Background: Pulsed dye (PDL) 595- and 1,064-nm Nd:YAG lasers have been used successfully for the treatment of infantile hemangioma (IH) lesions. Recently, the use of a topical beta blocker, specifically timolol maleate, in treating IH has represented promising treatment.

Objective: To compare the effectiveness of topical timolol 5mg/ml solution and combined sequential dual wavelengths laser in treatment of infantile hemangioma.

Patients and methods: Sixty children with IH were divided randomly into two equal groups. Group 1 was treated with applications of timolol drops (5mg/ml) twice daily. Group 2 was treated with sequential pulsed dye laser and Nd: Yag laser. Treatments were performed every month for a maximum of six sessions. Evaluation of efficacy was done clinically and by measuring the average hemoglobin level.

Results: A significant decrease in the average hemoglobin value was determined in both groups, and a dramatic response was observed in superficial hemangiomas in the timolol group. The timolol group received treatment for an average of 4.03 ± 1.13 months, whereas the laser group received laser treatment for a mean of 5.53 ± 0.88 months. Mixed hemangioma lesions scored a higher response in the laser group than the timolol group. In the three-month follow-up no further improvement or relapse was reported in either group.

Conclusion: Timolol solution is a safe and effective alternative to laser treatment in superficial hemangiomas. In mixed hemangiomas the combined sequential dual wavelengths 595nm and 1064nm laser provided better results than timolol solution as it penetrated deeply so that deep dermal blood vessels were reached.
WHAT DID WE FIND FROM IMAGING STUDIES IN CHILDHOOD UTI AND WHICH STUDIES ARE MANDATORY?

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Background: Recently, developed countries introduced changes to guidelines related to indications for performing imaging studies for childhood urinary tract infection (UTI). The previous guideline suggested renal ultrasound (RUS) and cystogram should be performed in all cases, while the new guideline suggests the cystogram should only be performed if a RUS or 99mTc dimercaptosuccinic acid (DMSA) renal scan finds an abnormality. There are concerns about whether these new guidelines are appropriate in undeveloped country settings.

Objective: To determine if these guideline changes would be appropriate in developing country institutions.

Methods: Medical records of UTI children aged 0-15 years admitted to Prince of Songkla University Hospital from January 2004 – December 2013 were reviewed. RUS, cystogram and DMSA scan results to determine congenital anomalies of the kidney and urinary tract (CAKUT) and/or renal damage were evaluated. Mild CAKUT was defined as primary vesicoureteral reflux (VUR) grades I-III or isolated hydronephrosis and all other abnormalities were defined as severe CAKUT.

Results: 142 boys and 129 girls had at least one imaging study after UTI. Their median (IQR) age was 1.0 (0.5 - 2.7) year; 0.7 and 1.4 years for boys and girls, respectively (p=0.006). 262 children had an RUS performed, of which 99 (37.8%) were abnormal. Cystograms were performed in 221 children, from which 83 (37.6%) CAKUTs were detected, and 108 children had a DMSA performed, of which 53 (49.1%) were abnormal. Overall, CAKUTs were detected in 148 (54.6%) children of which 43 were severe. RUS together with cystogram provided higher sensitivity (100% vs 88.9%) and specificity (53.8% vs 42.4%) to detect severe CAKUT than RUS together with DMSA.

Conclusion: A CAKUT was detected in more than half of the children with first UTI, with one third having severe CAKUT. In our setting RUS combined with cystogram is mandatory in childhood UTI, and the new western guidelines are not appropriate for our setting.
Maternal exposure to ambient air pollution has increasingly been linked to congenital heart defects (CHDs). The objective of this study was to evaluate whether high levels of maternal exposure to O$_3$, SO$_2$, NO$_2$, CO are related to increased risk of CHDs in Wuhan, China. We conducted a cohort study with a total of 105,988 live-born infants, stillbirths, and fetal deaths. The study included mothers living in the central districts of Wuhan during pregnancy over the two-year period from June 10, 2011 to June 9, 2013. For each study participant, we assigned 1-month averages of O$_3$, SO$_2$, NO$_2$ and CO exposure based on measurements obtained from the nearest exposure monitor to the living residence of mothers during their early pregnancy period. Logistic regression analyses were conducted to calculate the adjusted odds ratios (aORs) and 95% confidence intervals (CI) for the association between exposure to these ambient air pollutants during early pregnancy and CHDs. In one-pollutant model, we observed monotonically increasing associations between O$_3$ exposure and CHDs overall, and VSD and TF individually, and the risk increased gradually as the month of pregnancy increased. In two-pollutant model, associations with all CHDs, VSD, and TF for O$_3$ were generally consistent compared to the models that included only O$_3$, with the strongest aORs observed for exposures during the third month of pregnancy. We also observed a positive association between CO exposures during the third month of pregnancy and VSD in two pollution model. Our results contribute to the small body of evidence regarding air pollution exposure and CHDs, but confirmation of these associations will be needed in future studies.
Recent studies conducted in developed countries have found some associations between maternal exposures to ambient air pollutants exposure and oral clefts. The objective of this study was to evaluate whether high levels of maternal exposure to PM$_{2.5}$, PM$_{10}$, SO$_2$, NO$_2$, CO and O$_3$ are related to increased risk of oral cleft in Wuhan, China. We used data from a large birth cohort that includes 106,021 live-born infants, stillbirths, and fetal deaths. The prevalence of cleft lip with or without cleft palate (CLP) was 19.1 per 10,000, and cleft palate only (CPO) was 3.0 per 10,000. The study included mothers living in the central districts of Wuhan during pregnancy over the two-year period from June 10, 2011 to June 9, 2013. For each study participant, we assigned 1-month averages of first three month of PM$_{2.5}$, PM$_{10}$, SO$_2$, NO$_2$, CO and O$_3$ exposure measurements obtained from the nearest exposure monitor to the living residence of mothers during their early pregnancy period. Logistic regression analyses were conducted to calculate the adjusted odds ratios (aORs) and 95% confidence intervals (CI) for the association between exposure to these ambient air pollutants during early pregnancy and oral cleft. Using 1 month averages, we observed an increased risk of CLP with increasing PM$_{2.5}$ exposure with aORs ranging from 1.14 to 1.11 (95% CI: 1.00 -1.15, 0.97 -1.12, 1.04 -1.19 separately) per a 10 µg/m$^3$ change in PM$_{2.5}$ concentration and SO$_2$ exposure with aORs ranging from 1.50 to 1.90 (95% CI: 1.39 -1.73, 1.34 -1.68, 1.66 -2.18 separately) per a 10 µg/m$^3$ change in SO$_2$ concentration. Our study adds to the small body of knowledge regarding the association between in utero exposure to air pollution and oral cleft, and provides a rationale for the need for stringent control of air pollution to reduce PM$_{2.5}$ and SO$_2$ concentration.
E-Poster 5

DOES LASER ACUPUNCTURE HAS AN EFFECT ON FETAL WELL BEING DURING LABOR INDUCTION?

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Background: Labor induction with traditional drugs is sometimes associated with fetal complications as fetal distress or death.

Objective: Evaluate the effect of labor induction by laser acupuncture on fetal wellbeing in post term pregnancy.

Design: Nulliparous women at 40 weeks or greater were randomized to sham laser group versus laser acupuncture group. Each session consisted of laser application on bilateral points LI4, SP 6, BL31, and BL32.

Location: Cairo University, National Institute of Laser Enhanced Sciences.

Subjects: Sixty, nulliparous women were randomized into laser acupuncture group n=30 and control group n=30, Women treated in both groups in three consecutive days in post date pregnancy.

Results: (66.6%) showed a significant difference in rate of NVD between acupuncture group (50%) and control group (50%) (P = 0.002). There was no significant difference of enrollment delivery time between laser acupuncture and sham group (P = 0.05). Six cases of Cesarean section (C.S) due to no fetal movement with normal Cardiotocography (CTG).

Conclusion: Laser acupuncture has no effect on fetus and its effect on fetal movement needs more investigations. Laser can induce labor if the cervical length is less than 1cm and dilation (0).
ASSOCIATION OF DIFFERENT TYPES OF MILK FEEDING WITH BLOOD CULTURE POSITIVE NEONATAL SEPSIS

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Objective: To ascertain and compare microbial growth pattern in blood culture of septic neonates who were either totally breast of formula fed.

Study Design: Cross sectional study.

Place of Study: The Children’s Hospital and Institute of Child Health Lahore, Pakistan.

Methodology: All clinically septic neonates, who were either exclusively breast fed or formula fed, were enrolled into the study. They were divided into two groups and studied for the type of organisms grown on blood culture. Group-A were breast fed and Group-B were formula fed. Neonates who were blood culture negative or had growth of multiple organisms or had incomplete data or who died/left against medical advice before completing the required data or babies receiving milk feeding from multiple sources or not feeding at all were excluded. BACTEC technique was used for obtaining bacterial growth. SPSS v19 was used for statistical analysis.

Results: Total 380 clinically septic neonates were enrolled. Each group was consisted of 190 neonates. Overall, Gram-negative organisms constituted the majority i.e. 61%. While 37% cultures grew CoNS followed by Klebsiella spp. (23·4%). Gram negative organisms were three times higher in group B as compared to group A (p=0.001, OR=2.98). Predominant pattern of organisms was also different in two groups. In group A, CoNS was predominant while in group B, Klebsiella spp. was most frequent.

Conclusion: Sepsis is more than two times higher in formula fed babies and is caused predominantly by Gram-negative organisms whilst in breast fed babies, CoNS is the most repeated organism.

Key words: feeding pattern, Neonatal sepsis, micro-organisms-
PREVALENCE OF HEPATITIS C VIRUS INFECTION AMONG ASYMPTOMATIC PAKISTANI CHILDREN

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BACKGROUND: In the current era, viral hepatic infection HCV has become widespread and is the most important reason of liver disease, worldwide. This study was conducted to determine the prevalence of hepatitis C virus (HCV) infection in patients admitted in children ward and attending children outdoor, at Akhtar Saeed hospital, Lahore (a teaching trust hospital).

METHODOLOGY: In this cross-sectional descriptive study, 1358 asymptomatic patients attending department of Pediatrics were selected randomly. This study was conducted from March 2014 to March 2015. Patients of either sex, were included. The ratio of male to female was 50:50. The age ranged from 6 months to two years. Screening for antibodies against HCV (anti-HCV) was performed through Kit method and positive cases were confirmed by ELISA. Informed verbal consent was taken. Data was analyzed by using SPSS 16.0

RESULTS: Out of 1358 registered patients, 4 patients were found reactive and confirmed on ELISA. The overall sero-prevalence of HCV infection within the study period was 0.33%.

CONCLUSION: Data showed only 4 out of 1358 asymptomatic patients had Anti HCV positive. Undiagnosed, asymptomatic patients may be a basis of infectivity in many ways like by intimate individual contact with other family members. Evading unnecessary blood transfusion and injections and execution of strict infection control measures are highly recommended to trim down the frequency of HCV infection.

KEY WORDS: Hepatitis C, asymptomatic children
NO SEVERE DISPARITY IN EMERGENCY TRANSPORT TIME BETWEEN URBAN AND RURAL CHILDREN IN JAPAN

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Background: In Japan, the mean time from emergency call to arrival at medical facility is 39.3 minutes in 2013. However, the time of pediatric patients and the regional disparity between urban and rural places were unknown.

Objective: To clarify transport time of children to medical facilities and the regional disparity between urban and rural places.

Methods: Using Emergency transport patient’s database, 2012 provided by Fire and Disaster Management Agency, the Ministry of Internal Affairs and Communications, transport time for neonate, toddler and children in the 3 urban (Kanto, Chubu, and Kinki) and 5 rural (Hokkaido, Tohoku, Chugoku, Shikoku, and Kyushu) regions in Japan were calculated (Figure).

Results: The mean transport times were 38.3 minutes in neonates, 33.4 minutes in toddlers, and 35.6 minutes in children. Those in urban regions were 36.6 minutes in neonates, 32.4 minutes in toddlers, and 33.9 minutes in children, respectively. On the other hand, those in rural regions were 39.3 minutes in neonates, 33.7 minutes in toddlers, and 36.4 minutes in children, respectively (Table 1).

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The ratios of transport time above 60 minutes in urban regions were 10.8% in neonates, 3.7% in toddlers, and 6.1% in children, respectively. In rural regions, those in neonates, toddlers, and children were 11.5%, 4.0%, and 4.9%, respectively (Table 2).

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<th>Table 2. Transport Time &gt;60min (%)</th>
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60 min (%) width="425" height="99" /
[Conclusion] There were no severe disparities in emergency transport time in neonates, toddlers, and children between urban and rural pediatric patients in Japan.
Objective. To assess efficacy of multiple micronutrient supplementation with Sprinkles on growth of folate and zinc in low SES children population suffering from high rates of anemia and stunting in southern Israel.

Methods. We performed a cluster-randomized community trial in 328 Bedouin and 293 Jewish Children from desert area of Israel, 6 months of age, providing Sprinkles (iron, vitamins A, C, folate and zinc) to Intervention group, and iron and vitamin A and C to Control group, daily for 6 months. We measured the effect on folate and zinc in venous blood at age one year and stunting at age 12 and 18 months.

Results. Folate level changed from 17.6±5.1 to 23.6±4.3 (p=0.049) and from 20.1 to 26.7 (p=0.039) ng/mL in intervention Bedouin and Jewish groups, respectively. Zinc level increased from 125±57.8 to 147±46.9 (p=0.036), and from 148.9±33.8 to 163.3±62.3 ug/dL (p=0.048) in Bedouin and Jewish intervention groups, respectively. No significant changes in both folate and zinc in control groups were detected. Sprinkles supplementation was associated with decreased risk for stunting (height-for-age z-score-2.5) among Bedouin children at age 18m (OR=0.4, 95% CI 0.29-.53, p=0.001) adjusted for baseline stunting status and days of supplementation.

Conclusion. Young children from low- and middle population need administration of Zinc containing supplements to optimize their genetic potential for physical growth.
HEMOGLOBIN LEVEL AND STUNTING OF SIX TO EIGHT MONTHS OLD INFANTS IN EAST JAKARTA, INDONESIA

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Introduction: Anemia in infant is a common nutritional problem in Indonesia. Stunting as a form of growth and development retardation that is associated with delayed cognitive development, decreased adult stature, decreased productivity and fewer years of schooling is important to be prevented in early age. Previous study found out that hemoglobin level has association with GH-IGF-I level which is important in growth process. This study aims to find out correlation between stunting and hemoglobin level among infants aged 6 to 8 months old.

