperative preparation, anesthesia was induced with a bolus, in 120 sec, of remifentanil $1\mu\text{g}/\text{kg}$, followed by propofol $1.5\text{mg}/\text{kg}$ and cisatracurium $0.15\text{mg}/\text{kg}$ and was maintained by balanced anesthesia with of $14\mu\text{g}/\text{kg}/\text{h}$ remifentanil intravenous infusion and 1.24% end-tidal sevoflurane in oxygen and air. Cholecystectomy was performed using the "four-puncture" technique. Intraoperative monitoring included recording heart rate (HR) and arterial pressures. During postoperative period, patients were maintained in semisetting position, pulmonary function tests (PFT) were performed 4 h and on days 1, 2 and 3 after operation. The degree of postoperative shoulder-tip pain (STP) was assessed by means of a visual analogue pain scale (VAS) and wound site pain by 4-points verbal analogue scale. The occurrence of postoperative complications, duration of hospital stay and rates of morbidity and mortality were also recorded. Induction of anesthesia resulted in significant ($P < 0.05$) decrease of arterial pressures and HR compared both to preoperative and pre-induction measures. However, CO₂ insufflation and patient tilting to RTP induced significant ($P < 0.05$) increase in arterial pressures and tachycardia compared to estimates taken prior to insufflation and after exsufflation. Recovery parameters were superior, while PFT were decreased

significantly after operation in comparison to preoperative measures but showed progressive improvement through the first 3 postoperative days. Two patients had asthmatic attack and one required admission to the ICU. Postoperative STP was reported in 11 patients with a mean intensity of 7.5 ± 2.1 and 9 patients reported wound pain that ranged between mild (7 patients) to moderate (2 patients). Postoperative wound infection was reported in 8 patients (20%), but no other complications were reported and all patients were discharged within one week. We can conclude that the anesthetic combination of remifentanil infusion and maintenance on sevoflurane improved the outcome of laparoscopic cholecystectomy as regards safety and ease of induction, recovery and postoperative adverse actions and is recommended for anesthesia of obese or even patients with morbid obesity.

SERUM LEVELS OF INTERLEUKIN-10 AND INTERLEUKIN-12 IN CHRONIC HEPATITIS C

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Abstract

Background and Objective: It is still unclear whether Th1/Th2 cytokines are involved in the pathogenesis of hepatocellular injury of hepatitis C infection. We therefore examined serum levels of IL-10 and IL-12 in chronic liver disease patients, whereas IL-12 represents Th1 cytokine and IL-10 represents Th2 cytokine.

Methods: Serum levels of IL-10 and IL-12 were measured in 54 patients, including 30 with chronic hepatitis (CH) and 24 with liver cirrhosis (LC) in comparison with 20 normal individuals, by an enzyme-linked immunosorbent assay.

Results: Serum level of IL-10 was significantly higher in chronic hepatitis and LC than in controls (89.6 ± 56.58 pg/ml and 173.38 ± 67.71 pg/ml Vs 36.35 ± 16.04 pg/ml, respectively, $P < 0.001$, each). It was significantly higher in LC than in CH ($P < 0.001$). Serum level of IL-12 was significantly higher in CH and LC than in controls (325.03 ± 132.75 pg/ml, 349.01 ± 204.32 pg/ml Vs 184.15 ± 122.16 , $P < 0.001$ and $P < 0.01$, respectively).

Conclusion: The results of the present study suggest that Th1/Th2 type cytokines are changed in association with progression of chronic liver disease type related to HCV infection.

COMPLICATIONS OF ENDOSCOPIC MANAGEMENT OF CHOANAL ATRESIA

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Abstract

A prospective study in Mansoura University Hospital, Egypt in the period between 2000-2004 in 19 patients presented with nasal obstruction either unilateral in 10 cases with average age 4-18 years and male to female is 7:2, and 9 neonates presented with bilateral choanal atresia where seven females and 2two males). Follow up period is 12-18 months. All patients of neonates stay one night at ICU. All patients operated under general anesthesia endoscopically, two cases required for revision surgery and stent for 12 weeks, two had adhesions that need splint, only one had collumellar injury and vestibular stenosis and one had posterior pharyngeal wall ulcer. We conclude that endoscopic treatment for choanal atresia is safe with minimal complications.

URINARY DIVERSION TO VALVED RECTOSIGMOID RESERVOIR

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Abstract

Objective: A new modification for ureterocolic is presented trying to minimize the incidence of acidosis but not on the expence of continence or temporary fecal diversion.

Patients & Methods: In 26 patients after radical cystoprostatectomy, rectosigmoid is opened vertically thrice (each opening is 4:5 cm. in length & away from each other by 2:3 cm. Distance), the proximal opening is used for construction of intussusception valve, the middle opening is used for submucous tunnel uretero-rectal anastomosis & closed transversely such as the distal opening. Rectal tube fenestrated in its middle & reaching above the level of the valve was fixed for 7 days.

Results: 21 patients were evaluable with observation period ranging between 6:48 months. Inspite that non-of our patients were on oral alkali, clinical acidosis was not detected in any of them.

All patients were continent day & night except two patients with nocturnal enuresis who responded to imipramine hydro-chloride.

Ascending proctography showed no reflux to ureters & colon above the stable valve in all patients. Proctometry showed that maximum reservoir capacity ranged from 350 : 670 c.c. with maximum pressure ranging between 15:26 cm/H₂O.

Conclusion: sigmoid valve could avoid clinical acidosis by limiting urine reabsorbtion to rectosigmoid. Transverse closure of two vertical rectal openings result in a low-pressure reservoir with adequate capacity.

The use of transvalvular stenting in a relatively simple technique would eliminate the necessity for temporary fecal diversion.

EFFECT OF LEPTIN ON RENAL FUNCTIONS IN RABBITS

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Abstract

The aim of this work is to evaluate the hemodynamic changes of leptin administration to rabbits. A total of 18 male New Zealand rabbits, weighing from 1 to 1.5 kg were included in this study. After induction of anesthesia, basal arterial blood pressure (ABP), sodium (Na⁺), potassium (K⁺) and creatinine concentrations in both blood and urine samples were evaluated. The animals were then randomly assigned to 3 groups of 6 each. Group I (control) received isotonic saline by intravenous infusion. Group II (study group) received intra-arterial injection of leptin (10 µg/kg) for one hour followed by a 10-fold higher dose of leptin. Group III (negative control) received intravenous bolus injection of propranolol (0.1 mg) for one hour followed by a similar dose for the next hour. Administration of leptin resulted in slight increase in mean arterial pressure (MAP) that reached significance after 90 min and persisted above the basal level for the recording period of 2 hours. There were no parallel changes, at either doses, in fraction reabsorption of Na⁺, K⁺, H₂O and glomerular filtration rate (GFR) as compared to both basal values and to control animals. It was concluded that the elevation in MAP induced by leptin was most probably not related to renal mechanism, as there were no significant changes in renal parameters studied. This suggests another mechanism for the rise in MAP, a suggestion which needs further studies.

INTERFERON α -2B WITH AND WITHOUT RIBAVIRIN FOR THE TREATMENT OF CHRONIC HEPATITIS C GENOTYPE IV

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Abstract

Interferon alfa is the only effective treatment for chronic hepatitis C. Forty percent of patients have an initial response to this therapy, but most subsequently relapse. The effect of interferon alone was compared with that of interferon plus oral ribavirin for the treatment of chronic hepatitis C genotype IV. A total of 47 patients with chronic hepatitis C doses were assigned to receive standard doses of recombinant interferon alfa - 2b and 45 patients were assigned to receive interferon alfa-2b with ribavirin (1000 to 1200 mg orally per day, depending on body weight) for six months. At the completion of treatment, HCV-RNA was undetected in 19 of the 45 patients who were treated with interferon and ribavirin and in 11 of the 47 patients who were treated with interferon alone (42.2% As compared with. 23.4%, $p < 0.075$). Serum HCV-RNA remained undetected 24 weeks after the end of treatment in 12 patients (26.65%) in the combination therapy group, but only 3 patients (6.3%) in the interferon group ($p < 0.010$). Sustained normalization of serum alanine aminotransferase (ALT) and histologic improvement were highly correlated with virologic response. Combined therapy caused a predictable fall in hemoglobin concentrations but otherwise had a safety profile similar to that of interferon alone. In conclusion, in patients with chronic hepatitis C genotype IV, therapy with interferon and oral ribavirin resulted in higher rates of sustained virologic, biochemical response than treatment with interferon alone.

