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Effects of morphine and lidocaine administration into the cuneiformis nucleus of rats on acute and chronic pain modulation by formalin test

A. Haghparast¹, A. Esmaeili²

Abstract

Background and Aim: The cuneiformis nucleus (CnF), which rest in the ventrolateral portion of the periaqueductal gray matter, has opioid receptors that may modulate acute pain. The present study was conducted to evaluate the role of morphine injection into the area of rat’s brain CnF in the modulation of chronic pain and antinociceptive effect of morphine on this area.

Materials and Methods: In this experimental study, 40 NMRI male rats were used for morphine and lidocaine microinjection into the CnF through a guide cannula by stereotaxic instrument in accordance with Paxinos and Watson characteristics. Chronic pain was induced by injection of 50 µl of formalin 2.5% into the hind paw in rats and the number of grasping (biting and/or licking) of the area in phase I or acute phase (0-5 min) and phase II or chronic phase (15-60 min) were regarded as pain indices. The obtained data was analyzed by means of statistical tests including analysis of variance and Tukey post-hoc test at the significant level of P<0.05.

Results: Biting frequency was almost the same in control (saline) and intact groups but it was higher in CnF morphine- and lidocaine-microinjected groups in phase I (P<0.01) and phase II only for morphine-microinjected group (P<0.05) as compared with control (saline-treated) rats. The co-administration of morphine and lidocaine into the CnF caused a marked analgesic response (even higher than solely morphine microinjection) in phase I (P<0.0001) and phase II (P<0.05) as compared with lidocaine- and morphine-treated rats in formalin test.

Conclusion: CnF has µ receptors and modulates chronic pain system as well. On the other hand, the role of morphine in acute and chronic pain descending systems is more important than lidocaine. So, it seems that CnF causes a significant analgesic response directly or through other brainstem structures in acute and/or chronic peripheral pain processing.

Key Words: Cuneiformis nucleus; Chronic pain; Morphine; Lidocaine; Formalin test; Rat

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Association of A, B, O and Rh blood groups with Vitiligo

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Abstract

Background and Aim: Vitiligo is an acquired depigmentary dermatitis on an otherwise normal skin, which involves 1-2% of general population. Despite Various hypotheses and theories postulated, its etiology remains unknown. Genetic factors and blood groups seem to be implicated, to some extent, in the etiology of the disorder. This study was done to determine the association of Vitiligo with A, B, O blood groups and Rh.

Materials and Methods: In this case control study two groups were compared; one with 100 Vitiligo cases and the other (the control group) consisting of 100 patients without the disorder in the dermatology clinics of Birjand. Then, blood groups and Rh of both groups were determined. Incidence of each blood group among patients was compared with that of the control group. Data were analyzed by SPSS package, using t and chi-square tests.

Results: Blood groups A, B, AB, and O in Vitiligo cases were found to be, 32%, 33%, 7%, and 28%; while they were 43%, 21%, 13%, and 23% in the controls, respectively. Thus, the differences were significant ($\chi^2=6.85$, $P<0.05$). The incidence of Rh positive and Rh negative blood groups in Vitiligo cases were found to be 87% and 13% compared to 83% and 17% in the controls respectively, but these differences weren't significant ($\chi^2=6.7$, $P>0.05$).

Conclusion: The results obtained through this study show that subjects with blood group B are more susceptible to Vitiligo as compared to those with other groups but there is no significant association of Vitiligo with Rh.

Key Words: Vitiligo; Blood groups; Rh

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Effectiveness of an educational program on knowledge and attitudes of angina patients in Mashhad, Iran:
Results of an intervention

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Abstract

Background and Aim: Unstable angina (UA) patients are the majority of hospitalized patients in CCU exposed to high probability of recurrence. Most often re-hospitalization of these patients is due to lack of enough information and not obeying medical advice. The main objective of this study was to determine the impact of an educational intervention based on Health Belief Model on knowledge and attitudes of unstable angina patients in Mashhad university hospitals.

Materials and Methods: An interventional study was conducted on 180 patients with unstable angina, consisting of 90 cases and 90 controls, who were hospitalized in the Heart Wards of two university hospitals in Mashhad. Randomly, the patients of one of these hospitals were selected as the case (intervention) and those in the second as control group (90 patients each). Professional physicians and nurses instructed the patients in the intervention group before and after discharge for two months. Data were obtained through a questionnaire before and after intervention in both groups. Then, the data were analyzed by SPSS (11.5) and STATA (8.0) software’s, using chi-square and ANCOVA tests. In all statistical analyses α=0.05 was taken as the significant level.

