

## Evaluation of Chromogenic Media compared to Traditional Culture Methods for Presumptive Identification of Entrococci from Urine Specimen

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**Background:** Entrococci is a clinically important pathogenic bacterium in UTIs. CHROMagar orientation is a recently method for rapid, easy and economic isolation and identification of entrococci. This study compares the chromogenic media with traditional methods for presumptive identification of entrococci from urine specimen.

**Materials and Methods:** We evaluated 240 gram positive cocci from urine specimens. These isolated microorganisms were inoculated on CHROMagar orientation and were presumptively identified according to manufacturer instruction. The identity of all isolated microorganisms was then confirmed by conventional identification tests and compared with the results obtained from CHROMagar orientation.

**Results:** In this study, the sensitivity and specificity of CHROMagar orientation to identify entrococci, solely, were 100% and 40.8%, respectively.

**Conclusion:** Although CHROMagar orientation was rapid and sensitive method for identification of entrococci in urine culture, CHROMagar orientation alone appeared not to be very specific for entrococci and needed to be combined with other tests for greater exclusivity. So, CHROMagar orientation media is not recommended for routine usages in medical laboratories in Iran.

**Key words:** *Entrococci, Chromogenic Media, Urinary Tract Infection(UTI)*

## Diagnostic Value of Urinary N-Acetyl Glucose Aminidase in Pyelonephritic Patients

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**Background:** Urinary tract infection (UTI) is one of the most common bacterial infections among children and its prevalence is between 5-7% in females and 1-1.6% in males. Urosepsis, febrile seizure, renal insufficiency and hypertension are common complications of acute pyelonephritis in children. The aim of this study was to evaluate the diagnostic value of urinary NAG in pyelonephritic patients.

**Materials and Methods:** This is a Quasi Experimental study conducted between April 2005 and May 2006 on 72 children admitted in Mofid Hospital due to pyelonephritis. The first sample (fresh random urine) was obtained and its levels NAG and Creatinin were measured. The second one was obtained on 48<sup>th</sup> hour of after-treatment period.

**Results:** We examined pyelonephritic children (75% female) with mean age of  $43 \pm 39$  months. Post-treatment urinary NAG level was significantly higher than pre-treatment. Urinary NAG revealed to have a sensitivity of 78% and specificity of 72% in diagnosis of pyelonephritis. There was no significant correlation between urinary NAG level and CBC, ESR, CRP, Urinary WBC, Ultrasonography, DMSA scan and VCUG.

**Conclusion:** We concluded that Urinary NAG is a sensitive and specific test in diagnosis of pyelonephritis.

**Key words:** *Urinary NAG, Pyelonephritis, DMSA scan*

## Diagnostic Value of Serum Cytokeratin-18 in Dianosis of Urothelial Carcinoma

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**Background:** To compare serum levels of cytokeratin-18 of patients with urinary bladder carcinoma with those of healthy controls and also to investigate if there would be any relationship between cytokeratin-18 levels and tumor stage, this study was performed.

**Materials and Methods:** Serum cytokeratin-18 levels of 76 patients with bladder cancer and of 58 healthy people were determined. Tumor stage was T<sub>1</sub> in 24 patients, T<sub>2</sub> in 18 patients, T<sub>3</sub> in 20 patients and T<sub>4</sub> in 14 patients. The serum cytokeratin 18 levels in these cases were analyzed considering the tumor stage.

**Results:** Cytokeratin-18 level in the patient group was found to be significantly higher than that of control group ( $p < 0.010$ ). However, when the levels of patients with different tumor stages were compared with control group, solely, the differences between those levels revealed to be not significant in patients with stage 1 and 2 tumors ( $p > 0.05$ ). Regarding the cut off valueas 4.0 ng/mL, sensitivity and specificity for serum cutokeratin-18 were found to be 53% and 72% , respectively. Concerning the tumor stages, when sensitivity was calculated it was 8% for T<sub>1</sub>, 33% for T<sub>2</sub>, 90% for T<sub>3</sub> and 100% for T<sub>4</sub>. On the other hand, considering higher stage tumors (T<sub>3</sub> and T<sub>4</sub>) only, the sensitivity was calculated as 94% , whereas it was 19% for lower stage tumors (T<sub>1</sub> and T<sub>2</sub>).

**Conclusion:** It is obvious that serum cytokeratin-18 level increases in patients with urinary bladder carcinoma. However, as a tumor marker, it can be only useful in diagnosing the T<sub>3</sub> or higher staged tumors. This study indicated that cytokeratin-18 does not have any diagnostic value in lower stage bladder cancers.

**Keywords:** *Cytokeratin-18, Urothelial carcinoma, Tumor marker*

## Evaluation of Therapeutic Effects of Dexamethasone, High-Dose Cytosine Arabinoside and Cisplatin regimen on Patients with Relapsed Lymphoma

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**Background:** Recurrence of hematologic malignancies are one of the main problems after early management of these diseases. Due to the poor survival, several salvage regimens have been suggested. To evaluate the efficacy and safety of DHAP regimen in relapsed lymphoma, we conducted this prospective trial.