RESPONSE TO RIBAVIRIN TREATMENT IN PATIENTS WITH CHRONIC HEPATITIS C

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Abstract

Ribavirin is a nucleoside analogue with a broad spectrum of antiviral action. 17 patients with chronic hepatitis C were treated with oral ribavirin at a dose of 15 mg/Kg per day for 6 months. Serum alanine aminotransferase (ALT) activities decreased significantly ($P < 0.005$) during ribavirin treatment (mean ALT before treatment was 117.01 ± 50.31 U/ml and 65.01 ± 31.09 U/ml by the end of treatment). ALT levels became normal in 5 cases (29.5%), significantly decreased in 8 cases (47%), but did not significantly change in the remaining 4 cases (23.5%). Serum ALT in all the responding patients returned to pretreatment levels 2 months after stopping the treatment. Before treatment, serum hepatitis C virus (HCV)-RNA was detected by polymerase chain reaction (PCR) in all 17 patients. At the end of treatment 5 of these 17 patients had become negative for HCV - RNA but they became positive again 3 months after discontinuation of treatment. The response to ribavirin was not correlated with HCV genotypes and liver histopathology in all patients and there was no significant difference between responders and non responders. Ribavirin treatment resulted in mild, reversible hemolysis and non of the patients exhibited symptomatic anemia. These findings suggest that ribavirin has a beneficial effect on patients with chronic hepatitis C, although further studies are needed to determine how ribavirin can be best used.

COMPARISON BETWEEN ULTRASONIC PACHYMETRY AND PACHYMETRY USING THE ORBSCAN II

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Abstract

Aim: To compare the central corneal thickness measurements using ultrasonic pachymetry and the orbscanII in normal Egyptian subjects.

Methods: 60 eyes of 30 normal subjects visiting the ophthalmology out patient clinic at Benha Faculty Of Medicine were enrolled in this study. All were informed about the study and its aim and those willing to share were enrolled. Every subject was examined by two examiners .The first examiner performed pachymetry using the obrscan II in the first room and kept the results away from the second examiner. The patient was then transferred to another room where he was examined by the second examiner who performed ultrasonic pachymetry using the Tomey ultrasonic pachymeter. At the end of the study both data collected by both examiners was collected and statistically analyzed using the student t test.

Results: The mean difference in central corneal thickness in normal individuals when measured by both methods was $1.22\mu\text{m} \pm 3.6$ (SD) with P value of more than 0.05 (statistically insignificant) when the orbscan II was used utilizing the default linear correction factor LCF. But when the orbscan II was used without the default LCF, the mean difference in central corneal thickness was $42.0\mu\text{m} \pm 28.8$ (SD) which was statistically significant ($P < 0.0001$).

Conclusion: The measurements of central corneal thickness using both the orbscan II and the ultrasonic pachymeter are more or less similar in normal subjects when using the default built in LCF in contrast to the preliminary reports that were released when comparing ultrasonic pachymetry to pachymetry using the orbscan I which did not utilize a linear correction factor in its software.

ACTUAL VERSUS EXPECTED LASIK FLAP THICKNESS USING THE MORIA M2 130 MICROKERATOME HEAD

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Abstract

AIM: To evaluate actual versus expected laser in situ keratomileusis (LASIK) flap thickness using the Moria M2.130 microkeratome head.

METHODS: 50 eyes of 25 patients scheduled for LASIK surgery for myopia where enrolled in this study. Patients were prepared for surgery. On the day of surgery they were admitted to the LASIK room where the lids were sterilized and draped. A suction lid speculum was applied to one eye after instilling one drop of Benox into the corneal conjunctival sac, the eye was then washed with balanced salt solution BSS and the suction of the lid speculum activated to assure there was no excess BSS in the conjunctival sac then a final preoperative ultrasonic central corneal pachymetry reading using the sterile probe of the Tomey AL-2000 pachymer was recorded. The suction ring of the Moria M2 microkeratome was centered on the cornea and immediately after the lasikflap was fashioned and the suction ring removed the flap was elevated then an intra operative central stromal bed pachymetry reading was recorded using the sterile Tomey AL-2000 pachymer probe. The actual flap thickness was calculated by subtracting the intra operative central stromal thickness from the preoperative central corneal thickness.

RESULTS: The mean actual flap thickness created by the Moria M2 130 head microkeratome for the first cut was 153.8 ± 77 (range $120 \mu\text{m}$ - $188 \mu\text{m}$) and for the second cut 148.4 ± 15.82 (range 118- 185). The mean difference in flap thickness between the first and second cut was $4.4 \mu\text{m}$

± 1.7 m with the tendency of the second flap to be slightly thinner than the first. This difference was found to be statistically insignificant ($P > 0.05$, paired t test). The mean difference between the actual and expected flap thickness was $9.9 \mu\text{m} \pm 1.7$ and this was found to be statistically significant ($P < 0.001$).

CONCLUSION: The difference between the actual and expected flap thickness using the Moria M2 microkeratome was statistically significant and care should be taken when making assumptions about flap thickness based upon the manufacturers labeling to calculate the residual bed thickness, having in mind that the flap may be thinner in some cases and thicker in others. The latter must be thought of well to avoid violating the rule of leaving at least $250 \mu\text{m}$ of stromal bed after laser ablation, which may lead to postoperative ectasia, keratoconus and even intraoperative stromal penetration. It is recommended to do an intraoperative pachymetry in all LASIK cases if possible.

STANDARDIZATION OF THE ARABIC LANGUAGE TEST ON THE SAUDI CHILDREN

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Abstract

There is a known agreement among professionals of speech language therapy in Saudi Arabia, upon the lack of an Arabic diagnostic tool to evaluate language of the Saudi children population.

The aim of this study is to standardize and adapt the already Egyptian standardized Arabic Language Test on the Saudi children, to be able to use the test to evaluate language development of Saudi children unbiased.

A pilot study was conducted on 20 normal Saudi children, and accordingly suitable adaptations were done to the test. Then the test was applied on 134 normal Saudi children in the age range from 2 - 8 years. Scores were used to test reliability and validity fo the test that proved to be high.

THE ARABIC LANGUAGE TEST REVISED

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Abstract

Standardized testing is the only valid and reliable way to establish proper child language evaluation. The Arabic Language Test (A.L.T.) was designed and standardized in 1994 to evaluate language of Arabic speaking children in the age range from 2 to 8 years. It is characterized by having powerful psychometric properties as well as being holistic, measuring all the domains of language. It has been widely used in Egypt ever since. This study is done to make a revision of the ALT for the sake of better and easier performance in measuring child language.

A questionnaire was prepared and distributed to the users of the test, in order to gather information about the possible difficulties they meet while applying the test. Then, suitable changes were done in the test where the items were re-distributed according to the ages. This resulted in better test format that is easily handled and not time consuming. The scoring system was changed accordingly and discussed.

The revised test was applied on 120 normal children distributed as 20 children for every age range.

Test reliability and validity was proved and discussed. The new ALT revised, is now a reliable and valid easy tool to be used to evaluate Arabic speaking children.

GROWTH IN CHILDREN WITH CHRONIC RENAL FAILURE AND TRANSPLANTATION

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Abstract

Growth retardation is major problem for many children with chronic renal failure (CRF) and transplantation. The aim of this study is to assess the relation between height, glomerular filtration rate (GFR), hormonal alterations in children with CRF on regular haemodialysis (HD) and the impact of normal graft function, after kidney transplantation.

Eighteen children with mean age of 10.56 ± 3.08 years suffered from CRF maintained on HD were included in the study beside 16 children (mean age 11.06 ± 3.19 yr) enjoyed normal graft function after transplantation. Mean duration on HD was 14.72 ± 7.73 months for CRF group while, mean interval after transplantation was 1.97 ± 0.9 years for the second group. Moreover, ten healthy children of matched age and sex were served as controls. Assessment of growth parameters including height, expressed as standard deviation scores (HtSDS) for chronological age, measurement of serum growth hormone (hGH) and serum parathormone (PTH) by radioimmunoassay. Growth performance was evaluated twice: at the start of the study and one year later.

Both categories with CRF and transplantation had significantly higher levels of both serum hGH and PTH compared to their controls ($P < 0.001$), while CRF children had significantly higher serum levels of both hGH and PTH compared to those with normal graft function ($P < 0.008$ and $P < 0.001$ respectively). Furthermore, analysis of our results by non parametric Kendall's correlation at the start and one year later revealed negative correlation concerning dialysis duration, serum creatinine and PTH. On the other hand, positive correlation was achieved for serum calcium and GFR.

Conclusion: Growth retardation in children with CRF despite the normal or elevated hGH level may be explained by the presence of peripheral insensitivity to the action of hGH.