Results: The analysis of covariance (ANCOVA) showed that, compared with the subjects’ pre-intervention knowledge status score, there was a significant increase in the score of the intervention group (P<0.0001). The intervention resulted in improving the attitude status in the group (P<0.0001). But there was no significant increase in these variables in the control group.

Conclusion: It is possible to use nurses' capacities in improving heart patients' knowledge and attitudes. Thus, it is necessary that instructional service by nurses be offered under a well-planned program in order to improve the quality of life of heart patients.

Key Words: Knowledge; Attitude; Educational intervention; Health belief model; Unstable angina

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Comparison of traditional instruction with chart-based instruction on the detection of hyperlucency in chest radiographies pertaining to first year clinical students

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Abstract

Background and Aim: Evaluation of clinical experience is one of the most important aspects of assessing students’ performance, which is related to the type of instruction whose promotion improves educational quality. It is clear that promotion of education quality has an important role in practice. The aim of this study was to compare traditional instruction with chart-based instruction on the detection of hyperlucency in chest radiographies pertaining to medical students.

Materials and Methods: In this clinical trial study, medical stagers were divided into two groups, consisting of 30 subjects. The first group was instructed through traditional method and the second one who had not passed their radiology course had been instructed on charts and diagnostic tables concerning diagnosis and interpretation of radiolucency in chest radiography by means of chart and face to face method. Then, the members of both groups were evaluated through questionnaires regarding 15 dissimilar plain chest radiographies. The obtained data was analyzed by descriptive and inferential statistics.

Results: Both groups achieved more than 60% of their final exam score; thus, there was no significant difference between the two groups while the second one gained better results.

Conclusion: This study indicated that both of the instruction methods are useful and practical and a combination of them could promote the quality of medical education.

Key Words: Hyperlucency; Traditional instruction; Medical; Algorithm

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Effects of nutrition education on knowledge and attitudes of type 2 diabetic patients

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Abstract

Background and Aim: Diabetes Melitus is one of the most common metabolic complications that is rapidly growing. Thus, a proper preventive measure is necessary to control the disease. The aim of this study was to determine the effects of nutrition education on knowledge and attitudes of type 2 diabetic patients.

Materials and Methods: This prospective study was conducted in Rasht Razi Hospital on 135 randomly selected individuals with type 2 diabetes, aged between 35-70 years; diagnosed with type 2 diabetes after 35 years of age. Intervention consisted of 64 contact hours during several months. The intervention involved 3 months of weekly instructional sessions on nutrition, self monitoring of blood glucose, exercise and other self-care topics, in addition to 3 months of biweekly support sessions to promote behavior changes. At the end, dietary behaviors, knowledge, attitudes and fat intake of the cases were analyzed. To do so, the differences between the cases' behaviors before and after intervention were evaluated by means of statistical tests of ANOVA and student-t tests at the significant level of P≤0.05.

Results: Significant reduction was seen in fat intake among the cases compared with those in the control group. This reduction was maintained during 3-months of follow-up assessment. Likewise, significant changes in dietary patterns, which were also maintained after the study, were reported. These changes were not observed in dietary pattern replacement.

Conclusions: This model of health promotion seems to have the potential for decreasing fat and improving dietary patterns in type 2 diabetic patients.

Key Words: Nutrition education; Diabetes; Knowledge; Attitudes

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Evaluation of relationship between p53 protein expression and histologic grading in transitional cell carcinoma

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Abstract

Background and Aim: Transitional cell carcinoma of bladder (TCC) is a relatively common cancer among the males. The tumor progression is associated with expression or modulation of several gene products that control apoptosis and proliferation. The aim of this study was to assess the relationship between tumor expression of p53 and TCC histologic grade.

Materials and Methods: In this prospective study, the data regarding 35 cases with bladder carcinoma diagnosed at the pathology laboratory of Emam Reza Hospital- retrieved from the hospital records- was analyzed. Sections from paraffin-embedded tissues were retrieved and stained for p53 oncoprotein using immunohistochemistry (IHC) techniques. P53 oncoprotein results in relation to tumour grade were analyzed statistically at the significant level of P≤0.05.

Results: Among 45 patients 39 cases (87%) had transitional cell carcinoma (TCC); 4 cases (9%) squamous cell carcinoma and 2 cases (4%) anaplastic carcinoma. Out of 39 cases with TCC, 9 (23.1%) were grade I, 14 (35.9%) grade II and 16 (41%) grade III. After IHC staining, over expression of P53 was found in 4 (44.4%) of 9 patients with grade I, 10 (71.4%) of 14 patients with grade II and 15 (93.8%) of 16 Cases with grade III. The number of p53 positive was 29 cases (74.4%) out of 39 patients and was significantly higher in high-grade TCC (P= 0.026).