Materials and Methods: A cross-sectional study was done on a total of 55 infants aged between six to eight months old at several clinics in Kampung Melayu, East jakarta-Indonesia. Anthropometric measurements of weight and height were done and analyzed using WHO-Anthro 2005 to detect stunting. Hemoglobin level was measured using hemoCue method. Statistical analysis was done using spearman correlation test.

Results: Correlation between height/age Z-score as an indicator of growth with hemoglobin level was observed in this study (r: 0.394, P<0.05). In addition, we also observed the correlation between weight/age Z-score with hemoglobin level (r: 0.332, P<0.05). No correlation was observed between weight/height Z-score with hemoglobin level. (r: 0.113, P>0.05).

Conclusion: The result of this study shows that hemoglobin level correlates with height/age Z-score which is a chronic growth indicator of infants. This is possible due to action of IGF-I which inhibits apoptosis of hematopoietic cells. Therefore, greater concern regarding nutrition, especially in infants is imperative. Steps such as hemoglobin level screening and breastfeeding must be done in order to prevent anemia which correlates with stunting.
PREVALENCE OF ECG ABNORMALITIES AMONG HEALTHY MALE ADOLESCENT ATHLETES IN TWO HIGH SCHOOLS IN METRO MANILA

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Background: Student athletes are routinely screened by physicians prior to engaging in sports. In the Philippines, obtaining an electrocardiogram (ECG) is currently not a routine part of the sports clearance but has shown to detect potentially life threatening cardiac diseases that are responsible for the occurrence of sudden cardiac death.

Objective: To determine the prevalence of ECG abnormalities in healthy male athletes aged 13-19 years in 2 high schools in Metro Manila.

Methods: This is a prospective cross-sectional study. A questionnaire was used to obtain information on the subjects’ demographic data. The Americal Heart Association Guidelines for Preparticipation Cardiovascular Screening of Young Competitive Athletes was used for history and physical examination. ECG was obtained and findings were classified as having no findings, normal-variant and uncommon ECG findings.

Results: Out of the 61 high school athletes enrolled in the study, 3% had completely normal ECG and 25% have normal-variant ECG changes for athletes, most commonly sinus arrhythmia (47%) and sinus bradycardia (16%). The most frequently seen uncommon ECG finding is T-wave inversion in the right precordial leads (69%). Six athletes were identified to be needing referral to a specialist: 1 with biventricular hypertrophy and left atrial enlargement on ECG and a physical examination finding of a systolic murmur, 2 athletes with prolonged QT and 3 athletes with complete Right Bundle Branch Block (RBBB).

Conclusion: ECG abnormalities requiring referral to a specialist were detected in about 10% of the athletes who were generally asymptomatic. Adding electrocardiography to the preparticipation screening done in young athletes may increase the chances of detecting potentially fatal cardiac conditions and athletes with or without identifiable risk factors may benefit from it.
Bilious vomiting in the newborn baby is well recognised as a potentially serious symptom and usually investigated promptly. Non-bilious vomiting, on the other hand, can be attributed to gastro-oesophageal reflux or considered a reflex phenomenon, is mild and transient, and is hence usually ignored with no ill effects. However, persistent non-bilious vomiting in a newborn baby, from the very beginning, can, rarely, be due to obstruction proximal to the ampulla of Vater in the second part of the duodenum.

We present two babies who presented late in the first week of life with severe dehydration, weight loss and metabolic alkalosis secondary to persistent non-bilious vomiting caused by a pre-ampullary duodenal atresia and discuss their management.
HETEROTOPIC GASTRIC MUCOSA IN THE LOWER ESOPHAGUS ASSOCIATED WITH CHRONIC GASTRITIS WITH HELICOBACTER PYLORI IN A CHILD

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Heterotopic gastric mucosa (HGM) is abnormally placed gastric mucosa outside of the stomach. HGM is most commonly found in the proximal esophagus. It may be connected with disorders of the upper gastrointestinal tract, and it can be exacerbated by Helicobacter pylori. The diagnosis of HGM is confirmed via endoscopy with biopsy. Histopathology provides the definitive diagnosis by demonstrating gastric mucosa adjacent to normal esophageal mucosa. HGM located in the distal esophagus needs differentiation from Barrett’s esophagus. Malignant progression of HGM occurs in a stepwise pattern, following the metaplasia-dysplasia-adenocarcinoma sequence. We present a rare case of a 15-year-old female with HGM located in the lower esophagus, associated with chronic gastritis with H. pylori. Endoscopy combined with biopsies is a mandatory method in clinical evaluation of metaplastic and non-metaplastic changes within HGM of the esophagus.

Keywords: heterotopic gastric mucosa, esophagus, child, H. pylori
Introduction: Autoimmune diseases have an unpredictable development potential. Their early diagnosis and treatment can bring real benefits to the patient. Association of autoimmune diseases in the same patient, which happened frequently in recent years, may have a bad prognosis.

Purpose: assessing the possibility for development of three autoimmune diseases combination: autoimmune hepatitis, thyroiditis and celiac disease, with the possibility of developing diabetes.

Material and method: We tried to identify the etiology of hepatic cytolysis syndrome at a 6-year-old girl. The patient presented to the doctor for an external facial paralysis at which point the hepatic cytolysis syndrome was highlighted.

Results: Laboratory investigations ruled out viral hepatitis HBV, HAV, HCV, HDV, CMV, and EBV. Autoimmune hepatitis was initially ruled out by lack of inflammatory syndrome, Ac-ANA negative, and p-ANCA negative. Transglutaminase antibodies were negative. From 6 to 10 years the patient was investigated by medical services in Italy, but etiology has not been elucidated. At 10 years old the patient back in the pediatric service in Cluj-Napoca and new investigations were made. Transglutaminase antibodies are currently weak positive. Abdominal ultrasonography shows the presence of liver cirrhosis. Parents refuse liver and duodenal biopsy, investigations conducted afterward in Italy. Liver biopsy indicates the presence of autoimmune hepatitis in cirrhotic stage with fibrosis degree IV. Duodenal biopsy shows the presence of celiac disease stage 3C Marsh. Patient starts the gluten-free diet. Drug therapy includes cortisone and Imuran. Hepatic cytolysis syndrome evolution is favorable. At 12 years old the patient returns for investigation, at which point can be detected the presence of an autoimmune thyroiditis.

Conclusions: The negative serology makes early diagnosis difficult. The combination of three autoimmune diseases in the same patient can lead to a bad prognosis. Association between celiac disease and autoimmune hepatitis can lead to negative serology for both diseases, but evolution progresses.
RELATIONSHIP BETWEEN AUDIO VISUAL MEDIA EXPOSURE AND AGE AT MENARCHE AMONG JUNIOR HIGH SCHOOL IN MEDAN

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Background: The age at menarche in recent years tend to be early experienced by girls. The earlier age at menarche can cause negative health effects. Some studies suggest that there were relationship of audio-visual media for age at menarche but the results were inconsistent.

Objective: To determine the relationship between audio-visual media exposure and the age at menarche.

Methods: A cross sectional study was conducted among junior high school in Medan on August to October 2015, there were 216 children who had fulfilled the inclusion criteria. A history of exposure to audiovisual media known from the questionnaire that has been validated previously. Data was analyzed using fisher exact test to determine the relationship between audio-visual media exposure and age at menarche.

Results: We found 216 children had experienced menarche, the mean age at menarche was (11.6 SD 1.13) years old. There were 201 of them have been exposed to audio-visual media that contain sexual content, from the 201 children that there were 32 children who have early menarche. There was no statistically significant relationship between age at menarche with audio visual media exposure ($P = 0.68$).

Conclusions: In this study there was no relationship between media audio visual exposure and age at menarche.

Key words: Audio visual, age at menarche, children.
Background. Iron is an essential micronutrient for the metabolic processes and have a role in tuberculosis (TB) infection. Immune response to an infection releases cytokines, causing changes in iron homeostasis.

Objective. To determine the differences of blood iron profile between children with and without *M. tuberculosis* infection that have contact active adult TB.

Method. A cross-sectional study was performed on June 2015 at three health centers in the district of Batubara, North Sumatera Province. A total of 50 children who had met criteria were taken as subjects; 26 children with *M. tuberculosis* infection and 24 children without.

*M. tuberculosis* infection. Mantoux test, complete blood count, and blood iron profile was performed in all subjects. Data were analyzed using independent t-test.

Results. There were significant differences in hemoglobin level, serum iron, and transferrin saturation between children with and without *M. tuberculosis* infection. Hemoglobin level was 11.6 (SD1.5) g/dL and 12.56 (SD1.1) g/dL, (P = 0.013). Serum iron was 54.7 (SD 26.9) µg/dL, and 72.58 (SD 22.0) µg/dL, (P = 0.013), transferrin saturation was 16.3 (SD 8.3) %, and 21.2 (SD 6.2) %, (P = 0.022), but there was no significant differences in terms of serum feritin and total iron binding capacity. Serum feritin was 53.6 (SD 34.4) ng/mL, and 49.4 (SD 23.9) ng/mL, (P = 0.615). Total iron binding capacity was 343.9 (SD 48.7), and 342.2 (SD 33.5) µg/dL, (P = 0.882).

Conclusion. There are significant differences in hemoglobin level, serum iron, transferrin saturation in children with and without *M. tuberculosis* infection.

Keywords: *M. tuberculosis* infection, iron profile, children
ROLE OF URSODEOXYCHOLIC ACID (UDCA) IN DECREASING VALUE OF ALANINE TRANSAMINASE (ALT) AND ASPARTATE TRANSAMINASE (AST) IN CHILDREN

Muhammad Nasution, Supriatmo Supriatmo, Melda Deliana, Atan Sinuhaji, Atan Sinuhaji, Ade Yudianto
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Background: Alanine Transaminase (ALT) and Aspartate Transaminase (AST) are liver enzymes. Current researches on drugs to lowered these liver enzymes are not many. Ursodeoxycholic acid (UDCA) is one of the drugs that can lowered liver enzyme levels.

Objective: To determine the role of ursodeoxycholic acid in decreasing value of ALT and AST in pediatric patients.

Methods: This study was an observational analytic study, conducted in Haji Adam Malik General Hospital, Medan, North Sumatera on August to October 2015. The subjects were 42 children admitted to the pediatric ward that had ALT and AST level more than two times the upper limit of normal value. Subjects were given UDCA 10 mg/kg/day divided bid for seven days. The level of ALT and AST were reassed on the seventh day. Data were analysed using paired t-test and Wilcoxon signed ranks test.

Results: Seventy one percents subjects in the study were male, and the rest were female (28,5%). Mean level of ALT and AST before administration of UDCA were 196.1 IU/L and 187.7 IU/L. Mean level of ALT and AST after administration of UDCA were 106.6 IU/L and 116.7 IU/L. There were significant decreasing of ALT and AST level before and after of UDCA admission (P = 0.001), where the mean of decreasing ALT level was 89.5 IU/L and AST level was 71.0 IU/L.

Conclusion: There were significant decreasing of ALT and AST level between before and after admission of ursodeoxycholic acid (UDCA).

Keywords: ursodeoxycholic acid, alanin transaminase, aspartate transaminase
Background: Eating behavior in child influenced by several factors, one of them is parents concern about children’s nutritional status. Parents often use visual perception to assess the nutritional status of children.

Objective: To determine the relationship between visual perceptions, nutritional status and eating behavior in children.

Methods: A cross sectional study was conducted on August 2015 at 3 kindergartens in Medan. The subjects were 102 student and their mothers. Eating behavior was assessed by Parental Feeding Style Questionnaire (PFSQ) for measured emotional, instrumental, control, and eating encouragement. Body image was assessed by child sketch created by a graphic artist (Scott Millard). All subjects body weight and height were also measured, children’s nutritional status based on WHO growth charts 2000. Data were analyzed by using Cohen’s Kappa, Kruskal Wallis and Anova

Results: A total of 102 subjects were eligible with this study. We found that no relationship between the measurement of mothers visual perception with childrens nutritional status (κ= -0.174). No differences in maternal eating behavior for children with visual perception and nutritional status of children (P value 0.05).

Conclusion: There are no relationship between the measurement of maternal visual perception scores with nutritional status, maternal behavior toward diet and children’s nutritional.

Key words: Mother visual perception, nutritional status, children eating behavior.
Background: Recurrent chronic cough in adolescent may be asthma, however spirometry test to obtain the lung function parameters in adolescent with recurrent chronic cough is limited.

Objective: To determine the lung function parameters and the FEV1 variability of adolescent with recurrent chronic cough before and after salbutamol inhalation.

Methods: This was the cross sectional study to adolescent in four schools of Batubara regency of North Sumatera province. Variability of FEV1 and Forced Vital Capacity (FVC) before and after salbutamol inhalation were analyzed using Wilcoxon signed-rank test.

Results: Of 753 students, 98 adolescent fitted the inclusion criteria and 87 of 98 passed for ATS/ERS criteria of spirometry test. The FEV1 mean before and after salbutamol were 2.29 (SD 0.56) and 2.28 (SD 0.53), respectively (P=0.001). FVC value before and after salbutamol were also statistically significant with the value 2.37 (SD 0.60) and 2.44 (SD 0.60), respectively. There were no changes of FEV/FVC ratio (P=0.796). Variability bigger than 12 percent of FEV1 post salbutamol inhalation were found in 5.7 percent respondents.

Conclusions Spirometry test and the use of salbutamol inhalation were useful to assist clinicians determine the variability of FEV1 and FEV/FVC in adolescent with recurrent chronic cough.

Keywords: spirometry, chronic recurrent cough, adolescent, lung function, FEV1.
CORRELATION BETWEEN OBESITY AND FUNCTIONAL CONSTIPATION IN CHILDREN

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Background: Functional constipation is the common problem in children which can be found either in developed and developing country. In the past two decade, the prevalence of obesity is also increasing in the developing country. Obesity itself has caused lot of health problem including functional constipation. Study to learn about correlation between obesity and functional constipation can only be found from the developed country.

Objectives: To determine correlation between obesity and functional constipation in children.

Methods: A cross sectional study had been conducted in Al-Mukhlisin Islamic Boarding school, Batu Bara region, North Sumatera province between July and August 2015. The subjects were 155 children attending boarding school, age range between 12 to 17 years old. Questionnaire to determine functional constipation was given with direct interview. Obesity was assessed based on body mass index. Data were analyzed using chi square test.