TUNICA ALBUGINEA FREE GRAFT FOR CORPOROPLASTY IN THE BABOON : HEMODYNAMIC AND HISTOPATHOLOGICAL RESULTS AT 6 MONTHS FOLLOW UP

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Abstract

Introduction and Objective: Correction of the penile deformity caused by Peyronie's disease by a variety of grafts varies in success. Long term follow up shows a significant number of graft scaring with shortening, ED and recurrence of curvature. Autologous tunica albuginea probably provides the best grafting material with theoretically better integration and less reaction with the underlying cavernous tissue. We set out to study the effect of this graft on the hemodynamics of erection and histopathological outcome. Methods: Under GA, 6 male sexually active Baboons weighing 15.1 ± 1.3 kg, underwent cavernous pressure (CP) measurement, before and after intracavernous injection of 15 mg papaverine HCl. Cavernosometry (CM) and cavernosography were then carried out. Through a perineal incision we harvested a 3.5 by 1 cm tunica albuginea from the right penile crus. These dimensions constitute the penile length and circumference of the penis. Implantation of the graft was carried out in the left lateral side of the penile shaft. After 6 months, the animals were evaluated for the hemodynamics of erection and histopathology of the graft site.

Results: All animals resumed sexual activity in the second postoperative months. At 6 months, surgery did not produce significant changes to the hemodynamics of erection. Cavernous pressure response to papaverine did not differ significantly before grafting (49.7 ± 8.9 mmHg) and 6 months after surgery (57.7 ± 17.7 mmHg, $p = 0.43$). Cavernosometry pressure did not show significant changes before (115.5 ± 119.7 mmHg) and 6 months after surgery (38.9 ± 15.9 mmHg, $p=0.4$). Cavernosography however showed that 4 animals developed venous leakage, which was identi-

fied at the graft site in one. Three animals developed a mild curvature at the site of the graft. Naked eye examination could determine the graft site only by the four corner nylon sutures. Microscopic examination showed integration of the graft with no underlying fibrosis.

Conclusions: A relatively large free tunica graft is associated with venous leakage at 6 months. Although statistically insignificant differences are found hemodynamically and no interference developed with sexual activity, follow up for 1 y and the use of smaller graft might produce better results.

**PROGNOSTIC VALUE OF MATRIX
METALLOPROTEINASE-2 (MMP-2) AND p53
EXPRESSION IN COLORECTAL CARCINOMA
PATIENTS WITH LYMPH NODE METASTASIS**

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Abstract

P53 gene mutation occurs in about 50-60% of colorectal carcinoma (CRC) patients. The key enzymes responsible for extracellular matrix breakdown are matrix metalloproteinases (MMPs). These have been reported to play an important role in tumor cell invasion and metastasis, which are major factors in the morbidity and mortality of CRC. The study included 46 patients with CRC who were diagnosed and treated in Mansoura University Hospital during the period between January 1999 to January 2001. They were treated with left or right hemicolectomy, anterior resection or total mesorectal excision. These included 24 males and 22 females with age ranged from 22-70 year with median age of 46 years (± 14). Immunohistochemical staining of both tumor and positive lymph nodes was performed on paraffin sections for p53 and MMP2. Twenty one patients were stage C with lymph node metastasis. P53 diffuse positive staining of the tumor cell nuclei was identified in 16 out of 46 (35%) tumor cases and 10 out of 21 (48%) of metastatic tumors. Cytoplasmic MMP-2 expression was positive in 20 out of 46 (43%) tumors, where its expression in the stroma was positive in 17 (37%). In lymph node metastasis, cytoplasmic MMP-2 was positive in 11 out of 21 (52%) of tumors. There was a statistical correlation between p53 and MMP-2 expression in lymph node metastatic tumors ($p < 0.05$). MMP-2 was seen more in tumor cells invading the muscularis with little staining in more superficial areas. Poor survival was associated with MMP2, p53 expression in patients with

lymph node metastasis. Lymph node metastatic tumors have higher incidence of p53 and MMP2 staining. These data suggest a role for MMP-2 in colorectal cancer with lymph node metastasis. These results confirm the prognostic value of MMP-2 and p53 on survival of CRC.

Key words: Colorectal carcinoma - MMP-2 - p53 - prognosis.

EVALUATION OF SOME NEW DIAGNOSTIC MODALITIES FOR DEEP VENOUS THROMBOSIS

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Abstract

The aim of this work is to evaluate some new diagnostic modalities; D-dimer test, Duplex imaging and MR venography; for Deep Venous Thrombosis (DVT).

Thirty patients were included in this study with clinically suspected DVT. Full history taking and thorough clinical examination together with routine laboratory investigation, resting ECG, Trans-thoracic Echo-Doppler, Murex D-dimer test and Duplex imaging were done for all patients. MR venography was done only for the 16 cases with the clinical pretest intermediate probability for DVT.

The results of the present study showed that 20 cases showed positive Duplex, 7 with popliteal, 7 femoral and 6 cases with femoral and popliteal DVT.

19 cases showed positive D-dimer test Vs 11 with negative test.

The 16 cases subjected to MR venography showed results coincide with same findings as Duplex apart from 3 cases in which soleal and ilial DVT not detected by Duplex study.

Conclusion: From the results it was found that:

Duplex ultrasonography is now considered the diagnostic modality of choice in evaluation of the venous system of lower limbs. Because of its safety, accuracy, high specificity and sensitivity and its availability, all these make it a modality of choice.

D-dimer test, is specific degradation product of fibrin, in our study and other studies have shown its high sensitivity moderate specificity and

high negative predictive value for suspected deep vein thrombosis. Its value varies from one study to another according to the type of D-dimer assay used in the study. When D-dimer test combined with clinical pretest probability its negative predictive value is markedly increased up to 100%.

MR venography and Duplex sonography have been found to be identical for evaluation of DVT in venous system as regard of popliteal and femoral veins, but it is superior to Duplex study in evaluating venous system of the pelvis and iliac veins. Its availability, lack of operator experience and its cost limit its application.

Recommendation:

Duplex ultrasound is the diagnostic modality of choice for DVT of lower limbs and MR venography is preferable only in selected cases.

D-dimer test when combined with clinical probability is a good negative test which can reduced the need for Duplex imaging.

EXTRAPLEURAL VERSUS EPIDURAL CATHETER TECHNIQUES EMPLOYING ROPIVACAINE ANALGESIA FOR POST-THORACOTOMY PAIN RELIEF

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Abstract

Objective: To assess the effectiveness of the long acting local anesthetic (0.25% ropivacaine) intermittently administered through an extrapleural paravertebral catheter versus a thoracic epidural catheter on postthoracotomy pain relief.

Patients and Methods: Forty patients undergoing elective posterolateral thoracotomy during the period between July 2001 and August 2002 were prospectively studied. They were randomly allocated into two groups (A and B) of 20 patients each. Group A patients received an epidural-type catheter inserted by the surgeon into an extrapleural pocket extending for 2 to 3 intercostal spaces both above and below the thoracotomy incision alongside the vertebral column by the conclusion of operation. A bolus dose of 15 ml of 0.25% ropivacaine analgesia was given during chest closure. Group B patients received a thoracic epidural catheter inserted by the anesthesiologist at T5-6 or T6-7 interspace before induction of anesthesia. A bolus dose of 15 ml of 0.25% ropivacaine analgesia was given after confirming the correct position of the epidural catheter. Postoperatively, patients in both groups were intermittently administered 25 ml of 0.25% ropivacaine analgesia at 6 hourly intervals for 3 successive days. Pain scores (verbal rating scale), requirement of additional analgesia (NSAID), pulmonary function test, shoulder range of motion as well as any complication encountered were assessed and compared in both groups.

Results: Excluding the immediate postoperative arousal period, the extrapleural analgesia provided better pain control than the thoracic epidural analgesia in the form of less mean values of the verbal rating scale (VRS). Also, the extrapleural analgesia provided more rapid improvement of pulmonary functions, progressive increase of the shoulder range of motion (SROM) as well as less analgesic requirements in comparison to the thoracic epidural analgesia. However these differences were statistically non-significant ($P>0.05$). Side effects namely, hypotension, bradycardia and atelectasis were troublesome only in the thoracic epidural analgesia group. There was no mortality in either group.

Conclusion: Extrapleural paravertebral catheter technique is a valuable alternative to the thoracic epidural technique for post-thoracotomy pain relief. It is easy to perform by the surgeon at the conclusion of operation without complications or side effects. It should be considered as the first choice alternative for post-thoracotomy pain control.

EGYPTIAN CORONARY ARTERIES : ARE THEY SMALL?

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Abstract

Coronary size is one of the factors influencing the outcome of coronary interventions. This study was planned to screen main coronary arteries size in Egyptians in order to prove or disprove that Egyptians have small coronary arteries and to compare them to other races. 524 patients referred for coronary angiography were included in this study with no proximal local atheroma, spasm, complete obstruction, stenosis nor multiple stenoses in the same vessel. Patients were divided into 3 age groups and were subjected to QCA for determination of the diameters of different segments of each coronary artery. The reference vessel diameter and cross sectional area were calculated for each artery. In our study, the influence of age, sex, hypertension (HTN), diabetes mellitus (DM), dyslipidemia and body surface area on coronary artery size were variable. The left main diameter was influenced by HTN, DM, and smoking; the left anterior descending diameter by age, HTN, and sex; the left circumflex diameter by age and RCA diameter by age and DM. Comparing our results to other races in different studies, we found the same range of Egyptian coronary artery size as other Caucasians, larger than Indo-Asians and comparable to the Americans. So, we concluded that Egyptians have large coronary arteries not small ones as we had expected.