Conclusion: Regarding the results of the study, the accuracy of immunohistochemistry technique to diagnose P53 mutation seems to be around 90%. However, to obtain better results assessing a study with larger number of patients is recommended.

Key Words: P53 gene; Bladder cancer; Transitional cell carcinoma; immunohistochemistry

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The role of sonography in diagnosis of the Internal Abdominal Injuries due to trauma

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Abstract

Background and Aim: Abdominal Trauma seems to be one of the most common etiological factors of mortality in human populations following encountering different types of trauma. This study was designed to evaluate the role of sonography in clinical diagnosis of internal injuries of abdomen as well as verification and confirmation of the presence of free liquids in the abdominal cavity. This study was conducted to compare the importance of the role of sonography results with the clinical trend of trauma, specially the results of surgical operations in the studied cases.

Materials and Methods: The present periodic study was conducted on all 104 patients (80 males and 24 females) who referred to Ali-ibne Abitaleb Hospital of Rafsanjan due to penetrating and blunt abdominal trauma between January 2000 and April 2001. Personal characteristics of the patients such as age, cause of trauma, nature of the problem (fixed or temporary), clinical examination result, sonography result, laparatomy result -if done- and the final diagnosis were recorded. Then, positive and negative results of sonography were matched with those of laparotomy and clinical trend. Finally, the obtained data was analyzed by EPI-5 software using chi-square test at the significant level of $P=0.05$.

Results: Totally, sonography was done on 104 patients with abdominal trauma, who had homeodynamic status. Presence of free fluid in the abdominal cavities of some patients, as well as possible visceral lesions and gross pathologic changes of abdominal organs were recorded. Besides, sonography findings were negative in 85 patients (81.7%); and positive in 19 cases (18.3%). After comparing sonography findings with those coincident with surgery sonography accuracy and specificity were determined 85% and 65%, respectively.

Conclusion: The results of this study generally support the role of sonography as one of the primary diagnostic techniques in the patients who are affected by abdominal trauma and have constant vital clinical signs. However, in order to make decision for laparatomy and surgical treatment, physical examinations, clinical observations and using other diagnostic techniques such as CT-Scan is imperative and can be helpful.

Key Words: Abdominal; Trauma; Sonography; Penetrating; Blunt

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Evaluation of indication and related causes of keratoplasty during 2 years in Emam Reza and Vali-e-Asr hospitals of Birjand

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Abstract

Background and Aim: Penetrating Keratoplasty is the final treatment of a considerable percent of corneal diseases. Besides, it has been the most common human tissue-transplant during the past forty years. Because of limited regional studies in our country, the present study was carried out to evaluate indication and related causes of keratoplasty during 2 years (20 September 2000–20 September 2002) in Emam Reza and Vali-e-Asr hospitals of Birjand.

Materials and Methods: This study is a retrospective analysis of 80 PK performed on 80 patients during the 2 year period in the two hospitals affiliated to Birjand University of Medical Sciences. The obtained data had different indexes such as age (over 25 and under 25), Job (3 groups); including husbandry, hard urban jobs (i.e. laborers and artisans), and easy urban jobs (clerks, drivers, housewives, students). Personal characteristics of patients, preoperative clinical diagnosis, transplanted eye, and indication of PK were recorded through self-designed questionnaires. Finally, the obtained data was analyzed through SPSS software using statistical t- and chi-square tests at the significant level α=0.05.

Results: Totally, clinical files of 80 patients were surveyed. Necessity of PK was due to Leukoma (62.5%), Keratoconus (20%), and other cases (17.5%). Leukoma was 68.4% and 73.9% in males and females, respectively. Keratoconus was found to be the most prevalent reason for PK among under 25 patients.

Conclusion: Corneal opacity was found as the common cause which necessitated PK in Birjand. This finding contrasts other findings and may be due to particular conditions of the area and prevalence of cornea trauma and infection caused by barberry thorns, which may lead to leukoma. This, of course, demands further studies.

Key Words: Penetrating keratoplasty; Corneal opacity; Keratoconus; Bullous keratopathy; Corneal

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The correlation between emotional intelligence and school anxiety among high school students in South Khorasan

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Abstract

Background and Aim: Today, emotional intelligence has gained a particular importance. Various studies have been conducted in this field that reveal the role and importance of emotional intelligence in people’s various aspects of life such as education, employment, and living conditions. Therefore, the present study was performed aiming at surveying the correlation between emotional intelligence and school anxiety among high school students of south Khorasan.