Result: Of 155 children, 49 children had functional constipation and 18 of them were obese. The mean age for children with constipation was 14.7 years old (SD: 1.07 [95% CI: 14.1 to 14.7]) with mean body weight 53.8 kg (SD: 15.1[95% CI: 49.4 to 58.1]). The prevalence for functional constipation in obese children was 36.7% There was statistically significant correlation between obesity and functional constipation (P = 0.001) with prevalence ratio = 4 (95% CI: 1.72 to 8.94) ; meaning obese children had 4 times higher risk to have functional constipation

Conclusion: There is significant correlation between obesity and functional constipation in children

Keywords: obesity, functional constipation, prevalence, children, developing country.
HIGHER LEVELS OF SERUM TOTAL HOMOCYSTEINE AND NEURAL TUBE DEFECTS: EFFECT MODIFICATION BY THYROID HORMONE LEVELS IN PREGNANT WOMEN

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Background: Folate deficiency during the periconceptional period is one of the causes of neural tube defects (NTDs) and accompanied a higher level of serum total homocysteine (tHCY) in pregnant women. Thyroid hormone also influences the development of the brain in the fetuses at an early stage.

Objective: We aimed to explore the association between tHCY and NTDs when pregnant women are exposed to low or high serum levels of thyroid hormone.

Methods: We conducted a case-control study to investigate and compared 1) serum FT4 level at early pregnancy, and 2) risk (odds ratios, OR) of tHCY in pregnant women exposed to low or high levels of FT4 adjusted for maternal age, gestational weeks, and urine iodine.

Results: There was a FT4 surge in the control group, whereas it was not seen in pregnant women with NTDs. There was no correlation between concentrations of urine iodine and serum FT4 adjusted for gestational weeks. Serum tHCY was associated with NTDs risk with an OR of 3.7 (95% confidence interval = 1.6-8.3) and 1.5 (0.2-8.7) for low and high levels of serum FT4 exposure, respectively. There was no association between urine iodine and NTDs (P  0.05).

Conclusion: Serum FT4 level modifies the effect of tHCY on NTDs risk rather than urine iodine. During the periconceptional period, attention should be paid to the levels of not only serum tHCY (or folate) but also serum FT4.
ASSOCIATION BETWEEN CONGESTIVE HEART FAILURE AND ACUTE KIDNEY INJURY IN CHILDREN

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Background: Patient with congestive heart failure (CHF) is susceptible to have acute kidney injury (AKI) because both of kidney and heart have almost the same role in circulation and fluid regulation. Several studies revealed association between CHF and AKI in adult but still few in children.

Objective: To determine the association between CHF and AKI in children.

Method: A cross sectional study had been conducted on April to August 2015 in pediatric ward Haji Adam Malik Hospital Medan. Sample group was 30 children with CHF and control group was 30 children without CHF. Analysis of urine output, hemoglobin level, serum urea, serum creatinine, and estimated creatinine clearance on admission were performed in both group. Echocardiography examination by pediatric cardiologist to analyze ejection fraction and fractional shortening was done only in CHF group.

Results: Of 30 children with CHF, only 6 children who suffered from AKI, while no AKI in control group. There was a statistically significant association between CHF and AKI \((P=0.024)\) with prevalence ratio = 1.25 (95% CI: 1.04 to 1.49) ; meaning CHF children had 1.25 times higher risk to have AKI. Risk factors for AKI in CHF were ejection fraction \((P=0.01)\) and fractional shortening \((P=0.01)\)

Conclusion: There was an association between CHF and AKI in children.

Keywords: congestive heart failure, acute kidney injury, children
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Conclusion: There was an association between CHF and AKI in children.

Keywords: congestive heart failure, acute kidney injury, children
THE LONG TIME OF USE OF IRON CHELATION AGENT WITH BIOCHEMICAL BONE PROFILE IN THALASSEMIA PATIENTS

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Background: Thalassemia is a genetic hematologic disorder that needs a lifetime transfusion. It will cause heart disease, endocrinopathies including abnormalities of bone profile. Several studies revealed an association between duration of iron chelation agent and biochemical bone profiles (calcium, phosphor, alkaline phosphatase, and albumin).

Objective: To determine the effect of long time use of iron chelation agent to biochemical bone profile in thalassemia patients.

Methods: A cross sectional study was conducted in Haji Adam Malik hospital and Sari Mutiara hospital Medan, on July until September 2015. Biochemical bone profile measurement were performed to all subjects. Data was analyzed using Spearman correlation test.

Results: From 33 thalassemia children were enrolled this study. Mean age of the subject was 10 years old (SD: 3.90), and the mean time of using iron chelation was 6 month (SD: 3.42). Bone profile measurement showed that mean level of calcium was 9 mg/Dl (SD: 0.86), phosphor was 4.6 mg/Dl (SD: 0.66), alkaline phosphatase was 293.2 IU/L (SD:157.40), and serum albumin was 3.8 g/Dl (SD:0.50) . Spearman correlation test showed no significant correlation between duration of iron chelation agent and biochemical bone profiles. Correlation for each association between duration of iron chelation agent used and bone profile were as follows calcium (r=0.198), phosphor (r = -0.292), alkaline phosphatase (r = 0.327), and albumin (r = 0.268) there was weak correlation (P: 0.05).

Conclusion: Long time used of iron chelation agent has weak correlation with biochemical bone profile in thalassemia patients.
CORRELATION BETWEEN BORN WEIGHT AND PREVALENCE OF OBESITY AND OVERWEIGHT IN SCHOOLCHILDREN

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A retrospective study including 1433 schoolchild from 5 to 8 years old, using the birth weight (BW), the current weight, size, and their body mass index (BMI), and then interpreted the data according to the new tables of the WHO.

A correlation between the birth weight and the current l anthropometric measures was studied by a statistical analysis.

Results: 6.2 % of children have a lower BW 2kg500, 85.2 % of the children have a normal BW between 2kg500 and 4kg, 8.5 % of the children were born with a higher BW4kg.

Overweight and obesity Prevalences of the born with high BWchildren (31.7 %; 11.4 %) and those born with a low BW (29.2 %; 14.6 %) are significantly higher than at the children born with normal BW (19.33 %; 5.56 %). Hypotrophie prevalence is significantly higher in the group of children having a low BW 3.4 %; 0 % for those born with high BW.
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PREVALENCE AND PATTERN OF PSYCHOSOCIAL DISORDERS AMONG OVERWEIGHT AND OBESE CHILDREN IN ENUGU, NIGERIA

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Background: Childhood Obesity has been recognized as a major 21st century public health challenge because of alarming trends in the prevalence, severity, and occurrence of adverse health and psychosocial consequences over the course of life. The prevalence of obesity and overweight has been increasing over the last 2 decades in developing world, paradoxically coexisting with under-nutrition. Overweight and obesity in childhood have significant impact on both physical and psychosocial health.

Objectives: The objectives of this study were then to determine the prevalence and the pattern of psychosocial disorders among secondary school children in Enugu metropolis aged 10-18 years.

Methods: It was a descriptive cross sectional study. Two hundred subjects were selected through multistage sampling. Data for psychometric measurements were collected using self-administered questionnaires after their weight and height were measured and their BMI determined.

Results: One hundred and nineteen of the 200 students had one or more psychosocial disorder, giving a psychosocial prevalence rate of 59.5%. The psychosocial disorders were commoner among female than males though this was not statistically significant ($\chi^2 = 0.905, p = 0.34$). Eighty percent of the children in the middle class had at least one psychosocial disorder, making the middle class the most prevalent group with psychosocial disorders among obese children. Of the 200 students, 92 (46%) had depression, 28 (14%) had anxiety disorder, 46 (23%) had low self-esteem, 56 (28%) and 54 (27%) felt discriminated against and stigmatized respectively.

Conclusion: The burden of psychosocial disorders among overweight and obese children in Enugu metropolis is very high. While depression is commonest, anxiety disorder is the least prevalent. These disorders are commoner among the girls.
IRON DEFICIENCY ANAEMIA IN A HIGH RISK POPULATION: PREVENTIVE INTERVENTION

Lufti Jaber

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Background: Iron deficiency (ID) and iron-deficiency anemia (IDA) are common medical conditions seen in everyday clinical practice. ID continues to be the top-ranking cause of anemia worldwide, and IDA has substantial effect on the lives of young children in both low-income and developed countries. The prevention diagnosis and treatment of this condition could clearly be improved.

Objective: To determine the effect of nutritional education and supplemental iron administration on the prevalence of IDA in Arab infants.

Methods: Three hundred and ten infants were randomized alternately into two groups. Mothers (n=143) in the control group received standard information on prevention of IDA and mothers in the intervention group (n=144) received extensive information on the importance of an iron-rich diet. Data was scored regarding diet contents. Mothers in the intervention group were encouraged to give their children an iron polymaltose complex (IPC) preparation starting from age 4 months to 1 year. Compliance of receiving the medication was evaluated. The groups were compared for outcome by chi-square test. Main outcome measures were haemoglobin (Hb), mean corpuscular volume (MCV), and serum ferritin levels.

Results: Anaemia (Hb11 g/dL) was recorded in 28% and 34% of the intervention and control groups, respectively (p=NS). There was no effect of infant or parental background factors on rate of anaemia. Frequency of anaemia was lower in infants who received ≥6 months of iron medication according to mothers’ reports, and in infants breastfed for ≥6 months (p=0.002).

Conclusions: Questions were raised regarding the strategies of preventing IDA in infancy.
ORAL CARNITINE SUPPLEMENTATION IN PEDIATRIC DIPHTHERIA INFECTION: A SYSTEMATIC REVIEW

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Background: Diphtheria is an acute infectious disease that poses a considerable threat to children. Myocarditis from diphtheria infection is due to direct effect of the exotoxin of the bacillus. Carnitine administration has been studied to diminish cardiac cell loss caused by diphtheria toxin.

Objectives: This systematic review aims to assess the efficacy of oral carnitine supplementation versus routine therapy alone in reducing myocardial damage, cardiac-related mortality and overall mortality among pediatric patients with diphtheria

Methods: Two randomized controlled clinical trials evaluating the efficacy of oral carnitine supplementation in reducing the incidence of myocarditis among children less than 19 years diagnosed with diphtheria infection were analyzed. Two independent reviewers analyzed the eligibility and risk of bias of each available full text copy of studies. The Review Manager Software was utilized in the comparative analyses.

Results: Pooled risk ratio values showed 0.85 (95%CI [0.73, 0.98], I² 24%), RR 0.21% [0.1, 0.46], I² 0% and RR 0.39 [0.22-0.69], I² 0%, with trend favoring the experimental group in reducing myocarditis, cardiac-related deaths and overall mortality, respectively.

Conclusion: This systematic review showed a significant decrease in the incidence of myocarditis, cardiac-related deaths and overall mortality rate in patients with diphtheria who received carnitine compared to controls. However, the evidence was high risk for bias. The review provides encouraging data but more high quality and better designed studies are warranted to support this therapeutic claim.
DILATED CARDIOMYOPATHY ASSOCIATED WITH THYROTOXICOSIS TREATED WITH HEART TRANSPLANTATION

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Background: Cardiomyopathy is a rare manifestation of thyrotoxicosis. The association of thyrotoxicosis and disturbances in the heart function is well established. Heart failure can be resulted from chronic tachycardia and the action of thyroid hormone on altering gene expression in cardiac cells. Most of them are known to be reversible after thyroid dysfunction normalization. However, there is irreversible cardiomyopathy even after successful treatment of thyrotoxicosis.

Objective: We report a patient of irreversible dilated cardiomyopathy due to thyrotoxicosis who was successfully treated with heart transplantation. Also, possible mechanisms underlying the development of systolic dysfunction in thyrotoxicosis are discussed.

Methods: A 10-year-old girl presented with chest discomfort, dizziness, sweating, and exertional dyspnea. She was initially diagnosed with Grave’s disease at age of 3, and has been treated with anti-thyroid agents at another hospital. Despite the medication, she manifested poor oral intake and fatigue. Her echocardiography showed grade II mitral regurgitation at age of 8, and she started taking diuretics. However, symptomatic heart failure aggravated and she was transferred to our hospital.

Results: She was subsequently diagnosed as dilated cardiomyopathy secondary to Graves’ disease with severe cardiomegaly and left ventricular systolic ejection fraction of 20% on echocardiography. She underwent heart transplantation which led to improvement of her clinical status and normalization of her ejection fraction.

Conclusion: Cardiomyopathy should be considered even in young patients with thyrotoxicosis for establishing the diagnosis and instituting proper management. In many cases, heart failure associated with hyperthyroidism is known to take reversible course. However, a poor prognosis has been reported once patients developed dilated cardiomyopathy with impaired left ventricular function. Heart transplantation could be considered as a salvage therapy in intractable heart failure.
Bleeding from the rectum is a common symptom seen in children. They cover a wide range of common and mundane diagnoses like constipation causing fissures, infectious colitis, inflammatory bowel disease and cow’s milk protein allergy which can be diagnosed and managed easily. Occasionally a polyp or a Meckel’s diverticulum is diagnosed. We present three cases of children who have undergone various investigations and been found to have vascular malformations of the rectum and sigmoid. They have been managed conservatively and have periods of no or insignificant bleeding. The question we aim to raise is if there is a more definitive treatment available for these children.
Self-injurious behavior in children and adolescents is not typically a standalone disorder. Research shows that these behaviors are often comorbid with depression and anxiety as well as borderline personality disorder and eating issues (Whitlock, 2010; Whitlock, Eckenrode & Silverman, 2006; Haw, Hawton, Huston & Townsend, 2001).

This poster will present the results from a secondary data analysis of child and adolescent cases from a community mental health agency in the United States. Approximately 3000 charts were reviewed. This represented a 100% sample of closed cases from one multi-site agency over a 10 year period. This current analysis looks at the relationship between self-injurious behavior and: DSM diagnoses; demographics; school failure; and having a primary care physician.

After cleaning the data, a total of 2760 cases were included in the final sample. Of these cases, 659 indicated self-injurious behavior. This number represents 24% of the entire sample. In addition, 38% of these cases were male; 23% had been held back in school; 83% had a primary care physician.

A linear regression was performed to examine the relationship between the predictor variables and the presence of self-injurious behavior. The DSM diagnosis most related (with statistical significance p.05) to the presence of self-injurious behavior was Adjustment Disorder. This was followed by children and adolescents whose primary diagnoses were Physical or Sexual Abuse. Results also indicate that screening for self-injurious behavior should not be limited to children and adolescents who present with depression and anxiety symptoms as self-injurious behavior occurs across diagnoses, and occurred frequently in this sample with “mild” DSM diagnoses. Common convention that self-injury is limited to females was not upheld in this sample. A discussion of clinical strategies will be presented along with measures that can be utilized for evaluating the presence of self-injurious behavior in a community mental health agency or primary care facility.
THE PREVALENCE AND RISK FACTORS OF REPIRATORY ALLERGY AMONG ADOLESCENT STUDENTS IN GROMBALIA

Limam Feriel, louati ikram, hammami abbes, atrous chafika, atrous hsen, thlijeni jihen

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The prevalence of allergic diseases is increasing throughout the world.