**PLASMA PROCALCITONIN
CONCENTRATIONS IN UREMIC
CHILDREN UNDERGOING HAEMODIALYSIS,
A NEW PARAMETER FOR DIAGNOSIS
OF BACTERIAL INFECTION**

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Abstract

Background: Bacterial infections are Life-threatening complications in uremic children. Early diagnosis is mandatory but very difficult, because currently applied laboratory parameters may be affected by the underlying disease, the uremia, or the haemodialysis (HD).

Objectives: Evaluation of the diagnostic value of serum procalcitonin (PCT) as an indicator of systemic bacterial infection in HD children.

Study Design: This cross-sectional short-term study was conducted on 33 children aged from 7-15 (mean = 9.1 ± 1.8 years). 23 were males and 10 were females, they undergo intermittent HD. Also 30 apparently healthy controls of same age group were recruited into the study. Cases are classified into 2 groups. **Group I:** (infection +ve): include 15 patients with evidence of systemic bacterial infection. **Group II:** (infection -ve): include 18 patients without evidence of systemic bacterial infection. For all cases blood samples before HD for determining CRP, CBC, IL-6, PCT, albumin and renal function testes.

Results: PCT and CRP in group-I are significantly higher than group II while IL-6 and WBCs were elevated in both groups. PCT demonstrated higher sensitivity, specificity, positive and negative prediction values than CRP, IL-6 and WBCs. Further more, PCT serum levels were positively correlated with CRP, IL-6 and WBCs values, where it was negatively correlated with albumin and haemoglobin values.

Conclusion: Procalcitonin (PCT) seems to be a novel diagnostic indi-

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cator of systemic bacterial infection in haemodialysis children. Additional investigations are needed to understand its synthesis and prognostic value.

FIBRINOLYTIC ACTIVITY IN PATIENTS ON HAEMODIALYSIS : CONTRIBUTION OF ARTERIOVENOUS FISTULA

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Abstract

Objective: Haemostatic defect is more common and consistent in occurrence during the progression of renal failure to end - stage renal disease (ESRD). Although coagulopathy is complex in pathogenesis, a defect in fibrinolytic process plays a critical role in its development.

Aim of the work: was to evaluate the fibrinolytic state in end stage renal disease (ESRD) patients before and after Haemodialysis (HD) using tissue plasminogen activator (t-PA) and plasminogen activator inhibitor-1 (PAI-1) as a fibrinolytic activity markers and to evaluate the possible contribution of AVF on fibrinolytic system.

Subjects and Methods: This study was carried out on 14 end stage renal disease patients (8 males and 6 females) with age ranging from 30-65 years (47.14 ± 12.38 years), selected from haemodialysis unit of nephrology, Benha Teaching Hospital. Ten healthy normal volunteers of matched age and sex were chosen as a control group. TPA and PAI-1 were measured before and after HD from contralateral veins and from venous return of arteriovenous fistula (AVF) and from peripheral veins of the control group by ELISA.

Results: The results revealed that there were significant increase in t-PA with significant decrease in PAI-1 in contralateral veins and AVF before HD in ESRD patients when compared to controls. There were significant increase in t-PA with insignificant decrease in PAI-1 in contralateral veins and AVF after HD when compared to before HD. On the other hand, there were decrease in t-PA (insignificant before HD but significant after HD) with insignificant increase in PAI-1 (before and after HD) in AVF

when compared to contralateral veins.

In conclusion: Fibrinolysis is enhanced in ESRD patients and is further aggravated after HD. Impairment of fibrinolytic activity in AVF might lead to fistula thrombotic tendency during haemodialysis.

COMPARISON OF TRANSCUTANEOUS BILIRUBINOMETRY AND LABORATORY SERUM BILIRUBIN IN DETECTING NEONATAL HYPERBILIRUBINEMIA

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Abstract

Hyperbilirubinemia is a common problem in the newborn infant. It can progress to develop kernicterus unless intervention is initiated. Severity and decision for management are usually based on serum bilirubin (TsB) which needs blood sampling. Transcutaneous bilirubin measurement is a noninvasive technique and the result correlates closely with TsB. A new transcutaneous bilirubinometer, Minolta AirShields Jaundice Meter, JM103, has been introduced. The objectives of this study were: 1) To evaluate the accuracy of transcutaneous bilirubin (TcB) measured by JM 103, when compared to TsB, used clinically in a hospital setting. 2) To develop a cut-off point of TcB level which indicated the need for serum bilirubin assessment. Three hundred and fifty two term and near-term newborn infants with 460 paired TcB -TsB specimens were studied in neonatal care unit, Shebeen El Koom Teaching Hospital from August to November 2003. Birth weight was 3117.57 ± 424.82 grams. TsB ranged from 6.3 to 24mg/dl (x 13.736, SD 3.6087). The correlation coefficient between TcB and TsB was significant (r 0.8285, $p < 0.0001$). TcB showed a tendency to underestimate TsB, with mean difference of 1.7 mg/dL, SD 1.9 mg/dL, and 95% confidence interval 0.79 and 0.85 mg/dL. TcB values of 9, 11, 12 & 15 mg/dL (at 24, 24-48, 48-72 and more than 72 hours respectively) were chosen as cut-off points that indicated the need for blood sampling for TsB (corresponded to hour-specific levels of 11, 13, 15 & 17 mg/dL, respectively when phototherapy should be initiated). In con-

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clusion, non-invasive TcB assessment demonstrates significant accuracy, compared to TsB. It can be used as a screening test to identify the need for blood sampling for serum bilirubin level.

INSULIN RESISTANCE IN CHILDREN OF YOUNG ISCHEMIC PARENTS

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Abstract

Objective: Insulin resistance/hyperinsulinism related to coronary artery disease (CAD) morbidity and mortality is well documented. However, information is lacking on the time-course relation of insulin resistance from childhood to young adulthood in offspring of parents with CAD. The goal of our study is to uncover the insulin resistance in children of parents complaining of early ischemic heart disease (Father less than 45 years and mothers less than 55 years).

Methods: To assess insulin resistance; serum levels of insulin, glucose, and lipid profile were assayed in 60 children between the ages of 5- 18 years of young parents with CAD. The test group was compared with 60 controls matched in age and sex.

Results: Serum total and LDL-Cholesterol, blood sugar and blood pressure (systolic and diastolic) were significantly higher in the test group as compared to the controls. Whereas no significant differences were observed for weight and body mass index (BMI) between the two groups. HDL-C was significantly lower in test group when compared with the controls. Serum fasting insulin level was significantly higher in children with young ischemic parents (P= 0.005).

Conclusion: These results indicate that the offspring of young ischemic parents are at high risk for CAD which begins in childhood evidenced by hyperinsulinism. These observations have important implications for early prevention of CAD.

Key words: children, coronary artery disease, insulin, lipid profile, hyperinsulinism.

HEALTH DISORDERS AMONG WORKERS IN POULTRY BREEDING FARMS

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Abstract

Background and objectives: Breeding poultry indoors is increasingly common. People who work in these settings may suffer some health disorders. This study aimed at assessing respiratory and skin disorders resulting from occupational exposure among workers in the poultry breeding farms and some associated environmental and work characteristics.

Subjects and methods: The study was conducted in three randomly selected chicken breeding farms (Menoufiya Governorate). All exposed workers (n=50) and a similar number of matched controls were subjected to structured questionnaire, full clinical examination, spirometric measurements and skin prick testing. Environmental studies of the workplace were also done. **Results:** levels of dust, formaldehyde and ammonia inside the studied farms were within the standards of the Egyptian Environmental Law. Exposed workers reported significantly higher prevalence of cough (70% vs.34%), wheezes (42% vs.10%), and repeated attacks of fever (12% vs.0.0%) as compared with controls. Mean values of the percentages of VC, FVC, FEV₁, FEV₁/FVC, FEF₂₅ and FEF₅₀ of the predicated values were significantly lower among exposed workers than controls. Baseline spirometric function results were significantly associated with ventilation conditions of the poultry houses and type of work, being lower in workers of poorly ventilated farm and among breeders. Also, 68% of exposed workers had positive skin prick test results to feed, mites, house dust dropping or feather antigens found in the workplace compared to none of the controls, p<0.001. Workers with positive skin test also showed significantly lower values of FEV₁, FEV₁ / FVC and FEF₅₀ than exposed workers with negative skin prick test for any of the studied antigens. **Conclusion & recommendations:** workers in chicken

breeding farms are at risk of developing skin allergy, respiratory symptoms and ventilatory dysfunction of both obstructive and restrictive patterns that were influenced by farm ventilation and type of work, which should be stressed upon on preemployment and periodic medical examinations.