**Materials and Methods:** Sixty patients with progressive relapsed lymphoma were treated with a combination of Cisplatin 100 mg/m<sup>2</sup> (continuous IV infusion over 24 hours) followed by Cytosine Arabinoside in two pulses (each at a dose of 2 g/m<sup>2</sup> given 12 hours apart). Dexamethasone (40mg IV) was given on days 1 through 4. Vigorous hydration was reinforced by routine use of mannitol. Cycles were repeated at 3-4 weeks interval for six courses. The primary aim was to evaluate the response after six cycles.

**Results:** Patients had a median age of 42 years old (15–70 years ). They all had relapsed during or less than one year after first line chemotherapy. Out of 60 patients, 19 (32%) achieved complete remission, whereas 17 (28%) experienced partial remission. Eleven patients (18%) expired during treatment. The mean survival of patients after 2 years of follow up was 53%. Organomegaly, lymphadenopathy, the underlying disease and serum LDH were important prognostic factors and the most frequent complication of DHAP regimen was neutropenia (55%).

**Conclusion:** Having acceptable complications, the DHAP regimen was proved to be effective for patients with relapsed or refractory lymphoma. For stronger recommendation of this regimen larger scale trials are needed.

**Key words:** *Relapsed lymphoma, Salvage regimen, DHAP regimen*

## Prevalence of Cleft Palate and Cleft Lip among 20000 Iranian Neonates

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**Background:** Cleft lip (CL), cleft palate (CP) and their combination (CLP) and are the most common congenital head and neck anomalies. However, there is no certain study in this regards in our country. We performed an epidemiologic study to analyze the association of potential risk factors with the occurrence of oral clefts.

**Materials and methods:** This descriptive study was performed applying of existing data. Medical records of 20000 consecutive live born neonates delivered between April 2000 and June 2005 in Mahdie hospital, were reviewed and prevalence rate and probable maternal risk factors for these anomalies were calculated.

**Results:** Prevalence rate of oral clefts was 0.6/1000. Moreover, we found a prevalence rate of 0.15/1000 for CL, 0.25/1000 for CLP and 0.2/1000 for CP, respectively.

**Conclusion:** These results indicated that the prevalence of oral clefts among neonates in Tehran city is so close to that of negroid newborns. Compared with previous reports in Iran, the obvious decrease in prevalence of oral clefts in our study may correspond that the mothers' anxiety is a major risk factor in development of oral cleft in newborns.

**Key words :** *Oral clefts, cleft lip, cleft palate, prevalence rate*

## Comparison of Irritable Bowel Syndrome (IBS) in Gastro Esophageal Reflux Disease (GERD) Patients with and without Esophagitis

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**Background:** Considering the prevalence of Gastro Esophageal Reflux Disease (GERD) and Irritable bowel syndrome (IBS) and based on recent reports which corresponded a high overlapping between these disorders, and also division of GERD into two groups; with Esophagitis (ERD) and without Esophagitis (NERD), this study was performed in order to compare the prevalence of IBS among both ERD and NERD cases, referring to GI clinic of Loghman hospital in 2005.

**Materials and Methods:** this cross sectional analytic study, was performed on 160 patients with clinical diagnosis of GERD referring to GI clinic. These patients were divided, according to endoscopic findings, into two groups of ERD and NERD each contained 80. Sampling method was simple random. patients with IBS were identified based on questionnaire of Rome (II) criteria. Data were analysed using statistic program of spss-v.12. P-value of less than 0.05 was considered statistically significant.

**Results:** prevalence of IBS in GERD was found to be 15% [in ERD 7.5% and in NERD 22.5%] ( $p=0.008$ ). Prevalence of GERD in patients <45 years old (50.6%) was equivalent to that of patients > 45 (49/4%). 23.3% of GERD cases older than 65years had NERD, whereas 76.7% of them had ERD. The most prevalent association between IBS and GERD (45.8%) [ERD (50%) and NERD (44.5%)] was in ages between 45-54 years. There were no IBS cases in ages between 35 and 44, nor in above 65 years old. The prevalence of GERD revealed to be 54% and 46% in females and males, respectively. Applying the statistic tests, there was no significant difference ( $p>0.05$ ). The prevalence of IBS in females with GERD was 1.7 times more than that of males. The prevalence of constipation-dominant pattern in IBS was 79% in GERD [83% in ERD and 78% in NERD] without any significant difference between ERD and NERD groups ( $p>0.05$ ).

**Conclusion:** Compared to ERD cases, the predominant association of IBS in NERD patients would suggest a probable common etiologic or pathologic back ground between these two latter disorders.

**Key Words:** *Gastro Esophageal Reflux Disease (GERD), Irritable Bowel Syndrome (IBS), Esophagitis.*

## Investigation of Validity and Reliability of Persian Version of the “St. George Respiratory Questionnaire”

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**Background:** Health related quality of life (HRQL) questionnaires allow clinicians to measure daily the impact of disease on a patients daily life and is valuable in clinical trial designed to assess benefits and costs of management. We describe the adaptation into Persian version of the St. George Respiratory Questionnaires (SGRQ); a recognized valid self administered questionnaire for chronic obstructive pulmonary diseases.