The aim of our study was to determine the prevalence of asthma, rhinitis and allergic conjunctivitis and their epidemiological characteristics and risk factors among school students aged between 16 and 19 years in Grombalia, north east of Tunisia. 717 students were screened and we identified for each individual and family anamnesis data of atopy, a cardiopulmonary examination and measurement of peak expiratory flow, weight, height and BMI. In cases where the allergy was suspected, prick tests were carried out. Spirometry has been made whenever an asthma was suspected.

The prevalence of the allergy was 7.25%: 6.64% of pupils had allergic rhinitis, 4.5% rhino-conjunctivitis and 1.55% had asthma. The only statistically significant risk factor was family atopy (p 0.0001). Moreover, neither the sex, BMI or the concept of exposure to tobacco had influenced the prevalence of allergy. Mites were found to be the allergen sources in 77.19% of cases.

Conclusion: The prevalence of asthma and allergic rhinoconjunctivitis is significantly lower than that found in the literature, family atopy remains the main risk factor and mites the main causative agent.
COMPARATIVE STUDY OF THE UNDERWEIGHT, OVERWEIGHT AND OBESITY PREVALENCE OF TUNISIAN SCHOOLCHILDREN. APPLICATION OF THE NEW CHARTS OF WHO.


Department of Pediatrics, Grombalia Hospital, Tunisia

This is a comparative study of underweight, overweight and obesity prevalence in schoolchildren for three groups of infants, aged 5 to 8 years, living in the same region (Grombalia in the north of Tunisia).

The research was carried out on children in 2015, 7 years ago and 20 years ago.

G1=1220 current schoolchildren, G2=2589 schoolchildren during the year 2008/2009, and 910 infants of 20 years ago (parameters used from school medical reports of students who are currently aged 25 to 28 years old.

For the three groups we evaluated the weight, height and body mass index (BMI).

The new charts of the WHO 2007 (BMI/age/sex) are used for the interpretation of results.

Statistical analysis: Epi info2 test chi2.

Results: the underweight, overweight and obesity prevalence among the three groups was found to be respectively: G1(1.5%, 28.5%, 14.5%), G2 (3.01%, 21.13%, 6.83%), G3 (7.69%, 9.56%, 2.17%).

Conclusion: significant decreases of underweight and significant increases of overweight and obesity prevalence were found in the children analysed today compared with 20 years ago and lesser extent 7 years ago.
CHILDREN WITH FIRST EPISODE OF SEIZURE AND FEVER: IS LUMBAR PUNCTURE NECESSARY?

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Background: Febrile seizure is a frequent cause of hospitalization. Its management remains problematic. Lumbar puncture, which is not devoid of risk, is strongly recommended in infants under 1 year presenting febrile seizure.

Objective: to define the utility of lumbar puncture in the management of febrile seizures in infants under 12 months and to identify predictor factors of meningitis

Patients and methods

This retrospective study was conducted in the department of pediatrics B in the Children Hospital of Tunis during eight-year period.

Results: 106 cases were collected during the period of study. Seizures related to bacterial meningitis were seen in 11 cases (10%). We have separated two groups: G1 infants presented bacterial meningitis, and G2 infants with febrile seizure. The comparison between the two groups G1 and G2 showed the following risk factors of meningitis: age ≤7 months (p=0.035), partial seizure (p=0.028), duration of seizure ≤5min (p=0.001), recurrence of seizure in the same day (p=0.006), neurological abnormalities (p=0.001), CRP 20 mg/l (p=0.03), hyponatremia ≤125 mmol/l (p=0.01).

The risk of meningitis is very low: 3.1 10^-3, if this condition is met: infants older than 7 months, having a unique and short seizure ≤5 min, and with a CRP ≤ 20 mg/l.

Conclusion: We recommend the practice of a lumbar puncture in infant less than 1 year of age, if one of the predictor factors found in the study is present. However, if the infant is older than 7 months, presenting a unique, and short (≤ 5 min) seizure, having a normal neurological examination and a CRP ≤ 20 mg/l, lumbar puncture should be discussed a case by case with a senior but an hospitalization for 24 hours is required for monitoring.
NEBULIZED 5% HYPERTONIC SALINE IN BRONCHIOLOITIS: A RANDOMIZED CONTROLLED TRIAL

Faten Tinsa, Fatma Khalsi, Samia Hamouda, Imen Bel Hadj, Manel Ben Romdhane, Ines Trabelsi, Ines Brini, Khadija Bousetta

Pediatrics, Children’s Hospital Bechir Hamza, Tunisia

Background: Bronchiolitis is a public health problem in the world and in Tunisia. Nebulized hypertonic saline seems to have some benefits in bronchiolitis.

Objective: To evaluate the efficacy of nebulized 5% hypertonic saline with nebulized normal saline in bronchiolitis as measured by improvement in clinical score, oxygen saturation or reduction in duration of hospitalization.

Methods: This prospective, double blind, placebo controlled, randomized clinical trial was performed at Children’s Hospital of Tunis.

A total of 57 patients less than 12 months of age with diagnosis of moderately severe bronchiolitis were enrolled and assigned to receive 5% nebulized hypertonic saline or normal saline (placebo) at admission and every 4 hours during hospitalization.

Results: There were no significant difference between nebulized 5% hypertonic saline or normal saline at baseline and after 30, 60 and 120 minutes in Wang severity score, oxygen saturation in room air, rate respiratory and heart rate. There was no difference in duration of hospitalization.

Conclusion: Nebulized 5% hypertonic saline are safety but does not appear effective in treating moderately ill infants with the first acute bronchiolitis.
EFFECTIVENESS OF SYNBIOTIC IN THE TREATMENT OF ATOPIC DERMATITIS IN CHILDREN

Irike Ayumi, Rita Evalina, Johannes H Saing, Lily Irsa, Mahrani Lubis
Department of Pediatric, Faculty of Medicine, North Sumatera University, Indonesia

Background: Atopic dermatitis (AD) is a chronic itchy inflammatory disease of the skin. The role of synbiotic in treatment of the atopic dermatitis has shown varying results.

Objective: To determine the effectiveness of synbiotic in AD treatment.

Methods: A randomized controlled trial was conducted from July until August 2015 at primary health centres in Medan. Fifty two children with AD was included in the study. Subjects were divided into two groups, 26 children in each group. Group A received synbiotic and emolient, Group B received placebo (maltodextrin) and emolient. Both groups were followed for 14 days and SCORAD (Scoring of Atopic Dermatitis) index was assessed to determine AD severity in day 0, 7, 10, and 14. Data was analysed using Mann whitney test.

Results: Mean SCORAD index reduction from day 0 until 14 of group A was better than group B, implying that synbiotic has a role in AD treatment. But unfortunately this result was not statistically significant (P 0.05). The EER and CER in this study was 75.84% and 73.08% respectively, NNT score of synbiotic treatment was 8.67.

Conclusions: Synbiotic was associated with better SCORAD index reduction in 14 days than placebo, but this was not statistically significant. Synbiotic is not effective in treatment of AD in children.
Background: Although *Escherichia coli* (*E. coli*) is a part of normal gastrointestinal microflora, pathogenic variants could cause diarrheal and extraintestinal diseases. However, data about asymptomatic carriage of pathogenic *E. coli* in children appear.

The aim of the study was to identify the presence of different pathogenic *E. coli* in stool samples of asymptomatic children and analyze a possible association between previous treatment with antibiotics and presence of pathogenic *E. coli*.

Methods: Faecal samples were gathered from 53 children without gastrointestinal symptoms (median of age - 5.5 years, boys 45%). Parents of children filled out a questionnaire about treatment with antibiotics received during previous month or previous year.

DNA was extracted from stool samples and analysed for the presence of pathogenic *E. coli* - enterotoxigenic (ETEC), enteroaggregative (EAEC), enteropathogenic (EPEC) and enterohemorrhagic (EHEC) - by PCR.

Results: Among children without gastrointestinal symptoms 15% (8/53) of isolates were positive for pathogenic *E. coli*: 13% (7/53) were positive for EPEC; one sample was positive for ETEC, one – for EHEC, one – for EAEC. One child carried simultaneously three types of pathogenic *E. coli* – EPEC, EHEC, ETEC; another child carried two types of pathogenic *E. coli* – EPEC and EHEC. Children carrying pathogenic *E. coli* had not received antibacterial therapy more often compared to children without pathogenic *E. coli*.

Conclusions: Data from the studied patient sample indicate that healthy children in the represented population may carry potentially pathogenic *E. coli* (predominantly EPEC). Clinical significance and factors promoting colonization with pathogenic *E. coli* should be studied further.

The study was supported by the grant from Latvia State Research programme „Biomedicine“
THE EFFECTIVENESS OF ADDITIONAL PROBIOTICS THERAPY TOWARDS SCORAD INDEX IN CHILDREN WITH ATOPIC DERMATITIS

Jessica Ekaputri, Rita Evalina, Melda Deliana, Lily Irsa, Mahrani Lubis
Department of Pediatric, University of Sumatra Utara, Indonesia

Background. Probiotics treatment was claimed to offer several functional properties including stimulation of immune system by producing gut floras and has an important role in atopic dermatitis (AD).

Objective. To determine the effectiveness of probiotics treatment in atopic dermatitis

Methods. A randomized controlled trial was conducted on 56 children suffering from AD from December 2015 to January 2016. The severity of AD was assessed based on the scoring of atopic dermatitis (SCORAD) index. Subjects were divided into two groups of SCORAD consisting of 28 children in each group. The case group received both probiotic and emollient treatment, meanwhile, the control group received only emollients treatment. SCORAD index was re-evaluated after 2 weeks of therapy. The data was analyzed using Mann Whitney test.

Results. There was no significant difference between SCORAD index in the case and the control group before intervention\(p =0.629\). Mean SCORAD index reduction in the case group was 12.99 which was better than the control group (8.05). However, there was significant differences between mean SCORAD index the case and control group after intervention\(p =0.011\). The EER and CER in this study was 63% and 37% respectively, NNT score of probiotic treatment was 3.8

Conclusion. Probiotics was effective in reducing AD severity.

Keywords: Atopic dermatitis, scorad index, probiotics.
BULLOUS PEMPHIGOID IN OBESE BOY : CASE REPORT

Rita Evalina, Lily Irsa
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Bullous pemphigoid is an acute or chronic autoimmune skin disease that may very rarely in childhood, involving the formation of blisters, more appropriately known as bullae, at the space between the skin layers epidermis and dermis. We report a 16 years old boy with obese, who was diagnosed bullous pemphigoid on the basis of clinical findings and confirmed by skin biopsy showing sub epidermal blisters with dermal layer infiltrated with neutrophils. After treatment using pulse high dose corticosteroid follow by oral corticosteroid, topical corticosteroid and antibiotic for secondary infection, the symptoms getting better.

Key words : bullous pemphigoid, obese boy, corticosteroid
THE EFFECT OF KANGOROO MOTHER CARE (KMC) ON THE GROWTH OF LOW BIRTH WEIGHT (LBW) INFANTS

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BACKGROUND: Kangaroo Mother Care (KMC) is one medically proven method to promote health and growth on low birth weight (LBW) infant.

OBJECTIVES: The aim of this research is to evaluate about KMC effectiveness on post natal growth of LBW infants.

METHODS: A prospective cohort research was conducted at Haji Adam Malik and Pirngadi Hospital, Medan from August until November 2015. Subjects were divided into 2 groups. The first group received KMC while the other group receives conventional care. Weight gain was evaluated daily, length and head circumference gain were evaluated weekly. The data was statistically analyzed by using t paired test, independent t test, Chi Square test, Fisher test and Mann Whitney test with 95% of reliability and P value of 0.05 was considered statistically significant.

RESULTS: We enrolled 40 LBW infants in the study. Mean weight and length gain were significantly higher in the KMC group (305.5 gram ± SD 147.45), (1.26 cm ± SD 0.31) that conventional group (96 gram ± SD 68.7), (0.86 cm ± SD 0.19) with p<0.001. Length of stay was significantly shorter in KMC group (23.25 days) than conventional group (28.40 days) with p=0.002.

CONCLUSION: Kangaroo mother care (KMC) resulted in better weight and length gain in LBW infants.

Keywords: Kangaroo mother care, neonatal weight gain, length, LBW (Low birth weight)
EFFECTIVENESS OF SYNBIOTIC IN THE TREATMENT OF ATOPIC DERMATITIS IN CHILDREN

Irike Ayumi, Rita Evalina, Johannes H Saing, Lily Irsa, Mahrani Lubis
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Methods. A randomized controlled trial was conducted from July until August 2015 at primary health centres in Medan. Fifty two children with AD was included in the study. Subjects were divided into two groups, 26 children in each group. Group A received synbiotic and emolient, Group B received placebo (maltodextrin) and emolient. Both groups were followed for 14 days and SCORAD (Scoring of Atopic Dermatitis) index was assessed to determine AD severity in day 0, 7, 10, and 14. Data was analysed using mann whitney test.

Results. Mean SCORAD index reduction from day 0 until 14 of group A was better than group B, implying that synbiotic has a role in AD treatment. But unfortunately this result was not statistically significant (P  0.05). The EER and CER in this study was 75.84% and 73.08% respectively, NNT score of synbiotic treatment was 8.67.

Conclusions. Synbiotic was associated with better SCORAD index reduction in 14 days than placebo, but this was not statistically significant. Synbiotic is not effective in treatment of AD in children.
Background: Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency is an inherited condition that can lead to a spectrum of symptoms if exposure to offending agents is not prevented. The newborn screening is a useful tool that detects the presence of this condition, as is the confirmatory test. Non-compliance to confirmatory testing has been attributed to lack of time, poor understanding of the procedure, and lack of money.

Objective: To determine the compliance to confirmatory testing of patients who tested positive for G6PD Deficiency via Newborn Screening Test at a tertiary government medical center between the years 2013 to 2014.

Methods: This is a retrospective cross-sectional study conducted among patients who were born and underwent newborn screening at a tertiary government medical center on January 2013 to December 2014. We conducted a follow-up survey using structured questionnaires to assess the compliance of the parents and caregivers to confirmatory testing.