REPAIR OF TETRALOGY OF FALLOT IN INFANCY AND EARLY CHILDHOOD, DECISION-MAKING AND OUTCOME

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Abstract

Objective: To evaluate the outcome of repair of tetralogy of Fallot (TOF) in infants and young children with regard to the surgical techniques employed.

Patients and Methods: Seventy six patients of median age of 12 (0.3-24) months who underwent repair of TOF at the university hospital Zurich, Switzerland between December 1992 and November 2002 were retrospectively studied. Nine (11.8 %) patients underwent initial surgical palliation whereas sixty seven (88.2%) underwent primary total correction. The transatrial transpulmonary approach was employed in all patients, however an additional ventriculotomy was required in 44 patients. The ventricular septal defect (VSD) was closed transatrially in 60 (79%) patients and transventricularly in 16 (21%) patients. Regarding the technique used for relief of the right ventricular outflow tract (RVOT) obstruction, thirty two patients (42.1%) underwent simple repair, thirty four (44.7) received a transannular patch (TAP), eight (10.5%) received a bovine jugular vein (contegra) graft and 2 (2.6%) patients received homograft valved conduits.

Results: There was no operative mortality. The size of the pulmonary annulus diameter was found to correlate with the surgical technique employed for relief of the RVOT obstruction. The Z values of the pulmonary annulus diameters were -0.7 (-2.7 to +2.1), -3.1 (-4.3 to -2.8) and -4.5 (-6.3 to -3) for simple total correction, trans-annular patch placement and bovine jugular vein graft implantation respectively. The differences be-

tween these sets of diameters were statistically significant ($P < 0.05$). Seventeen patients required 26 reintervention / reoperation techniques at a median of 23 (4-84) months. Two patients died late postoperative and other three patients were lost to follow up. Seventy one patients were followed up for a median of 30 (10-114) months. The thirty patients who underwent simple repair developed pulmonary stenosis (PS), pulmonary incompetence (PI) and tricuspid incompetence (TI) in 17 (56.7%), 5 (16.6%) and 3 (10%) patients respectively. The 32 patients who had TAP placement developed PI and TI in 21 (65.6%) and 5 (15.6%) patients respectively. The 7 patients with contegra graft placement developed PS in 4 (57.1%) patients and mild PI in one (14.2%) patient. The 2 patients with implantation of homograft valved conduit developed no late complications.

Conclusion: Repair of TOF has favorable outcome in infants and young children of up to two years of age. The transatrial-transpulmonary approach facilitates transatrial VSD closure, relief of obstructing muscle bands as well as perfect pulmonary commissurotomy. The technique used for relief of the RVOT obstruction correlates with the morphological type of obstruction, rather than the age of the patient at operation.

DOES INTRALUMINAL PAPVERINE INJECTION IMPROVE INTERNAL MAMMARY ARTERY FREE FLOW DURING CORONARY ARTERY BYPASS GRAFTING ?

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Abstract

Background: The internal mammary artery (IMA) spasm and reduced early flow is well recognized during coronary artery bypass grafting (CABG). Many surgeons use papaverine to either prevent or treat IMA spasm, but the best delivery method has not been established. The purpose of this study is to evaluate the effect of intraluminal papaverine injection on IMA free flow.

Patients and methods: Sixty patients who had the left IMA (LIMA) harvested in preparation for CABG were prospectively studied between June 2001 and May 2002. After its mobilization as a pedicle, the LIMA was divided distally, its flow was recorded for 30 seconds and its free flow per minute (flow 1) was calculated. Patients were randomized into three equal sized groups, of 20 patients each, to compare the effect of papaverine on LIMA free flow measurements. In group A (control group) no papaverine treatment was applied. In group B papaverine (1mg/ml of normal saline solution) was applied topically. In group C ten millilitres of heparinized blood containing papaverine (1mg/ml) was injected intraluminally through an olive-tip metal cannula, then papaverine was applied topically as in group B. Before anastomosing LIMA-LAD, the LIMA flow was recorded for 30 seconds and its free flow per minute (flow 2) was calculated. The mean arterial blood pressure during LIMA free flow collections was recorded. The time between measurements was also recorded.

Results: The LIMA free flow measured immediately prior to LIMA-LAD anastomosis (flow 2) was higher compared to the post division free flow (flow 1) in all groups. Group A showed a small increase from first flow to

second flow measurements (40.2 ± 9.2 versus 56.4 ± 11.3 ml/min, $p > 0.05$). Group B and C showed a significant increase from first flow to second flow measurements (group B, 38.4 ± 7.2 versus 84.9 ± 14.7 ml/min, $p = 0.003$ and group C, 42.8 ± 6.3 versus 126.9 ± 19.7 ml/min, $p = 0.0001$). Also, the increase in the mean flow measurements induced by intraluminal plus topical papaverine application, group C (84.1 ml/min) was significantly greater than that induced by the sole topical papaverine application, group B (46.5 ml/min) ($p = 0.012$).

Conclusion: Topical application of papaverine to the harvested left internal mammary artery, during CABG operations, improves its blood flow at the time of anastomosis to the left anterior descending artery. Additional intraluminal papaverine injection, through an olive-tip metal cannula, significantly improves LIMA free flow without risk of intimal injury.

THORACIC VERSUS LUMBAR EPIDURAL FENTANYL INFUSION FOR POST-THORACOTOMY ANALGESIA

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Abstract

Thirty patients scheduled for elective thoracotomy with no contraindication to epidural anesthesia were randomly assigned to receive either thoracic or lumbar epidural fentanyl infusion for postoperative analgesia. Analgesia, dose adjustment, cardiovascular, respiratory and side effects were assessed at set times over a period of 24 hours. In the immediate postoperative period, pain was assessed by VAS (visual analogue scale) and VRS (verbal rating score) and an epidural fentanyl bolus of 1.5 µg/kg was given followed by infusion of 0.4 µg/kg/hr. Pain was assessed after 30 minutes and if pain relief was still inadequate, another fentanyl bolus of 1 µg/kg was given followed by an increase in infusion rate to 0.6 µg/kg/hr. If two consecutive pain scores were satisfactory (VAS < 4, VRS < 1) maintenance dose of fentanyl was decreased by 0.2 µg/kg/hr. Comparable satisfactory pain scores were obtained in the two groups. Thoracic group received significantly less total dose of fentanyl (446.7 ± 101.7 µg) compared with the lumbar group (705.33 ± 181.33 µg). The mean infusion rate was also significantly lower in the thoracic compared to the lumbar group (0.44 ± 0.08 µg/kg/hr vs 0.61 ± 0.11 µg/kg/hr, p < 0.05). Hemodynamics (HR, MAP), respiratory parameters (RR, Pao₂, Paco₂, pH, and FVC) and sedation were comparable in the two groups. None of the patients developed significant hypoxia, hypotension, slow respiratory rates or marked sedation. Fentanyl was well tolerated in the two groups with few side effects. The data suggests that the unfamiliar and more dangerous thoracic epidural fentanyl infusion is effective than lumbar route only in terms of dose requirements. Lumbar route for fentanyl infusion can be safely and effectively used for post-thoracotomy analgesia.

OUTCOME OF ENDOSCOPIC SINUS SURGERY FOR NASAL POLYPOSIS

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Abstract

Nasal polyposis is the most common mass lesions in the nose. It has been shown that it reduces quality of life. it has characteristically frequent recurrences.

The objective of this study is to evaluate the outcome of nasal polyposis with medium term follow up (mean of 42 months)

This study included 216 adult patients with nasal polyps treated with endoscopic sinus surgery in the period from June 1997 to June 2003. All operations were done at Otorhinolaryngology Department, Mansoura University Hospital. Patients were grouped into polyposis, polyposis with asthmas, and polyposis with aspirin intolerance. Outcome measures include symptomatic improvement, residual and recurrent diseases, CT score, endoscopic score and complications.

Patients symptom score and CT scores improved significantly after surgery. Recurrence rate was 19.9% (16%, 34%, and 38%) for the three groups, respectively). Better control of asthma with less dependency on medication was not achieved in patients with asthma as well as patients with aspirin intolerance

In conclusion, endoscopic sinus surgery is effective in treating patients with nasal polyposis. Patients with asthma and aspirin intolerance have worse outcome than patients with polyps with no asthma.

Keywords: Nasal polyposis, outcome.