**Materials and Methods:** In order to adapt the face validity, the forward and back- translation method was used. Then this questionnaire was edited by researchers and a single pulmonologist as an internist. The content of tests evaluated for feasibility and comprehension by 15 educated COPD patients. In following, the professional committee of researcher assessed the content validity. At last, 55 COPD patients with wide range of disease severity fulfilled the Persian version of the SGRQ. Internal consistency were measured by Cronbach's alpha coefficient test.

**Results:** The test coefficient for reliability was 0.74 in part I of questionnaire; "symptoms". Factor analysis indicated that if latest question of part I was eliminated [“If you wheeze, is it become worse in the morning?”] Cronbach's alpha would be elevated to 0.78. Cronbach's alpha was 0.95 in Part II (Activity & impact) and for overall scale, the result was found to be 0.93.

**Conclusion:** Data from this study revealed that Persian version of SGRQ, as a research tool, is of good validity and sufficient reliability. The present study suggest the feasibility of adapting a specific instrument of health related quality of life in patients with respiratory disease to be used in different settings from where the instrument has been originally developed .

**Keywords:** *St. George Respiratory Questionnaire, Persian version, Validity, Reliability*

## Brain Tumor in Children: A Ten-years Study in Loghman Hospital

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**Background:** To determine whether the incidence and location of childhood CNS tumors in our patients follows the same pattern described in Western countries, we carried out this study.

**Materials and Methods:** We analyzed the data compiled from 50 children less than 15 years old with brain tumors operated in Department of Neurosurgery in our hospital between 1994 and 2004. Diagnosis was made based on pathology and in some cases through imaging. Vascular and metastatic lesions were excluded and the latest WHO classification of brain tumor pathology was applied.

**Results:** We found that 54% of all brain tumors were located in the supratentorial and 46% in the infratentorial region. Brain tumor was slightly more common in males (males 54% vs. females 46%). The most common tumor found in our patients was astrocytoma (43.9%), followed by medulloblastoma (26.8%), meningioma (14.6%), epandimoma (7.3%) craniopharyngioma (2.4%), epidermoid (2.4%) and dermoid(2.4%). However, in children between 5-10 years, medulloblastoma was the most common tumor. In this regards, the most common symptoms were headache and vomiting, respectively, whereas vomiting and increased head circumference were the most common ones in children under 5 years. The incidence in different age groups were as follows: 56% in 10-15 years old, 28% in 5-9 years and 16% in under 5 years old. Astrocytoma was more common in female and medulloblastoma in male, relatively. Meningioma which has not been reported in western studies, was relatively common in our patients.

**Conclusion:** In our patients, the incidence and distribution of CNS tumors were somewhat different from various reports of western countries. Whether there is any regional difference in disease distribution between Middle East and the rest of the world, remains to be determined.

**Key words:** *brain tumor, children, incidence*

## Antispasmodic Effect of *Teucrium polium* Leaf Extract on Rat Ileum

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**Background:** *Teucrium polium* (locally called as chez or kalporeh in Khuzestan Province, Iran) is used traditionally as a remedy for treatment of headache, convulsion and dysmenorrhea and moreover, its hypoglycemic, hypolipidemic and antibacterial effects have been reported in recent researches. In addition, it is also used traditionally to treat gastrointestinal disorders. The aim of the present study was to investigate the effects of *Teucrium polium* aqueous leaf extract on rat ileum contractions evoked by receptor and non-receptor stimulants and also to study the mechanism(s) involved.

**Materials and Methods:** Freshly dried leaves of *Teucrium polium* were extracted with boiling water. Pieces of ileum from adult male Wistar rat were mounted in an organ bath containing Tyrode solution and an isotonic transducer recorded contractile responses under 1g initial tension.

**Results:** Data indicate that cumulative concentrations of the extract (0.25, 0.5, 1, 2, 4 and 8 mg/ml) reduced the ileum contractions induced by KCl (60 mM) and acetylcholine (1  $\mu$ M) in a dose-dependent manner ( $P < 0.0001$ ). The spasmolytic effect of the extract on KCl-induced contraction was more potent than on the ACh-induced contractions. The spasmolytic effect of extract was totally reversible. The spasmolytic effect of the extract was not affected by L-NAME (100  $\mu$ M, 20min) in KCl-induced contractions. Spasmolytic effect of extract was not reduced by ileum incubation (30 min) with propranolol, phentolamine and naloxone (all at 1  $\mu$ M) in KCl-induced contractions. The cumulative concentrations of calcium evoked contractions in a dose dependent manner in  $Ca^{2+}$ -free Tyrode solution with high potassium. These contractions were attenuated by the extract, significantly.

**Conclusion:** The results suggested that the voltage dependent calcium channels might be involved in spasmolytic effects of *Teucrium polium* aqueous leaf extract. In this inhibitory effect, however, neither NO, opioid receptors, nor adrenoceptors ( $\alpha$  and  $\beta$ ) were involved.

**Key words:** Leaf, *Teucrium polium*, Ileum, Antispasmodic, Rat