Results: Out of the 3,570 infants who were delivered at the medical center, 143 (4%) were positive for G6PD deficiency on newborn screening test. We were able to track 62 patients, of which 39 (62.9%) were able to comply to confirmatory testing. The most common reasons for non-compliance to confirmatory testing were the following: “busyness/lack of time” (47.83%), uninformed (21.74%), and lack of funds (21.74%).

Conclusions: Reasons for non-compliance are lack of time, lack of knowledge and financial constraints. This shows that there is a need to improve the patient education programs of medical centers, particularly on the newborn screening program.
RELATIONSHIP BETWEEN HYPOGLYCEMIA AND HOME REMEDIES AMONG CRITICALLY ILL CHILDREN IN A DEVELOPING COUNTRY: AN UNDISCLOSED DANGER

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Background: Critically ill children are those in need of immediate attention on presentation. Hypoglycemia is known to complicate many critical illnesses and lead to higher morbidity and mortality for affected children in sub-Saharan Africa. It’s effect is lethal as it has been shown to be an independent risk factor for increased mortality and worsening organ function. Many are of the opinion that herbal (home remedies) medications contribute to hypoglycemia among critically ill children.

Objectives: The study aims to determine the association between herbal medications and hypoglycemia

Methods: Analytical cross sectional method was used to study critically ill children aged ≥ 1 month to ≤ 10 years admitted into the Children Emergency Room of Enugu State University Teaching Hospital, Enugu. Their admission blood glucose was done. Interviewer administered questionnaire was used to collect information needed.

Results: A total of 300 patients were recruited. Of these, 8 (47.1%) of those that had home remedies and 46 (16.6%) of those that did not receive home remedies had hypoglycaemia (p = 0.002). Those that received home remedies were about 4.3 times (95% CI: 0.082 - 0.673) and about 4.4 times (95% CI: 0.083 - 0.616) adjusting and un-adjusting for other factors respectively more likely to have hypoglycemia than those who did not receive home remedies.

Conclusion: Home remedies are sinister causes of hypoglycemia especially in the critically ill children and needs to be discouraged.
RELATIONSHIP BETWEEN GLYCEMIC LEVELS AND TREATMENT OUTCOMES AMONG CRITICALLY ILL CHILDREN ADMITTED INTO EMERGENCY ROOM IN ENUGU

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Background: Critically ill children are those in need of immediate attention on arrival to an emergency room. The importance of glycemic level measurement as well as maintaining the patency of the airway, effective breathing and circulation cannot be overemphasised. It has been highlighted that the peak hyperglycemia and hypoglycemia predict poor prognosis, longer lengths of hospital stay and higher mortality.

Objectives: The study aims to assess the relationship between glycemic level and treatment outcomes as well as length of hospital stay.

Methods: Analytical cross sectional study done among critically ill children aged ≥ 1 month to ≤ 10 years admitted into the Emergency Room of Enugu State University Teaching Hospital. Their admission blood glucose was done. Interviewer administered questionnaire was used to collect required information. Chi square, logistic regressions and Kruskal Wallis tests were done.

Results: A total of 300 patients were recruited. One hundred and seventeen (39%) had hyperglycemia, 62 (20.7%) patients had hypoglycemia and 121 (40.3%) had euglycemia. Two hundred and fifty two (84%) were discharged while 48 (16%) died. There was significant association between glycemic levels (glucose variability) and treatment outcome ($p = 0.001$). Among the 48 who died, 12 (25.0%) had euglycemia, 21 (43.75%) had hypoglycaemia while 15 (31.25%) had hyperglycemia. On multivariate analysis, there was statistically significant association between hypoglycaemia and mortality ($p = 0.001$). Those children with hypoglycaemia at presentation were about 4.7 times more likely to die compared with those with euglycemia (95% CI: 0.090 – 0.508). Although not statistically significant, those with hyperglycemia were about 1.6 times more likely to die compared with euglycemic children (95% CI: 0.266-1.500).

Conclusion: While both hypo- and hyperglycemia are associated with mortality, hypoglycaemia had a greater effect than hyperglycemia. Glycemic levels (glucose variability) significantly affects treatment outcome.
Intrauterine growth retardation is still an emerging issue in developing countries. It is linked with some short-term and long-term brain damage. We built up a IUGR rats model to investigate the structural change in brain tissue and expression of miRNAs concerning neural development. We found that the brain weight of IUGR filial rats are lower, brain structure is abnormal, especially in hippocampus. There was a little more apoptosis-positive cells in IUGR rats brains than the normal ones. The expression of miR-34c in cerebral cortex is lower in IUGR filial rats. With time the expression of miR-34c is getting higher. While the expression of miR-219 in cerebral cortex is lower in IUGR filial rats. With time the expression of miR-219 is getting lower. The result of our research showed that IUGR brains are abnormal in structures, abnormal cell apoptosis may be associate with poor neural behaviour. Alterative expression of miR-34c and miR-219 in IUGR brains could change the develop pattern of the brain is not certain.
TO EXPLORE THE ENERGY EXPENDITURE RATE OF PRETERM INFANTS IN DIFFERENT POSITIONING

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Background: With low birth weight infants (LBWIs) survival chances increase, their nutritional supply and energy consumption issues have caused great attention. For premature infants (PTIs), recent research shows that early nutrition supply will result in the long-term impact of results. Due to LBWIs have very poor storage energy situation and it is very difficult to maintain their enough energy for the needs of growing as well as developing. Using concise measurement method to evaluate the nursing treatments for PTIs becomes an essential issue.

Purpose: The purpose of this study was to evaluate the effect of supine (SP) and prone position (PP) on the energy expenditure (EE) and the distribution of EE during these different positions on LBWIs.

Methods: A prospective, randomized, crossover design was used to examine the relationships between sleeping positions and EE in one group of PTIs. The HR-based EE-estimates was used as the base of the measurement of EE. The purposive sampling was used to recruit PTIs from Taichung Veterans General Hospital III neonatal intensive care wards. Research data were collected by repeated-measuring in every minute and were analyzed by Generalized Linear Models in GEE.

Results: A total of 13 PTIs were enrolled to our research and total 4046 times measurements were collected during one research year. Mean EE in PP was 39.18 cal/kg-min and in the SP it was 39.41 cal/kg-min. EE was significant lower in PP than SP (p=.017).PTIs showed a significantly decrease with the increase in age (days) at study (p=.000).

Conclusion: The HR-based EE-estimates is a concise measurement method of EE analysis for PTIs; besides it is able to continuous measure EE in PTIs without interrupt the implementation of interventions. The results of this study demonstrated that health and growing PTI in the PP can preserve more energy than in the SP.
THE EFFECTIVENESS OF IMMUNIZATION AGAINST ROTAVIRUS IN CHILDREN HOSPITALIZED IN THE WARSAW DEPARTMENT OF PEDIATRICS IN 2011 – 2013 (1)

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Introduction: Rotavirus (RV) vaccination is considered the most effective public health strategy to prevent RV infection and to reduce disease burden.

Aim: The aim of this study was to estimate the vaccine coverage in children hospitalized in one Warsaw department of pediatrics in 2011-13 and the influence of the vaccination.

Methods: We revived 7590 medical histories of all children admitted to the Pediatric Department of Bielański Hospital in Warsaw in 2011-2013 (3 years).

Results: During the study period, there were 7590 hospitalized children including 18,2% of GE diagnosis. The main cause of gastroenteritis (GE) was rotavirus infection. Among all hospitalized children, barely 15,7% to 19,8% of patients received at least one dose of vaccine. The vast majority of children completed the full regimen of vaccination: 86% in 2011, 84% in 2012 and 96% in 2013. Most of children (90,8%) received the monovalent vaccine (Rotarix).

Conclusions: Vaccination coverage in one Warsaw pediatric ward was accounted for maximum 19,8% and it remains too low to have a significant effect on the burden of acute RV gastroenteritis hospitalizations.

RSING INCIDENCE OF WHITE COAT HYPERTENSION AND MASKED HYPERTENSION IN OBESE CHILDREN

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Background: Ambulatory blood pressure monitor has established its role in evaluation of white coat hypertension in adults. Its role in obese children and adolescents is currently being established. This study highlights the role of ambulatory blood pressure monitor in determining the incidence of white coat (WCH) and masked hypertension (MH) in obese pediatric patients.

Objectives: To determine the incidence of white coat and masked hypertension in pediatrics patients as determined by ambulatory blood pressure monitor in relation to overweight and obesity.

Methods: We evaluated 175 pediatric patients presented to our center with hypertension. An ambulatory blood pressure monitor was obtained. We compared clinic blood pressure with ambulatory blood pressure. We classified the hypertension into normal BP, white coat hypertension, masked hypertension, stage 1 HTN with and without white coat effects, stage 2 HTN with or without white coat effect. These blood pressures readings were compared with BMI and gender.

Results: Out of 175 pediatric patient, 21.7% were normotensive, 38.9% were WCH, 16% were stage 1 HTN with white coat effects, 12% were stage 1 HTN without white coat effects, 9.1% were MH, and 2.3% were stage 2 HTN. A total of 96 (54.9%) patients had WCH. The patients with BMI 30, 69.2% had WCH; patients with BMI 25-30, 61.9% had WCH and patients with BMI 25, 45.7% had WCH. A total of 9.1% patients had MH, of these patients 77.7% had BMI 25.

Conclusion: WCH is most prevalent in obese children as determined by ABPM. MH is a rising epidemic in children. Ambulatory blood pressure monitor is an effective tool to classify and evaluates the pediatric hypertension.
THE QUALITY OF LIFE - AN INDICATOR OF FAIR TREATMENT OF ALLERGIC RHINITIS IN ADOLESCENTS

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Background and aims: Quality of life is measured using individual questionnaires. These questionnaires are multidimensional and cover multiple aspects such as physical condition, emotional, social and cognitive status. The purpose of this study was to estimate the quality of life of adolescents with allergic rhinitis and to establish the best treatment.

Material and method: The study was performed on a total of 42 adolescents (aged between 12 and 18 years) admitted to a university children’s hospital in the period between 1 January 2013 and 31st December 2014. We performed a prospective observational study. Medical records contain written consent of the parents regarding investigations and therapy. To assess quality of life we used five symptoms score and visual analog scale. Statistical processing was performed by Student’s t-test.

Results: Regarding living conditions 20% of parents indicated that they have pets (dog or cat). Depending on severity score, patients were divided into two groups: 26% of patients with mild persistent allergic rhinitis and 74% of cases with moderate-severe persistent allergic rhinitis. After the first week of treatment, 80% of the 31 patients with moderate-severe persistent allergic rhinitis recognized a net improvement of symptoms, with a good quality of life without affecting daily activities and sleep. 10% of the 31 patients with moderate-severe persistent allergic rhinitis continued to maintain the source of allergens (cats and dogs) in the living environment. 7% of patients have not regularly administered treatment, being without family support.

Conclusions: Patients’ quality of life depends on the time of diagnosis, the promptitude of establishing treatment and allergen avoidance. Moderate-severe persistent allergic rhinitis significantly affects the quality of life. The quality of life is more affected as well as the total score of symptoms is higher.
INFLUENCE OF MEDIA EXPOSURE ON NEGATIVE BEHAVIOR AMONG SELECTED PRESCHOOL CHILDREN IN QUEZON CITY, PHILIPPINES 2015

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Background: In developing countries, a child watches an average of three hours of television per day, and when they reach 70 years old, that is equivalent to seven to ten years of watching television. Research has revealed numerous predictors of violent behaviors among adolescents, many of which relate to various forms of violence exposure as early as preschool age.

Objective: To determine the association of media exposure and negative behaviors among pre-schoolers.

Methods/Design: This is a cross-sectional study. A total of 49 preschoolers were observed by teachers with Child Behavior Checklist (CBCL) questionnaire. Parent’s survey and media diary were used to record each preschooler’s media exposure. The researcher analyzed 5 behavior subareas: emotionally reactive, anxious/ depressed, withdrawn, attention problems, and aggressive behavior. Each pre-schooler’s CBCL score were computed for every behavior, then analyzed together with media exposure using fisher exact method with SPSS ver. 18 (with 95% CI, p-value 0.05).

Results: Majority have cartoons as favorite program. In group less than 1 hour exposure per day there is no significant relationship. Interestingly, as exposure time increased, more significant relationship appears. This showed in group 2, showing significant p-value 0.044 for ‘aggressive behavior’. Among group 3, significant relationship was seen in ‘Emotionally Reactive’, ‘Attention Problems’, and ‘Aggressive Behavior’ (p-value of 0.048; 0.048; 0.033 respectively).

Conclusion/Recommendations: Parents should be aware of the risks associated with children viewing violent imagery, as it promotes aggressive attitudes, antisocial behavior, fear, and desensitization. Review the nature, extent, and context of violence before children view even the program ratings is suitable for all age. Parents should be urged to closely monitor their children’s consumption of all media and to limit viewing as recommended by AAP. This research can be used for prevention measurement in limiting media exposure during early childhood.
Background: Bovine colostrum containing oligosaccharides, anti-microbial compounds and immune regulating constituents. It is effective in preventing bacterial attachment to the mucosal lining of the gut and the upper respiratory tract.

Objective: To determine the benefits of bovine colostrum as an adjunct therapy of Upper Respiratory Tract Infection (URTI) and Acute Gastroenteritis (AGE).

Methods/Design: This is a double-blind experimental, placebo-controlled study. All subjects who having URTI and/or AGE and came consulted on the first-third day of illness were included. Excluded are those patients who having abnormalities of the respiratory tract, those who requiring hospitalization or receiving corticosteroids/immunomodulators. Patients were divided into, group A which received Bovine Colostrum, given once a day for 1 week and group B which received the placebo given in a similar way by one nurse daily to have uniformity. The investigator, parents, and patients were blinded. The clinical sign and symptom were recorded daily by the interviewer.

Results: Majority (56%) of the subjects were aged 1-4 year old. 60% had URTI and 40% had AGE. In group URTI, there is a significant resolution of cough (p=0.006) and reduction of cold (p=0.005) at bovine colostrum group but no significant resolution of fever (p=0.44). In group AGE, there is a significant reduction of frequency of stool (p=0.009) and reduction of stool amount (p=0.02) at bovine colostrum group but no significant resolution of fever (p=0.5).

Conclusion/Recommendations: Bovine colostrum can be used as adjunct therapy in reducing frequency of cough and cold in URTI as well as in reducing frequency and amount of stool in AGE. No adverse effects were reported.
AN EVOLUTIONARY APPROACH TO FEBRILE SEIZURES AND THERMOREGULATION

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Introduction: Febrile seizures (FS) are always a relevant topic; thermoregulation and febrile responses, complex processes, are important aspects of the unsolved puzzle.