STAPES SURGERY: PREINSERTION TECHNIQUE

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Abstract

Two hundred ears with otosclerosis have been operated upon using stapedotomy technique with insertion of the prosthesis before removal of the suprastructure (preinsertion technique) in 100 ears and the usual stapedotomy technique as described by Schuknecht in 100 ears. The postoperative air-bone gap, calculated as the difference between the postoperative air and bone conduction levels, was smaller in the stapedotomy technique for all frequencies except at 2000 Hz, the differences were statistically insignificant except at 4000 Hz. The mean postoperative air-bone gap was 8.7 dB and 7.5 dB for the 1st and 2nd group, respectively, which is statistically insignificant. We found no postoperative loss of bone conduction exceeding 15 dB in this series of patients. There was a deterioration of more than 10 dB in four ears, one in the first group and three in the second group.

According to our results we conclude that the small fenestra technique provides good results with minimal complications in treatment of otosclerosis. The preinsertion technique provides more advantages, being more easy and minimize trauma to the inner ear.

Keywords: Stapedotomy, preinsertion technique

THREE ENDOSCOPIC MODALITIES IN THE EMERGENCY TREATMENT OF BLEEDING GASTRIC VARICES

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Abstract

Bleeding gastric varices (GV) in portal hypertensive patients is usually massive with high mortality rate. The role of endoscopy in its management is still controversial and to date there is no consensus on the ideal endoscopic treatment modality. The aim of this prospective nonrandomized trial is to evaluate 3 endoscopic modalities {injection of ethanolamine oleate (EO), band ligation (BL) and cyanoacrylate (CA) injection} in the management of bleeding GV. Eighty six patients with first and recent bleeding GV underwent 3 endoscopic treatment modalities: 1- endoscopic sclerotherapy(EO)injection for gastroesophageal varices-1(GOV1): comprised 25 patients, 20 males and 5 females with age ranged between 27 and 67 years, 2- endoscopic band ligation (BL) for gastroesophageal varices -2(GOV2), comprised 22 patients, 17 males and 5 females, with age ranged between 26 and 65 years, and 3- endoscopic obturation therapy of isolated gastric varices (IGV)using cyanoacrylate (CA)(Histoacryl) , comprised 39 patients, 33 males and 6 females, with age ranged between 29 and 68 years. Patients were followed -up for 1week and monitored for control of acute attack, rebleeding, complications and mortality. The 3 groups of patients were comparable at trial entry in age , sex , etiology of portal hypertension , severity of the underlying hepatic disease , and initial endoscopic data.The rate of initial hemostasis was 84.6% , 91.7% , 95.4% in EO group, BL group and CA group patients respectively (NS). The rebleeding rate was 11.6% in all patients, of them, 20% of EO group, 13.6% of BL group and 5.1% of CA group (NS). The overall incidence of complication did not differ significantly among the 3 groups.

Hospital mortality was recorded in 10 patients (11.6%), of them, 12% of EO group, 13.6% of BL group and 10.2% of CA group (NS). Six deaths were related to variceal bleeding. In conclusion: our data suggest that EO injection, BL and CA injection are efficacious endoscopic modalities for management of bleeding GOV1, GOV2 and IGV respectively.

Key words: gastric varices (GV), injection of ethanolamine oleate (EO), band ligation (BL) and cyanoacrylate (CA) injection.

**PRONUCLEAR SCORING SYSTEM OF ZYGOTES
IS A SPECIFIC PREDICTOR OF EMBRYO
MORPHOLOGICAL GRADE ON DAY
3 AFTER IVF / ICSI**

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Abstract

This study was designed to evaluate the applicability of the pronuclear scoring system (Z-score) alone, or in combination with maternal variables to predict embryo grade determined on day 3 from a large number of embryos derived from patients undergoing treatment with IVF and/or ICSI. The study included 92 couples assigned to undergo IVF or ICSI for primary (66.3%) or secondary (33.7%) infertility due to male factor in 30.4%, female factor in 55.5% or unexplained infertility in 14.1%. A total of 500 zygotes of a total of 611 oocytes were evaluated for Z-scoring at 16-18 hours after fertilization and followed for embryo grading on day 3 for evaluation of statistical relation between both and to determine the specificity and sensitivity of Z-score and certain maternal variables in such relation. There were 265, 172, 43 and 20 zygotes of Z-1, Z-2, Z-3 and Z-4 scores. Using regression analysis, Z-scoring showed highly significant ($P=0.000$) difference in comparison to other variables in prediction of the embryo grade on day 3 and showed high specificity as determined using the receiver operating characteristic (ROC) curve analysis. It could be concluded that the pronuclear scoring system of zygotes is a specific predictor of the embryo grade on day 3 after IVF and/or ICSI and significantly aid for selection of top quality embryo.

HEART RATE VARIABILITY IN PATIENTS WITH UNSTABLE ANGINA

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Abstract

Objective : The aim of this work is to study HRV parameters in patients with unstable angina.

Materials and Methods : The study comprised 50 patients with unstable angina; 35 males and 15 females with mean age 45 ± 94 yrs. beside ten healthy control subjects. All patients and control subjects were subjected to thorough history taking, full clinical examination, electrocardiography, routine laboratory investigations, assessment of heart rate variability (HRV) using time domain (NN 50 and RMSSD) for non spectral analysis and frequency domain (LF, HF and LF / HF ratio) for spectral analysis, echocardiographic examination and coronary angiography.

Results : There was significant global reduction in HRV parameters in patients with unstable angina compared to control group as mean NN 50 was 3.2 ms in patients compared to 20.1 ms in control group ($P < 0.01$), mean RMSSD was 10.1 ms in patients vs 42.1 ms in control group ($P < 0.01$), HF was 50 ms² in patients vs 350 ms² in control group and LF was 32.5 ms² in patients compared to 246 ms² in control group. However, there was no significant difference between the patients and controls as regards LF/HF ratio ($P > 0.05$). Mean LF/HF ratio was significantly higher- among patients who experienced recurrent chest pain during hospitalization as the mean LF/HF ratio among five patients who developed recurrent chest pain was 1.9 vs 1.5 in other patients ($P < 0.05$). There was significant correlation between HRV and both EF ($r = 0.8, P < 0.05$) and severity of coronary artery disease ($r = 0.7, P < 0.05$). There was no significant correlation between HRV and age ($r = 0.2, P > 0.05$, end systolic diameter ($r = 0.3, P > 0.05$) and end diastolic diameter ($r = 0.02, P > 0.05$) of the left ventricle.

Conclusion : All parameters of HRV except LF/H.F ratio were significantly lower among patients with. unstable angina compared to control group. HF/HF ratio in particular was significantly lower among patients who experienced recurrent chest pain during hospitalization. Finally there was positive correlation between HRV parameters.and both EF and severity of coronary heart disease.

Comment: HRV can be a useful parameter Jbr risk stratification of patients with unstable angina.

CORNEAL TOPOGRAPHIC AND PACHYMETRIC CHANGES FOLLOWING TRABECULECTOMY

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Abstract

Purpose: To evaluate the corneal topographic and pachymetric changes before and after subscleral trabeculectomy.

Methods: Twenty eyes of twenty patients were subjected in this study that were scheduled to undergo standard subscleral trabeculectomy operation.

Results: As regard astigmatic changes measured with Orbscan Corneal Topography system (OCTS); one patient developed no astigmatic change. Three patients developed decrease in astigmatism. The other 16 patients developed increase in astigmatism

The central corneal thickness increased by the first week postoperatively then decreased in the first month and continued to decrease in the second month postoperatively.

There was a positive correlation between the central corneal thickness and the intraocular pressure (IOP).

Conclusion: Trabeculectomy operation has a benign effect on the refractive condition of the patient, as it is a mild and transient effect. The pachymetric changes showed rise in the first week postoperatively due to the events of surgery followed by a decrease more than the preoperative level due to significant reduction in IOP.

HEPATOPULMONARY SYNDROME IN CHILDREN WITH CIRRHOSIS : ECHOCARDIOGRAPHIC FINDINGS

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Abstract

Aim and Background: Hepatopulmonary syndrome (HPS) is defined as triad of chronic liver disease, arterial hypoxaemia, and intrapulmonary vascular dilatation. Presence of HPS in pediatric age group is an indication for liver transplantation. We investigated the presence of HPS in 25 children (13 boys and 12 girls), age ranged from 2-15 years, with cirrhosis (8 Child-Pugh class A, 10 class B, and 7 class C).

Methods: They underwent detailed clinical evaluation, x-ray chest, ECG, and contrast enhanced transthoracic Doppler Echocardiographic examination using saline, results were compared to a control group of 8 healthy matched children.