Materials and Methods: This research is a descriptive study of correlation type in which the correlation between emotional intelligence and school anxiety among second and third grade high school students; majoring in humanities, practical science, and mathematics was surveyed. The study covered 670 cases that had been selected through multi-stage random sampling from Birjand, Qaen, Darmian, Khoosf, Nehbandan, and Sarbisheh. Data collecting were made by using prevalent standardized questionnaires including Sheering emotional intelligence standardized questionnaire and Phillips school anxiety questionnaire. Analyzing the data were performed by SPSS, using Pearson’s correlation coefficient and statistical regression tests at the significant level of P≤0.05.

Results: The findings of the study showed that there was a significant correlation between emotional intelligence and school anxiety at P<0.01 level. Among all components of emotional intelligence (self-awareness, self control, social alertness, communication skill) there was significant correlation at P<0.01 level. Also, all components of emotional intelligence have a significant effect in predicting the variable of criterion. The mean scores of the subjects showed that there was significant differences only in components of social skills (P=0.001) and social alertness (P=0.007) regarding the gender of the subjects.

Conclusion: Regarding the findings of the study particularly the significant correlation between emotional intelligence and school anxiety, it seems that paying attention to emotional intelligence is very effective and valuable in improving mental health and eventually improving students’ educational performance. Therefore, in addition to including relevant lessons, it is suggested that teachers also take required trainings in this field.

Key Words: Intelligence; Emotional intelligence; Anxiety; School anxiety.

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Real-time point to point wireless intranet connection: first implication for surgical demonstration, decision making and telementoring in laparoscopy in Iran

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Abstract

Background and Aim: To determine whether an inexpensive set up of point to point wireless intranet connection can provide adequate video and audio teleconferencing and image quality to support remote real-time surgical demonstration and telementoring. To our knowledge, there is no similar report from Iran.

Materials and Methods: Surgeon performing a novel laparoscopic extraperitoneal trigonoplasty for correction of bilateral vesico-ureteral reflux (right grade III and left grade I) in a 10 years old boy in Emam Reza hospital, Birjand- Iran shared real-time laparoscopic images with the mentor and innovator of this new technique at the Birjand University of medical sciences, 5 kilometer apart from each other through a point to point wireless intranet connection using university local area network (LAN) and Windows media encoder and Windows media player soft wares. To evaluate the quality of transmitted real-time images, the mentor’s opinion was sought. In addition, paired local and remote images were “grabbed” from the video feed and evaluated to compare the effect of transmission on image quality.

Results: The connection permitted adequate video and audio teleconferencing to support real-time consultation. The qualities of transmitted images were so high that the mentor was able to identify the bared ureteral wall and Waldeyer's sheath during the laparoscopic trigonoplasty. The qualities of paired local and remote images were similar.

Conclusions: A point to point wireless Intranet-based telemedicine is relatively inexpensive and effective. Use of these set up will allow sharing of surgical procedures.

Key Words: Laparoscopy; Internet; Medical Education; Live surgery

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Abdominal Inflammatory myofibroblastic tumor, a case report

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Abstract

Inflammatory myofibroblastic tumor (IMT) is a rare tumor with unknown etiology which usually occurs in children and adolescents. It is composed of myofibroblastic spindle cells intermixed with inflammatory cells. Our case was a 15-year-old boy presented with fever, weight loss, anemia and epigastric mass. Radiographic studies showed periduodenal mass with duodenal compression and mild mucosal thickening. Sonography and duodenal biopsy were not contributory. In laparotomy, a peri-duodenal mass with duodenal adhesion was seen during the resection, perforation of duodenum and extrahepatic bile duct occurred. Consequently, duodenostomy and anastomosis of bile ducts were performed. On histological examination, IMT was diagnosed. Manifestation resolved after the removal of the mass and he remained free of recurrence within three years after discharge. Based on the fact that IMT is now generally considered to be a potential neoplasm, clinicians must consider it and it should be added to the list of differential diagnoses of anemia and abdominal mass. In addition, despite benign histological features, a risk of aggressive behaviors of the tumor, a long term clinical and radiological follow up of the patients is necessary.

Key Words: Inflammatory myofibroblastic tumor; Inflammatory pseudotumor; Abdominal mass; Duodenum; Extrahepatic bile duct

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