Methods: Here, FS are explored from comparative “evolutionary pressure” data-sets for insights/contributing factors to age dependent vulnerability.

Results/Discussion: Thermoregulatory responses’ evolutionary quest is for maximal performance at optimal temperature, experimentally shown for insects’/viruses’ population growth, as performance. Relying on external heat sources, ectotherms’ narrow range of performance thermal sensitivities is explained by natural selection (prey/predator), not thermodynamics; endotherms’, birds’/mammals’, thermally constrained set-points evolved promoting heat loss, as enhancing performance. Mammalian brains’ selective brain cooling (SBC) is a special evolutionary case within the thermal core because hyperthermia, causing febrile seizures, limits performance; SBC separates brain temperature (T) regulation independently from the body to keep $T_{\text{brain}} < T_{\text{trunk}}$, p0.01.

Species-specific SBC mechanisms during hyperthermia promote reversing normal blood flow, from brainàskin to skinàbrain, to cool/maintain constant cerebral metabolism. A 4-part venous pathway connects extracranial diploic/emissary veins with intracranial meningeal veins/sinuses; the richly vascularized/complex human diploe has an age dependent developmental pattern, fully established, age 5, large variations at each age. Primate emissary veins respond immediately to hyperthermia; their parietal/mastoid/condyloid/post-glenoid foramina prominence shifts in an evolutionary pattern: Tarsius 0%,0%,0%,100%; Lemurs 0%,74.4%,0%,99%; orangutan 3%,81.6%, 1%,2%; chimpanzee 8.7%,14%,16.5%,0%; human 60.5%,68%,77%,0.6%.

Furthermore, intrinsic brain geometry plays an important evolutionary role in thermoregulatory patterns/heat distribution. Notably, perinatal discontinuity of ontological size/shape changes in chimps/humans at 2-4 months, p0.0044, produces topographical changes in vascular system; an expanded human frontoparietal volume, now globular, with highest concentration of diploic/emissary veins, richly anastomosed/reticulated, affects heat dissipation. Brain surface:volume ratio values for chimps'/humans’ heat loading, 1.59 vs 0.91, respectively, confirms globular shape decreases thermic values in heat transfer.

Conclusion: In light of evolution, human ontological variations offer an option to FS’ unsolved puzzle.
EVALUATION OF THE COURSE OF ACUTE DIARRHEAL DISEASE, IN CHILDREN BETWEEN 1 AND 5 YEARS, ASSOCIATING PROBIOTICS (SACCHAROMYCES BOULLARDII) WITH CONVENTIONAL MANAGEMENT

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Introduction: acute diarrheal disease is the second cause of consultation in children under 5 years in the emergency department of the Central Military Hospital.

Objective: To assess the efficacy of probiotic administration associated with conventional management alone versus conventional management and placebo in children aged 1-5 years who attend the emergency department of a tertiary hospital with EDA

Method: randomized, double-blind.

Results: 190 patients were collected. 105 patients 85 treatment group and control group, bivariate analysis between treatment group and control group was conducted by comparing the proportions by chi square test. None of the comparisons was statistically significant, meaning that the groups are similar in all characteristics evaluated: gender, age, breastfeeding, macroscopic characteristics of stools, etc. The number of stools in both treatment groups was similar inicar, fifth day to decrease the number of bowel movements in the treatment group, 28% 5-7 stools was observed, decreasing to 3.4% and 0% over 7; 37.8% in the control bowel 2-4 group increased to 56.3% after five days. The 5th is 16.1% of cases without diarrhea in the treatment group vs 5.4% in the control group, significant difference (p = 0.02). The analysis in hours, shows difference in the average duration of diarrhea of 124.53 hours as a determining factor in the duration of diarrhea probiotic administration, the only statistically significant protective factor (p = 0.004).

Conclusions: The association of boullardi Saccharomyses to conventional treatment in acute diarrheal disease, changes the course of acute diarrheal disease, finding decrease in the number of bowel movements, improved stool consistency and giving a perception of improvement by parents, compared to conventional single operation.
STUDY ON BACTERIAL CONTAMINATION AND ANTIBIOTICS RESISTANCE PATTERNS OF BACTERIA ISOLATED FROM SURGICAL ROOMS AND NEONATAL INTENSIVE CARE UNITS (NICU) IN HAMADAN EDUCATION HOSPITALS, IRAN

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Background and aim: Bacterial contamination in hospitals is one of the major problems in hospitals that cause serious damage to human and society. The aims of study were the evaluation of Antibiotics Resistance Patterns of Main Bacteria Isolated from Surgical rooms and Neonatal Intensive Care Units (NICU) in Hamadan Education Hospitals.

Material and Methods: In this study 400 samples were randomly collected from environments and apparatus of neonatal intensive care units and surgical rooms. Strains were identified and cultured on Mulerhinton agar for antibiogram tests by NCCLS method. The antibiotics were: ampicillin, ceftriaxone, ceftizoxime, erythromycin, vancomycin, gentamicin, cepahalexine, gentamycin, cefepim, azytromycin, imipenem and ciprofloxacin. Data was gathered through a questionnaire and analyzed using SPSS 13 software.

Results: The average rate of bacterial contamination of NICU of Fatemihe hospital was 73%. The most contaminated places were washing sink (100%), suction (74%) and the lowest was phototherapy (35%) and oxygen mask (44%), respectively. The most bacteria isolated were as follow: Staphylococcus epidemidis (17%), Bacillus subtilis (12.5%), Acinetobacter baumannii (11.3%) and E. coli (8.2%). Most of isolates (60%-90%) were sensitive against ceftriaxone, vancomycin, gentamicin and ciprofloxacin, whereas most of them were resistant to ampicillin, erythromycin and cepahalexine.

Conclusion:. Our results showed the considerable bacterial contamination (73%) of NICU in particular with Acinetobacter baumannii and the high drug resistance in strains isolated from hospital, it seems that sterilization and disinfection methods in hospitals were not performed correctly. So, we recommended that health workers should be trained regularly to control the incidence of nosocmial bacterial.
Background: Methylmalonic academia consists of a group of autosomal recessive disorders affecting catabolic pathways of isoleucine, valine, methionine, threonine and thymine, which is caused by the defect of methylmalonyl-CoA mutase or its coenzyme, adenosylcobalamin.

Objectives: To estimate the incidence of MMA on newborn screening in Shandong province from 2011 to 2014 and summarize the clinical presentation, biochemical features, mutation analysis, and treatment regime of early-treated patients with cblC disease.

Methods: The 35,291 newborns were screened for MMA in Jinan maternal and Child Care Hospital. The levels of C3, C3/C2, methionine and tHcy were measured. Most patients received treatment with intramuscular hydroxocobalamin after diagnosis. Metabolic parameters, clinical presentation and mental development were followed up.

Results: Nine patients were identified among 35,291 by newborn screening, giving an estimated incidence of 1:3920 live births for MMA, and all were classified as cblC disease. Among them, five patients received treatment and two patients did not receive any treatment. One patient died of metabolic crises triggered by infection at the age of 38 days. Seven different mutations were detected. The mutations (c.455_457delCCC and IVS1+1GA) are novel. Five patients who received treatment had favorable metabolic response. We obtained 7 records of DQ assessment. The five patients who received treatment presented with developmental delay and obvious neurological manifestations. In two patients who did not receive any treatment, case 8 presented with severe mental retardation and developmental delay, while case 9 had nearly normal DQ values at the age of 1 1/12 years.

Conclusion: Our study characterized variable phenotypes of neurodevelopment in early-treated cblC patients diagnosed on newborn screening. The long-term outcomes of cblC disease are unsatisfactory in spite of conventional treatment and improvement of biochemical abnormalities. Although the number of patients is too small, the information provided in this work is of value in highlighting possible genotype-phenotype correlation that influences outcomes in cblC disease by future studies.
ANTIBIOTIC RESISTANCE OF \( \beta \) STREPTOCOCUS HEMOLITICUS IN CHILDREN WITH REACTIVE ARTHRITIS

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Background: Post infectious reactive arthritis is a common pathology seen in the pediatric practice, due to the high incidence of respiratory and ORL diseases in children. The irrational use of antibiotics has increased the antibacterial resistance of the pathogenic microorganisms.

Aim: To analyze bacterial biofilms in the faringeal smear and the antibiogram in children with reactive arthritis.

Methods and materials: We present a retrospective study which included 163 medical hystories of children with reactive arthritis. The analyze of the antibacterial susceptibility was made by the disk diffusion method.

Results: Data analyze put in evidence as most frequent pathogenic bacterial strains – Str. \( \beta \) hemoliticus in 61,3% cases and S.aureus in 59,5% cases. Also were determined with an incidence below 2% - H.influenzae, E.colli, Kl. pneumoniae, Str. pneumoniae and Ps. aeruginosae. The antibiogram revealed the increased resistance of the Str. \( \beta \) haemolyticus for the semisynthetic penicillins: amoxicilline in 47,5% cases and amoxici\( lline/\)clavulanate in 20% cases. High rates of antibiotic resistance was also assessed for the use of macrolides: aztyromicin in 45,2% cases and erythromicin in 37,2% cases. The higher resistance of the Str. \( \beta \) haemolyticus was established for the sulamethoxazole/trimethoprim in 64,2% cases.

Conclusions: The most frequent microorganism seen in children was the Str. \( \beta \) haemolyticus.

Based on our study, the higher resistance was for semisynthetic penicillin and macrolides – first line antibiotics used for the treatment of ORL infections.
TO COMPARE THE EFFECT OF ZINC SUPPLEMENTATION AND PLACEBO ON MORBIDITY AND MORTALITY IN CHILDREN WITH PNEUMONIA AGE 6 MONTHS TO 5 YEARS

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Pneumonia is one of the leading causes of morbidity and mortality in children younger than 5 years of age. Treatments are available for timely management of pneumonia but mortality is still high in developing countries like Pakistan. Zinc may have an important protective role in cases of childhood pneumonia and can help in reducing potential complications of pneumonia and can also help to reduce the incidence of mortality in children under five years of age. So we hypothesized this study to find the therapeutic role of zinc as an adjunct to standard therapy for pneumonia in comparison to placebo.
Epidemiological Characteristic of Viral Gastroenteritis in Children under 5 in Chengdu: a Consecutive Surveillance from 2006 to 2014

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Objective: Objective: To identify the epidemiological characteristics of the common diarrhea-related viruses (Rotavirus, Human calicivirus, Adenovirus, Astrovirus) of children under 5 in Chengdu, and provide the objective evidences for prevention and control.

Methods: Method: Fecal specimens collected from children with acute gastroenteritis between March 2006 and December 2014 were sent to CDC of Sichuan province for detection of viral RNA. Clinical data were also documented. ELISA and/or RT-PCR were used to detect and classify rotavirus, human calicivirus, adenovirus and astrovirus.

Results: Results: Total of 2227 fecal specimens from children (1379 male and 848 female) under 5 were collected. 1311 were identified as viral gastroenteritis with the overall positive rate of 58.87%. Children aging from 7 to 12 months old were the predilection population. Rotavirus were detected in 638 specimens (28.65%) with epidemic time of November to December. Serotype G1 was the most common serotype totally. G9 grew rapidly after 2011, and became predominant in 2014. Genotype P4 were prevalent in 2009-2011, but P8 increased obviously after 2011. G9P8 was the leading combination followed by G1P8, G1Pn, G3P8. Human calicivirus was detected in 533 specimens (23.93%) and September was its epidemic time. Norovirus GII was the main strain, but no outbreak was observed in our study. Prevalence of rotavirus declined after 2007, while the detection rate of calicivirus was increasing, which led it to be one of the primary pathogens related to viral gastroenteritis in children under 5. Astrovirus was detected in only 30 patients (1.35%) mainly identified from January to March. Adenovirus was detected in 110 patients (4.94%) mainly classified from May to August with limited epidemic in 2011.

Conclusion: Conclusion: Virus infection is the common cause of acute gastroenteritis in children under 5. Rotavirus and human calicivirus were the leading pathogens in Chengdu.

Key Word(s): 1. Gastroenteritis; 2. Rotavirus; 3. Human calicivirus; 4. Epidemiology;
Analysis of Clinical and X-ray for Pulmonary Hyaline Membrane Disease in Neonatal

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Objective: To discuss X-ray image features and clinical of pulmonary hyaline membrane disease (hyaline membrane disease, HMD) in neonatal.

Methods: A total of 36 cases of neonatal pulmonary HMD admitted to the Women’s and Children’s Hospital of Northwest from Dec. 2014 to Apr. 2015 were collected, the chest X-ray and clinical were retrospectively analyzed.

Results: According to the chest X-ray manifestations, 36 cases of neonatal pulmonary HMD included 7 cases with degree I changes, 11 cases with degree II changes, 12 cases with degree III changes, and 6 cases with degree IV changes. The X-ray features included a ground-glass opacity and an air-filled bronchi also could be seen in the lung field. At the same time, gestational age, body weight, clinical history in newborn is very important factor.

Conclusion: The X-ray examination is very important to diagnosis the HMD, and has the characteristic features, at the same time, to combine with the clinical history and to dynamic observe, especially for the term infants, have important role for the early clinical diagnosis, treatment and prognosis.

Key Word(s): 1. Neonatal; 2. pulmonary hyaline membrane disease (HMD); 3. Lung field transparency; 4. X-ray diagnosis;
Study of long noncoding RNAs in immature mouse brain

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Objective: Objective: To study the differentially expressed long noncoding RNAs (lncRNAs) in immature mouse brain by using lncRNA chip.

Methods: Methods: LncRNA chip was used to find out the differentially expressed lncRNAs, bioinformatic analysis was used to analyze the special differential lncRNAs.

Results: Results: 1988 differentially expressed lncRNAs were identified, in which 755 lncRNAs were up-regulated and 1233 lncRNAs were down-regulated. The most differentially expressed lncRNAs may be associated with multiple biological processes, such as transcription, cell cycle and others. In addition, some of these lncRNAs may be linked to G protein-coupled receptors (GPCRs) pathway.

Conclusion: Conclusion: The lncRNA expression profiles in premature brain change significantly, the GPCRs pathway may play an important role in immature brain.

Key Word(s): 1. premature; 2. long noncoding RNA; 3. chip;
Adoptive transfer of T regulatory cells inhibits lipopolysaccharide-induced inflammation in fetal brain tissue in a late-pregnancy preterm birth mouse model

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Objective: To evaluate the effect of regulatory T cells (Tregs) on the inflammation induced by lipopolysaccharide (LPS) in prenatal brain tissue.