Results: Children with cirrhosis had increased heart rate, decreased, mean arterial blood pressure, peak velocity of aortic blood flow, and increased cardiac output that were statistically significant ($p < 0.03$, $p < 0.003$, $p < 0.002$, and $p < 0.03$) when compared to controls. Contrast enhanced Echo was positive in 4 patients with arterial $P_aO_2 < 70$ mmHg (Child-Pugh grade C): HPS +ve group, and was negative in all other patients whom arterial $P_aO_2 > 70$ mmHg (Child-Pugh class A=8, class B=10, class C=3): HPS -ve group. When compared to controls, HPS +ve group have statistically significant increase in Echo-derived aortic diameter ($p < 0.004$) and cardiac output ($p < 0.006$). Also, there was significant difference as regards age ($p < 0.01$), Echo-derived aortic diameter ($p < 0.004$) and cardiac output ($p < 0.001$) between HPS group and rest of patients.

Conclusion: Children with cirrhosis have hyperdynamic circulatory

status as evidenced by decreased mean arterial blood pressure and increased cardiac output. Contrast enhanced Echocardiography is a sensitive as well as specific tool to diagnose HPS in children. HPS in children is associated with advancement in age and in Child-Pugh classification.

**COMPLICATIONS OF ANTERIOR
CRANIOFACIAL RESECTION FOR
MANGEMENT OF MALIGNANT SINONASAL
TUMORS INVOLVING ANTERIOR SKULL BASE**

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Abstract

Management of malignant sinonasal tumors with skull base involvement constitutes a challenging problem for head and neck surgeons. Surgery in this area confronts with life threatening risks of infections, orbital complications and cerebrospinal fluid leaks. Avoidance of these complications demand the co-operation between head & neck surgeons, neurosurgeons and radiotherapists, high surgical experience as well as proper reconstruction of skull base. The aim of this work is to study retrospectively the complications of anterior craniofacial resection for malignant sinonasal tumors involving anterior skull base and to find out how to minimize these complications. In this study we reviewed retrospectively the complications of twenty one craniofacial resections done in Otolaryngology department Mansoura University Hospital, from September 1996 to January 2004 with median follow-up period of 22 months. From this study, we found that the overall complications rate was about 30%. Anosmia, and psychological changes were the commonest complications and infectious complications were the least. We concluded that most of the complications of craniofacial resection are avoidable by good selection of patients, high surgical experience, proper reconstruction of the anterior cranial base and good postoperative care.

DOPPLER TISSUE IMAGING TO EVALUATE DIASTOLIC DYSFUNCTION IN HCM

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Abstract

Aim: to study the value of pulsed wave Doppler tissue imaging in comparison to Doppler echocardiogram for better evaluation of diastolic dysfunction in HCM

Material and Results: Twenty patients with HCM were selected in this study and were compared to matched twenty controls using Doppler echocardiogram and tissue Doppler. In comparison of E, A, E/A ratio and E deceleration time in Doppler echocardiogram only E deceleration time was significant more prolonged in HCM than controls, when we compare by DTI there were highly significant difference as regard septal mitral annular velocity parameters (Ea, Ea/Aa ratio) and significant difference as regard septal Aa and Ea deceleration time. Also there were highly significant difference as regards lateral mitral annular velocity parameters (Ea, Ea deceleration time, Ea/Aa) and no significance as regard (Aa) . when we correlate E/Ea in both septal and lateral sites to grade of dyspnea, We found E/Ea (lateral) highly correlated than E/Ea (septal) and this was correlated to higher NYHA grade of dyspnea .

Conclusion: Early septal & lateral mitral annular velocity (Ea) by DTI can detect diastolic dysfunction better than conventional Doppler echocardiogram in HCM, also E/Ea ratio (lateral best than septal) correlated with NYHA grade of dyspnea.

CHARACTERISTIC FEATURES AND ANGIOGRAPHIC CRITERIA OF ACUTE CORONARY SYNDROMES IN YOUNG EGYPTIAN ADULTS

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Abstract

Background: acute coronary syndrome has been recognized in young age groups more frequently in recent years. It may differ from that of elderly in some demographic and angiographic data.

Aim: the aim of this work is to study the characteristic features, traditional risk factors for coronary artery disease and angiographic criteria in young egyptian patients who was presented with acute coronary syndrome compared with clinical outcome of old patients with acute coronary syndrome.

Methods: 60 male and female patients with acute coronary syndrome (ACS) were selected. Patients were divided into two groups: group I below 40 years and group II above 40 years. All patients were subjected to careful history taking, clinical examination, electrocardiography, echocardiography, and coronary angiography.

Results: among young adults with ACS, cigarette smoking and dyslipidemia were the most prevalent risk factors. ST elevation myocardial infarction was the most common presentation and among those, inferior myocardial infarction was the most common type of infarction. Single vessel disease and normal coronary angiography were the most common findings.

Conclusion: the clinical criteria and angiographic features of young adults with ACS are different in some aspects from older one.

COULD SERUM HYALURONIC ACID AND MATRIX METALLOPROTEINASE-2 PRECLUDE LIVER BIOPSY FOR ASSESSMENT OF HEPATIC FIBROSIS IN CHRONIC VIRAL HEPATITIS?

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Abstract

The present study has aimed at evaluation of serum hyaluronic acid (HA), and matrix metalloproteinase-2 (MMP-2), as a possible markers of liver fibrosis, and their association, if any, with other clinical parameters in patients with chronic viral hepatitis. The study included 60 patients with chronic viral hepatitis and 15 normal healthy subjects of matched age and sex as a control group. Detailed history taking, complete clinical examination as well as routine investigations including complete blood picture, liver function tests (serum albumin, bilirubin, AST, ALT, and prothrombin activity), serological tests for HBV, & HCV, serum creatinine, abdominal ultrasonography, and liver histology (so long as there was no contraindication, and after a written consent from those who accept the maneuver), in addition to serum hyaluronic acid (HA), and matrix metalloproteinase (MMP-2) were all undertaken. The study revealed that; both HA and MMP-2 levels were significantly higher in patients (non cirrhotic or cirrhotic) than the control ($P < 0.001$). Moreover, their levels exhibited a linear increase with the grade of liver inflammation from the minimal to the moderate grade ($P < 0.001$). Also, they showed a linear elevation with the progression of the stage of hepatic fibrosis ($P < 0.001$). Only serum MMP-2 levels were significantly elevated with the deterioration of the Child-Paugh class however, the differences between A&C and B&C were significant ($P = 0.004, 0.001$ respectively). Both HA and MMP-2 were positively correlated with each other and with serum bilirubin ($P < 0.001$). They were also negatively correlated with serum albumin ($P < 0.001$), prothrombin time ($P < 0.001$), and platelet count ($P < 0.001$). However, they were not

correlated with either SGOT or SGPT. It could be concluded that; serum HA and MMP-2 levels were found, not only to be elevated in chronic viral hepatitis than the control, but they became also markedly increased when cirrhosis supervenes. In addition, these markers exhibited a linear elevation with the progression of both the grade of inflammation and the stage of hepatic fibrosis. Thus, they might be considered as an alternative to liver biopsy for assessment of the extent of hepatic fibrosis especially if the biopsy is contraindicated.

A STUDY OF SUBMAXIMAL EXERCISE RESPONSES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS DISEASE

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Abstract

Background: reduced exercise tolerance in systemic lupus erythematosus (SLE) patients is common and may interfere with the quality of life. The chronic nature of SLE almost leads to reduction in physical activity. Cardiopulmonary exercise testing (CPET) combines the measurement of work output with simultaneous study of cardiovascular and respiratory system.

Objective: to study the cardiopulmonary exercise testing in patients with SLE to show if the chronic nature of the disease leads to reduction in physical activity and easily fatigability.

Patients and methods: the present study included twenty patients with SLE who fulfill the American Rheumatism Association (ARA) classification criteria. Ten healthy children of age and sex matched to patients were taken as control. All children subjected to pulmonary function test [ventilatory function FEV₁% pred, FVC% pred and FEV₁/FVC%] and [Diffusion function of carbon monoxide DL_{co}], ABG, serum lactate levels before the onset and just at the end of cardiopulmonary exercise test (CPET). Graded exercise testing, symptoms limited maximal incremental exercise testing was done.

Results: there were no significant statistical differences between SLE patients and control group as regard the mean value of both ventilatory and diffusion function. Also there was no statistical significant differences between both groups as regard ABGs [PaO₂, PaCo₂ and PH] mean values. In our study there was significant statistical difference between both

groups as regard the mean of maximum load used in CPET with the mean level much lower in SLE than control. The mean value in SLE patients was 74 ± 3.7 watt and was 94 ± 5.8 watt in control.

The mean value of serum lactate level just after exercise showed significant statistical difference between SLE and control groups in SLE patients was 27.5 ± 3.8 mg/dl and was 22 ± 3.1 mg/dl in control.

Conclusion: reduced muscle capacity is common in SLE patients. This is most likely because of peripheral muscle deconditioning.

DOES PLASMA β -ENDORPHIN HAS A ROLE IN THE PATHOGENESIS OF PSORIASIS?