Methods: A LPS-induced late-pregnancy preterm birth model was established as reported previously. Tregs isolated from pregnant mice were transferred into model mice, and the expression levels of fork head family transcription factor (Foxp3), interleukin-6 (IL-6), CD68 (a marker of microglia), and toll-like receptor 4 (TLR-4) were assessed in the fetal brain tissue by polymerase chain reaction, Western blot, and immunochemical analyses.

Results: Foxp3, IL-6, TLR-4, and CD68 expression in fetal brain were significantly induced by maternal LPS administration, and the increased expression levels were markedly reduced by adoptive transfer of Tregs.

Conclusion: Maternal LPS exposure significantly induced inflammation in perinatal brain tissue, and Tregs negatively regulated this LPS-induced inflammation

Key Word(s): 1. Regulatory T cells; 2. microglia; 3. perinatal brain; 4. lipopolysaccharide;
Reactive Astrocytes May Increase the Expression of P-gp and Mrp1 via TNF-α and NF-κB Signaling

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Objective: Objective: To understand multidrug resistance gene expression in reactive astrocytes.
Methods: Methods: We stimulated astrocytes with TNF-α and determined gene expression by RT-PCR and western-blot analysis.
Results: Results: Stimulation induced P-gp and MRP1 expression, which peaked by 24 hours. Interestingly, the expression of P-gp and MRP1 correlated with cell proliferation.
Conclusion: Conclusion: Reactivate astrocytes may increase P-gp and Mrp1 expression through TNF-α and NF-κB signaling. This is the first report to demonstrate that in vitro activated astrocytes likely induce P-gp and MRP1 expression though increased NF-κB expression. Our findings provide insight into the mechanism of refractory epilepsy and suggest inhibiting cytokine signaling may block multidrug resistance.
Key Word(s): 1. astrocyte; 2. P-gp; 3. MRP1; 4. TNF-α;
Impairment of Prenatal Exposure to MRI on Rats’ Spatial Memory is Associated with CaMK II β

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Objective: To investigate the effects of MR prenatal exposure on the ability of learning and memory, we examined the behavior changes of rats after treatment and its molecular mechanism.

Methods: Fourteen pregnant Sprague–Dawley rats were randomly divided into an experimental group and a control group, each with 7 mother rats. The experimental animals were exposed to MR between days 12 and 18 of gestation for 10 min a day. After birth, all male litters were randomly divided into an MRI-scanning group (experimental group) and a control group. And Morris Water Maze (MWM) tasks were tested at 1st-, 2nd- and 5th-month after birth.

Results: The results showed that the MR exposed rats at the age of 2 months spent less time than the non-exposed ones in the platform quadrant during probe trial test, means a minor “reference memory” deficit for the treatment animals. Then the 2 months groups were selected for microarray and Western blot to detect the molecular mechanism of behavior deficit. Here we found that only 12 genes among all the tested were up or down-regulated. Western bolt result showed that CaMK II β was changed significantly.

Conclusion: We suggested that the potential impairment of spatial learning and memory induced by prenatal MR exposure was aged dependence, which may mediated by regulation of CaMK II β.

Key Word(s): 1. prenatal exposure; 2. magnetic resonance imaging (MRI); 3. Morris Water Maze (MWM); 4. reference memory;
Objective: The aim of this study was to evaluate the association between omentin-1 and metabolic syndrome and the effect of lifestyle interventions on circulating omentin-1 levels in children.

Methods: 119 obese children and 55 normal weight healthy children were included, and 32 obese children with MetS accepted a lifestyle intervention for 6 months. Anthropometric parameters, biochemical data and circulating omentin-1 levels were measured at beginning and after 6 months.

Results: We noted obese children, especially those with MetS had significantly lower serum omentin-1 level. Besides, omentin-1 level was negatively associated with body mass index (BMI), waist circumference and homeostasis model assessment of insulin resistance (HOMA-IR). After lifestyle intervention, obese subjects showed significant weight loss and higher omentin-1 levels.

Conclusion: Serum omentin-1 is regulated by weight and seems to be related to children’s metabolic disorders. A 6-months lifestyle intervention significantly increased serum omentin-1 level.

Key Word(s): 1. Obese children; 2. Metabolic syndrome; 3. Insulin resistance; 4. Omentin-1;
Heart Rate Variability and Tei Index in Children with Refractory Epilepsy

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Objective: To identify heart rate variability and Tei index in children with refractory epilepsy.

Methods: 50 children with refractory epilepsy and an equal number of matched healthy control subjects were detected by twenty-four-hour ambulatory ECG Holter. Frequency-domain analysis of heart rate variability (HRV) was performed and the data subsequently converted to RR-intervals (SDNN), standard deviation of mean N-N intervals (SDANN), root mean squares of successive differences (RMSSD). High frequency (HFnu), low frequency (LFnu), LFnu/HFnu (LF%). Isovolumic contraction time (ICT), isovolumic relaxation time (IRT), ejection fraction (EF) and Tei index were evaluated by cardiac uhrasonography to evaluate the left ventricular (LV) function. Differences in data between groups were compared using t-test.

Results: SDNN, SDANN and RMSSD were significantly suppressed (P<0.001). A marked reduced HFnu (P<0.001), increased LFnu (P<0.001) and LFnu/HFnu (P<0.001) were found in the patient group. Assessed by cardiac uhrasonography, patients had higher ICT (P<0.05), higher IRT (P<0.05) but lower ET (P<0.05), thus increased Tei index (P<0.05).

Conclusion: Refractory epilepsy children have decreased heart rate variability and increased Tei index. Lower parasympathetic drive and left ventricular dysfunction due to autonomic dysregulation may contribute to the higher incidence of sudden death.

Key Word(s): 1. refractory epilepsy; 2. heart rate variability; 3. Tei index; 4. autonomic dysregulation;
Supervision on the Neuropsychological Behavior Development of Children with Preterm and Low Birth Weight.

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Objective: To explore the neuropsychological behavior development states of children with preterm and low birth weight in order to make early intervene and improve the long-term outcome.

Methods: All the community health centres summed into fourteen of Lianhu district and Beilin district in Xi’an are chosen as the research sites. The resident population there of children with preterm and low birth weight is three hundred and three, born between October 1st, 2011 and September 30th, 2013. According to the parents’ informed consent, one hundred and forty-four cases (144/303) are included as the the Study Group and based on random principle, fifty-two term-born children of the same age from the same community are chosen as the Control Group. The prevalence of Cerebral Palsy, Motor Delay and Autism Spectrum Disorders are compared between the two groups as well as the level of mental development.

Results: Among the study Group, fifty-four children scored abnormally in Gesell scale (Gesell development diagnosis scale). There are ten children diagnosed Autism Spectrum Disorder, two children with Cerebral Palsy (Type Spastic), and eleven children with Motor Delay. In the Control Group, Three children show abnormal results in Gesell scale. Only one child is diagnosed Motor Delay. Nobody is with Cerebral Palsy or Autism Spectrum Disorder. Comparing scores of Gesell scale of the two groups, the scores of the Study Group are obviously lower than those of the Control Group. The deference between the two groups is statistically significant (p<0.05).

Conclusion: Children with preterm and low birth weight are at high risk of the neural psychological behavior disorders. In the early development, more measures should be taken to supervise the neural and behavior development of these children, since it plays an important role in prevention of the neuropsychological behavior disorders.

Key Word(s): 1. 早产低出生体重儿; 2. 神经心理行为; 3. 脑瘫; 4. 孤独症;
Short-term application of phenobarbital and topiramate affect cognition of the immature brain forward and Protective effects of 17- beta estradiol.

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Objective: Previous studies have shown that the long-term use of antiepileptic drugs can cause nervous system damage. However, short-term antiepileptic drug treatment is frequently given to foals, especially neonates, to control seizure. In previous study, we showed the short-term use of antiepileptic drugs were cytotoxic to hippocampal CA1 neurons and inhibited the expression of GluR1 and NR2B, which is associated with learning and memory. However, it is necessary for using antiepileptic drugs to control seizure. So, we should find neuroprotective drugs to diminish the neurotoxicity of antiepileptic drugs.

Methods: In the present study, immature rats, 3 days of age, were intraperitoneally injected with phenobarbital and topiramate individually, then some of them may injected 17 beta estradiol for protection for 3 consecutive days.

Results: The learning and memory ability of PB group is lower than the control group. There was no significant difference between the groups added with E2 and the control group. There was no significant difference between the TPM intervention group, the normal saline control group and the E2 protection group.

Conclusion: Water maze revealed that short term application of clinical doses of phenobarbital, could cause long-term cognitive impairment, while that of topiramate had no obvious effect. 17β-estradiol have protective effect to immature brain damaged by antiepileptic drugs.

Key Word(s): 1. antiepileptic drugs; 2. 17 beta estradiol; 3. immature brain; 4. cognitive function;
The Epidemiological Survey of Neonatal Respiratory Distress Syndrome in Part of Northwest Areas in China Between Different Levels of Hospitals

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Objective: To investigate the disease characteristics, diagnosis and treatment of RDS in neonates between Secondary and Tertiary Hospitals in Part of Northwest Regions.

Methods: In 2011, the retrospective survey of 19 hospitals in Shaanxi, Gansu and Xinjiang province was completed, which with 579 RDS cases in Neonatal unit, include 139 cases in 7 secondary hospitals and 440 cases in 12 tertiary hospitals. Statistical analysis was performed for basic conditions, risk factors, treatment, complications and prognosis.

Results: In 2011, 19 hospitals of Northwest 3 provinces treated 17,406 cases of neonatal, where RDS accounted for 3.3%(579/17,406), and male infant in RDS accounted for 65.3%(378/579). Prenatal hormone usage in tertiary hospitals is 36.2%(54/149), which is higher than 10.4%(12/115) in secondary hospitals. Tertiary hospital’s cesarean section rate was significantly higher than the secondary hospitals. Perinatal risk factors common in pregnancy-induced hypertension, multiple births, premature rupture of membranes, intrauterine distress. PS utilization rate of tertiary hospitals was higher than secondary hospitals. In secondary and tertiary hospitals PS time was 7h (2,15); 4h (2,20), (P> 0.05). The rate of INSURE technology and assisted ventilation in tertiary hospitals is higher than secondary hospitals. Incidence of intracranial hemorrhage in tertiary hospitals(17.4%(63/363)) is higher than in secondary hospitals(5.9%(8/136)). PDA incidence in tertiary hospitals(7.1%(29/409)) is lower than in secondary hospitals(17.1%(19/111)). In secondary hospitals of Shaanxi and Xinjiang, intracranial hemorrhage screening was not performed at all. In Xinjiang, no screening rates of HIE was 100% in secondary hospitals and 42.9% in tertiary hospitals.

Conclusion: Usage of prenatal hormones, PS use, INSURE technology, assisted ventilation, and no contractions elective cesarean section rate in tertiary hospitals was higher than those in secondary hospitals. But not yet fully up to “2013 European neonatal respiratory distress syndrome Prevention Guide” requirements.

Key Word(s): 1. RDS; 2. Hospital level; 3. Treatment; 4. Complication;
The Epidemiological Survey of Neonatal Respiratory Distress Syndrome in Shaanxi, Gansu and Xijiang Province

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Objective: To investigate the diagnosis and treatment status of neonatal respiratory distress syndrome in Shaanxi, Gansu and Xijiang Province.

Methods: Twenty hospitals participated in the study. Data of infants with RDS admitted to neonatal intensive care units (NICUs) of participated hospitals from January 1, 2011 to December 31, 2011 were collected. High risk factors, antenatal and perinatal history, clinical manifestations and treatment, complications and prognosis were investigated retrospectively.

Results: Of the 17406 infants admitted to the 20 hospitals under investigation, 580 neonates (3.3%) suffered from RDS and 379 (65.3%) of them were males. There were no significant differences between Shaanxi, Xinjiang and Gansu provinces in birth weight, cost of the hospitalization and average age of their mothers. 33/140 cases (23.6%) in Gansu were used antenatal steroids, 8/66 cases (12.1%) in Xinjiang and 25/265 cases (9.4%) in Shaanxi. Shaanxi had the highest rate of applying pulmonary surfactant (PS) and INSURE, 61.5% (226/367 cases) and 57.3% (142/248 cases) respectively, but they had the smallest dosage of PS (80.2±43.3 mg/kg). Hospitals in Shaanxi used CPAP as the major assisted ventilation mode (294/336, 87.5%), with the maximum ventilation duration, the median was 67.0 (43.7,108.7) hours. Hospitals in Xinjiang had the lowest rate of applying PS and intubate-surfactant-extubate to CPAP (INSURE), 27.2%(18/66 cases) and 19.6% (10/51 cases) respectively, but they had the largest dosage of PS (170±32) mg/kg. In Xijiang, conventional mechanical ventilation was used as the major assisted ventilation mode (23/28, 60.5%) and the median of ventilation duration 24.0 (0.0,60.0) hours was the shortest in the three regions. Hospitals in Gansu had the longest time of using PS, the median was 24 (7.0,24.0) hours and also had the highest rate of applying assisted ventilation (139/147, 94.5%). The three regions had remarkable differences in the application of PS (χ2 =40.572, P<0.05), mode of assistant ventilation (χ2 =54.271, P<0.05) and duration (χ2 =29.529, P<0.05). The total mortal rate of RDS infants was 14.7% (85/580). Of the 85, 65 died after withdrawal of treatment, accounting for 76.5%. The withdrawal rate in Xinjiang was much higher (39/66, 59.1%) than Shaanxi (32/367, 8.7%) and Gansu (27/147, 18.4%). The difference was statistically significant (χ2 =21.237, P<0.05).

Conclusion: Problems found include the low antepartum application rate of antenatal steroids, the non-standard use of PS, the low level of using INSURE, inadequate knowledge of complications as well as underdeveloped examination methods. The abandoning of treatment is the major cause of death.

Key Word(s): 1. Neonatal; 2. Pulmonary surfactant;
Research of Islet cell Mitochondrial Injure Mechanism in High Fat Diet-induced Obese Mice

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Objective: The purpose of this study was to research islet cells injure mechanism through the establishment of a high-fat diet induced obese rats model.