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Abstract

Background: there is a controversy about the role of β -endorphin in the pathogenesis of psoriasis, some reports demonstrated elevated circulating β -endorphin in psoriatic patients especially with actively spreading plaques while lesion-free patients showed reduction of this neuropeptides. On the other hand, there is published data denoting that circulating β -endorphin has no primary importance in the manifestation of the psoriasis and that inflammation in psoriatic skin lesions is probably not mediated directly by circulating β -endorphin. Objective: To measure plasma β -endorphin levels in psoriatic patients and demonstrate whether there are any changes of its peripheral blood levels correlating with the clinical improvement. This in order to determine whether and to which limit this neuropeptide is involved in psoriasis. Subjects & Methods: We measured plasma β -endorphin concentration by enzyme immunoassay in 46 patients with psoriasis both during the presence of lesions and in symptom free state. Then compared it with that of 18 non psoriatic patients with T cell mediated inflammatory diseases (10 atopic dermatitis and 8 systemic sclerosis patients) as control. While 24 age and sex matched healthy individuals were studied as a negative control. Results: The mean β -endorphin level of psoriatic patients, atopic dermatitis and systemic sclerosis was significantly higher than healthy controls. After treatment, when the skin lesions cleared in the psoriatic patients there was statistically significant reduction of plasma β -endorphin level. Significant elevation of β -endorphin was found in patients with long lasting lesions. However,

there was no significant difference in β -endorphin levels among patients with and without pruritus, nor in those with and without history of major stress. No significant difference between wide and localized spread lesion. Similarly there was no significant difference between those with high and low PASI scores. Conclusion: β -endorphin is involved in the pathogenesis of psoriasis. Elevated plasma beta endorphin levels occurs in psoriasis and decline in these levels parallel to clinical improvement and clearance of psoriatic skin lesions. The increased β -endorphin level in psoriasis is not the results of activation of pituitary-adrenal axis by chronic stress, but is produced in psoriatic skin lesions by inflammatory cells. We hope that in the near future neuropeptides will represent a new approach to skin therapy.

HISTOLOGICAL AND HISTOCHEMICAL STUDY OF THE EFFECTS OF TROGLITAZONE ANTIDIABETIC DRUG ON THE TESTIS OF ADULT RABBITS

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Abstract

Troglitazone (Trog) (Rezulin) was the first member of the thiazolidinedione chemical series developed to treat type II diabetes mellitus. Most of the studies had focused on its hepatic cytotoxicity; the present study was carried out to throw light on its cytotoxic effect on the rabbit testis. A total number of 15 adult male rabbits were used in this study; they were divided into three groups each of five rabbits. The first group used as a control, the second group was given troglitazone orally in a dose of 10 mg/kg daily for one month; the third group was treated as the second group then left for one month after withdrawal of the drug. At the end of treatment two specimens were taken from the testis of each animal. Paraffin sections were made from one specimen and stained with haematoxylin and eosin (Hx & E), Masson's trichrome (M.T.) to evaluate the changes of collagen fibres in the basement membrane of seminiferous tubules and Methyl green pyronin (M.G.P.) to evaluate the changes in the content of RNA and DNA in the spermatogenic cells. From the second specimen fresh frozen sections were cut and subjected to Gomori method for localization of alkaline and acid phosphatase enzymes. The results showed partial degeneration of spermatogenic cells with suppression of their spermatogenesis activity after drug administration, also there was increase in the thickness of the basement membrane of the seminiferous tubules in addition to decrease of RNA and DNA content. There was a reciprocal relationship between the reactions of alkaline and acid phosphatases, while the first appeared weak after treatment, the second gave opposite

Ibrahim S. Nasr and Lawahez M. El-Saghier

results. One month after drug withdrawal the majority of the seminiferous tubules appeared nearly normal.

AGE RELATED CHANGES OF THE AUDITORY CORTICAL CELLS OF THE ALBINO RATS

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Abstract

Four groups each of five albino rates aged 6, 15, 25 and 28 months were used and the posterior third of cerebral hemisphere was dissected out from each animal under ether anesthesia, cut transversely, fixed in neutral buffered formol saline. Paraffin sections were made and stained with hematoxylin and eosin, toluidine blue, Glees silver stain and Heidenhain's modification of Kultschitsky's method for myelin. The auditory cortex of each group was examined by light microscope and the mean number of cells in ten different high power fields of each age group was calculated and compared statistically. The results revealed that the number of cells significantly decreased at the ages of 25 and 28 months, with degeneration and atrophy of some cells, destruction of Nissi granules and myelin sheath with neurofilamentous accumulation. These changes were minimal at the age of 15 months aged rats. These results indicated that the senility which started at the age of 25 months has adverse effects on the auditory cortex of the rat.

**HISTOLOGICAL AND HISTOCHEMICAL
EFFECT OF LEAD ON THE AUDITORY CORTEX
OF ALBINO RAT AND THE PROTECTIVE
EFFECT OF "VITAMIN E"**

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Abstract

This study was under taken to investigate the effect of chronic lead exposure on the auditory cortex of young and adult albino rats and the protective effect of vitamin E against this effect. Two groups of albino rats one young and the other adult, were used, each group consisted of 15 rats, which were was subdivided into three subgroups, the first (5 rats) used as a control, the second (5 rats) received lead acetate in a dose of 10 mg/kg body weight and the third subgroups (5 rats) received lead acetate with vitamin E in a dose of 100 mg/kg, body weight. After eight weeks of treatment the animals were sacrificed and the caudal third of each cerebral hemisphere was transversely cut. Paraffin sections were prepared and stained with HX & E, toluidine blue and Heidenhan's modification for myelin. Also cryostat sections were prepared and stained for ATPase enzyme. The auditory cortex (area 41) for each animal was examined. The lead treated animals showed cellular damage and loss, destruction of Nissl granules (chromatolysis) in some cells, damage of myelin sheath and decrease of ATPase enzyme activity. These changes were more marked in young age. Animals treated with lead and supplemented with vitamin E showed nearly normal structure of the auditory cortex. This indicated that lead toxicity may cause degenerative effects on the auditory cortex of albino rats but vitamin E which act as an antioxidant agent antagonize these effects.

HISTOLOGICAL AND ULTRASTRUCTURAL STUDY ON THE EFFECT OF ANTIVIRAL (RIBAVIRIN) DRUG ON THE KIDNEY OF RABBIT

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Abstract

Ribavirin is a broad spectrum antiviral drug which has many side effects the present study focused on the histological and ultrastructural effects of ribavirin on rabbit kidney. 20 adult male rabbits were used and divided into 3 groups. One group used as a control, the other two groups were given ribavirin in a daily oral dose of 200 mg/kg body weight for different periods (5 and 10 weeks), a dose relevant to maximum therapeutic dose. Specimens from the kidney were taken after 5 and 10 weeks of drug administration to be examined by light microscope (haematoxylin and eosin and Masson's trichrome stained sections) and electron microscope where semithin sections were stained with toluidine blue and examined by light microscope for orientation and ultrathin sections were examined by electron microscope. The light microscopic results showed that after 5 weeks of ribavirin administration there was glomerular swelling, necrosis of some proximal convoluted tubule cells as well as congestion of interstitial blood vessels, in addition to slight increase of fibrous tissue around the tubules and the glomeruli, while after 10 weeks there was massive necrosis of glomeruli and proximal tubule cells in addition to inflammatory cells infiltration and increased fibrosis. The E/M results showed that after 5 weeks of drug administration there was thickening of basal laminae of glomeruli and proximal tubules, increased the number of lysosomes which are distended with myeloid bodies in the proximal tubules as well as swelling and degeneration of mitochondria. After 10 weeks of drug administration the proximal convoluted tubules and the glomeruli showed the previous results in addition to increase cytoplasmic vacuolation and degeneration and hyperchromatic nuclei of proximal tu-

bules and intraluminal necrotic debris of glomeruli in addition to pyknotic nuclei and cytoplasmic vacuolation of podocytes. In conclusion ribavirin is potentially nephrotoxic and the toxicity increased with increase the period of administration.

EFFECT OF MYOPIC LASER IN SITU KERATOMILEUSIS ON CORNEAL SENSITIVITY

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Abstract

Purpose: To study changes in the cornea's sensitivity following laser in situ keratomileusis (LASIK) for the correction of myopia to determine the time required for recovery of this parameter.

Methods: corneal sensation was measured with Cachet-Bonnet esthesiometer in 28 patients who had LASIK for correction of their myopic errors. Esthesiometry was performed before, 1 day, 1 week, 1 month and 3 months after correction.

Results: After LASIK, corneal sensitivity was significantly decreased after 1 day, 1 week and 1 month, it recovered slightly at 3 months. .. although it remained significantly less than preoperatively.

Conclusion: A significant reduction in corneal sensitivity immediately following surgery occurred and was evident for at least 3 months after surgery.