Methods: 1. The specific pathogen free (SPF) weaned male Sprague-Dawley rats were randomly assigned to two groups by 1:2. Normal diet group had 24 rats and high fat diet group had 48. After one week adaptive normal diet, the rats were divided into two groups and kept on different diet. Measuring the rat body weight every week. The rats were respectively killed at the end of the 8w, 16w, 20w, 24w of high-fat diet. After that, the obese rats were sieved out and prepared for following experiment. The obese rats were set up as obese group and the normal diet rats were control group.

2. The content of serum free fatty acids detected by ELISA, and triglycerides detected by colorimetric method to analysis the lipid metabolism in obese rats.

3. The microstructure of pancreas were observed by electron microscope and HE staining.

4. The protein expression of Mcl-1 were examined by immunohistochemical method, and the mRNA level of Mcl-1 were detected by Real-time PCR to explore the possible mechanism of obesity β-cell damage in rats.

5. TUNEL method was used to detect two groups of rats’ islet cell apoptosis situation.

Results: 1. Obese rat model: 26 obese rats were successfully induced by being fed on high-fat diet, and the success rate was 54.2%. The visceral fat weight of obese group was also significantly higher.

2. The serum free fatty acids of obese rats were significantly higher than the control group at the 20w, 24w of the high-fat diet (P<0.01); The serum triglycerides of obese rats were significantly greater since 16w (P<0.01).

3. Pancreas microstructure: In the 16w, less organelles and more endocrine particles were observed in cytoplasm of obese rats’ islet beta-cells. The particles had lower electron density and the gap between particles and limitans was bigger. From the 20w, the electron density of most islet beta-cells in obese group was higher than control group. Irregular form and uneven distribution of chromatins were observed in some cell nucleus. There were not too much organelles could be detected. Moreover, the rough endoplasmic reticulum was distended and the mitochondria were swelling. At the same time, HE staining showed that beta-cells in obese group were hyperplastic, and some of them appeared apoptosis.

4. The results of immunohistochemical showed that the protein expression of Mcl-1 was lower in obese group since 20w.

5. Compared with control group, the mRNA level of Mcl-1 was significantly lower (P<0.05).

6. After a high-fat diet feeding for 20w, the apoptosis rate of the obese group began to decrease and had a significant difference (P<0.01) with the control group.

7. Rats’ islet cell apoptosis rate was positively correlated with serum FFA (P<0.01), and negatively correlated with Mcl-1 gene expression.

Conclusion: 1. The weight of visceral fat, serum triglycerides and FFA in obese rats increased, which indicated that body fat accumulation and lipolysis increase existed.

2. Islet β-cell morphological abnormalities existed in obese rat, and apoptosis rate increased as a high-fat diet prolonged. Moreover, rats’ islet cell apoptosis rate was negatively correlated with Mcl-1 gene expression. The results suggested the presence of islet β-cell damage in obese rats, which might be associated with mitochondrial apoptosis pathway.

Key Word(s): 1. obesity; 2. Islet cell; 3. Mitochondrial apoptosis; 4. Mcl-1;
Metformin Improves the Hepatocyte Autophagic Function and Alleviates NAFLD in Mice

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Objective: Objective: To better understand the pathophysiology of obesity-related NAFLD, this study examined the autophagic flux during the earlier stage of NAFLD and the mechanism of metformin to alleviate obesity induced hepatic steatosis.

Methods: Methods: C57BL/6 mice were fed with a high fat diet for 12 weeks to induce the obesity-related NAFLD and intervened with metformin in the last four weeks. Live tissue was harvested for histological and electron microscope analyses. LC3, AMPK and AKT1 expression levels were evaluated by Real-time quantitative PCR and immunohistochemistry.

Results: Results: We observed that autophagic flux is severely impaired during the earlier stage of steatosis in liver. Compared with control mice fed with high fat diet, metformin improved the hyperlipemia and reduced the hepatic steatosis induced by high fat diet. In addition, we confirmed that metformin activates AMPK and corrects the impaired autophagic flux in the earlier stage of NAFLD, suppressing the lipid droplets accumulation in liver.

Conclusion: Conclusion: These results suggested that autophagy play a central role in NAFLD induced by obesity, and argued that metformin may represent potential therapeutic agent for the treatment of NAFLD. However, the precise signaling pathway of metformin regulating hepatic autophagic function should be researched in vivo or vitro.

Key Word(s): 1. Metformin; 2. NAFLD; 3. LC3; 4. Autophagy;
Immunomodulatory effects of Clostridium butyricum CGMCC313-1 on allergic asthma in a mouse model

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Objective: Probiotic bacteria can induce immune regulation or immune tolerance in allergic diseases. But the underlying mechanisms are still unclear. Recently, there has been a growing interest in the use of potentially beneficial bacteria for allergic diseases. This study is aimed at exploring whether Clostridium butyricum CGMCC313-1 can inhibit ovalbumin(OVA)-induced airway inflammation in a mouse asthma model.

Methods: Mouse models of airway inflammation induced via OVA was used in this study. Clostridium butyricum CGMCC313-1 was administered daily by the oral route during or after the sensitization. Airway function; pulmonary airway inflammation; airway remodeling; Th-specific cytokines and matrix metalloproteinase 9(MMP-9) both in the BALF and serum; and mast cell degranulation were examined.

Results: Clostridium butyricum CGMCC313-1 significantly reduced lung resistance in the asthmatic mice. Pulmonary airway inflammation, mast cell degranulation, and airway remodeling were suppressed by oral Clostridium butyricum. And also Clostridium butyricum modulated the expression of Th cytokines, matrix metalloproteinase 9(MMP-9), and the OVA specific immunoglobulins.

Conclusion: These findings show that Clostridium butyricum CGMCC313-1 have strong anti-inflammatory properties, which suggest that Clostridium butyricum CGMCC313-1 could be used as a new potential drug for allergic asthma.

Key Word(s): 1. Allergic asthma; 2. Probiotics; 3. OVA;
The analysis of quality of life in very low birth weight infants following up to 6 months of corrected age
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Objective: To analysis recent prognosis of VLBW for improving their quality of life
Methods: The database of VLBW hospitalized between December, 2013 and December, 2014 was reviewed
Results: 1. 230 VLBW were included. The mortality was 13.00%. Causes of death were mainly neonatal respiratory distress syndrome (60.01%), pulmonary hemorrhage (16.67%), and sepsis (10.00%). 2. The physical growth of VLBW was obviously below normal level. Abnormal rate was gradually reduced over time. 3. Incidence of retinopathy of prematurity (ROP) I and ROP II were 19.27% and 64.22% respectively. In the hearing screening test, 5.10% failed in one ear and 11.22% failed in both ears. In the head magnetic resonance imaging (MRI) examination, the occurrence rate of intracranial hemorrhage and brain injury were 10.53% and 9.47% respectively. 4. Abnormal rate of neonatal behavioral neurological assessment (NBNA) was 100%. In the Gesell Developmental Scale, incidences of mild and moderate neurological dysplasia were 27.78% and 5.56% respectively at corrected age of 3 months. Incidence of mild neurological dysplasia was 8.33% at corrected age of 6 months
Conclusion: Economic condition and occurrences of diseases in respiratory system are pivotal factors for the survival of VLBW in western China. There is a catch-up tendency in physical growth and neurodevelopment. Abnormal rates of ophthalmoscopy, hearing test, and MRI are relatively low compared with the foreign countries.
Key Word(s): 1. VLBW; 2. quality of life; 3. neurodevelopment;
Blood pressure is differentially regulated by SFRP5 and Wnt5a in Obese Children

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Objective: Aim: The aim was to evaluate the associations of SFRP5 and Wnt5a with blood pressure (BP); and to examine whether BP can be influenced by changes of Wnt5a and/or SFRP5 serum concentrations in obese children after lifestyle intervention.

Methods: Methods: A cross-sectional study was conducted among 263 obese children. In addition, a lifestyle intervention was performed in a subgroup of 89 obese children with hypertension for 6 months. Anthropometric parameters, clinical data, Adiponectin, Chemerin, SFRP5, Wnt5a, hsCRP and TNF-a were measured at baseline and after lifestyle intervention.

Results: Results: SFRP5 and Adiponectin levels were significantly lower in obese children with hypertension, but Wnt5a, hsCRP and Chemerin levels were elevated in obese with hypertension. In multivariable linear regression analysis, SFRP5, Wnt5a, Adiponectin, Chemerin and hsCRP were associated with both SDS-SBP and SDS-DBP. Lifestyle intervention resulted in a significant improvement in BP and weight loss. These were accompanied by a significant decrease of HOMA-IR, hsCRP and chemerin, and a significant increase of SFRP5 and Adiponectin, whereas no changes were observed in Wnt5a. Furthermore, changes in BP significantly correlated with the rising magnitude of SFRP5, but the correlation between changes of Wnt5a and changes of SBP and DBP were not significant.

Conclusion: Conclusions: Although SFRP5 and Wnt5a levels were correlated to SDS-SBP and SDS-DBP in obese children, the effect of SFRP5 and Wnt5a on blood pressure regulation was significantly different when giving a lifestyle intervention. SFRP5, as an inhibitor of Wnt5a, is more sensitive to lifestyle intervention compared to Wnt5a. This protective effect maybe plays an important role in alleviating and improving hypertension.

Key Word(s): 1. Obese children; 2. Hypertension; 3. SFRP5; 4. Wnt5a;
Are platelet and coagulation parameters useful markers for diagnosis of late-onset neonatal sepsis?

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**Objective:** To determine the diagnostic value of platelet and coagulation parameters for neonatal sepsis.

**Methods:** The study included 650 patients with 490 in group I (330 proven and 160 clinical sepsis cases), and 160 in group II (control group). Platelet count (PLT), mean platelet volume (MPV), platelet distribution width (PDW), thrombocytocrit, prothrombin time (PT), C-reactive protein (CRP), and activated partial thromboplastin time (APTT) were measured. Receiver-operating characteristic (ROC) curves were analyzed to determine the optimal thresholds. The optimum cut-off value, sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated for each potential marker.

**Results:** The MPV, PDW, PT, and CRP values were increased while PLT decreased significantly in sepsis patients. ROC curve analysis showed that PT and PLT were better than PDW and MPV for the diagnosis of sepsis. Furthermore, combination of PT (17.85 s) and CRP (8.5 mg/l) enhanced the diagnostic accuracy of sepsis, with a sensitivity, specificity, PPV, and NPV of 77.9, 83.1, 58.2, and 92.6% respectively.

**Conclusion:** It is inappropriate to use MPV and PDW for early diagnosis of sepsis. Instead, the combination of CRP and PT should be considered for being more convenient and accurate.

**Key Word(s):** 1. neonatal sepsis; 2. platelet parameters; 3. coagulation parameters; 4. C-reactive protein;
Mechanisms of Impaired Pancreatic Beta-cell Function in High Fat Diet-induced Obese Mice: the Role of Endoplasmic Reticulum Stress

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Objective: To examine if there is an excessive endoplasmic reticulum stress in islet of high fat diet induced obese mice and the effect of endoplasmic reticulum stress on beta-cell function.

Methods: The weaned male C57BL/6J mice were kept on high-fat diet for 16 weeks. Pancreatic beta-cell function was judged by intraperitoneal glucose tolerance test and insulin release test. The expression of ATF6 and p-eIF2α were detected by immunofluorescence staining to determine the endoplasmic reticulum stress. In vitro, INS-1 cells were cultured in the presence of palmitate, the expression of ATF6, p-eIF2α and insulin were examined by Western-blot and Real-time PCR, respectively. The location of ATF6 was examined by immunofluorescence. Next, INS-1 cells were transfected with ATF6-siRNA, the mRNA expression changes of insulin were examined by Real-time PCR to determine whether ATF6 mediated the impairment of insulin mRNA expression.

Results: Diet-induced obesity were successfully established in C57BL/6J mice fed high-fat diet, and ATF6 and p-eIF2α were increased in the pancreas islet of obese mice. Compared with BSA control group, the level of ATF6 and p-eIF2α in PA group was significantly higher (P < 0.05), while the level of insulin in PA group was significantly lower (P < 0.05). Treatment with palmitate induced nuclear localization of ATF6. After transfected with ATF6-siRNA, the mRNA level of insulin in ATF6-siRNA group was significantly higher (P < 0.05).

Conclusion: This study suggested that endoplasmic reticulum stress was increased in high-fat diet induced obesity; palmitate induced endoplasmic reticulum stress in INS-1 cell impaired insulin mRNA expression; endoplasmic reticulum stress induced impairment of insulin gene transcription is mediated by ATF6.

Key Word(s): 1. Obesity; 2. Endoplasmic reticulum stress; 3. Beta-cell; 4. ATF6;
Four Cases reports of Pediatric Patients with Wilms’ Tumors presented with only renal injury and literature review

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Objective: Wilms’ tumor in the current era of multimodality treatment has promising outcome. It is important to diagnose Wilms’Tumor in the first time. To find out the characteristics of Wilms’ Tumors presented with only renal injury is becoming essential.

Methods: The four clinical cases of pediatric Wilms’ tumors were reported and literature about Wilms’Tumors was reviewed.

Results: We report four cases of pediatric Wilms' tumors presented renal injuries. Three patients were diagnosed renal traumas in the first time. In the following two weeks nephroblastoma were diagnosed finally performing Contrast enhanced CT scan, Ultrasound and tumor biopsies. The last patient’s hemoglobin was 75g/L in the first time. Abdominal computed tomography display severe renal trauma. Blood transfusion were given to her. Immediately renoarteriography display the origin of hemorrhaging which was Wilms’ tumor with right kidney, Then effective embolism was given to the patient. Nephrectomy and adjuvant chemotherapy were performed in all patients who were saved and survive without tumor.

Conclusion: Abdominal computed tomography (CT) and contrast enhanced CT scan are essential to determine diagnose of nephroblastoma. Emergency renoarteriography and effective interventional embolism can also display nephroblastoma and restrict active hemorrhaging, and then appropriate treatment should be performed in Pediatric Patients With Wilms’ Tumors. Mass biopsy by allocation Ultrasound is the last and precised means of diagnosis of nephroblastoma.

Key Word(s): 1. Wilms’ tumor; 2. Renal injury; 3. Abdominal computed tomography; 4. Nephrectomy;
Amiodarone combined with digoxin treating neonatal severe arrhythmia in 1 case

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**Objective:** to investigate the efficacy and safety of amiodarone combined with digoxin for the treatment of neonatal severe arrhythmia.

**Methods:** one case of severe arrhythmia neonatal was give amiodarone intravenous pumping, and small doses of digoxin oral treatment, after answer law instead of amiodarone and digoxin oral maintenance treatment, regular monitoring of electrocardiogram, echocardiogram.

**Results:** After treatment of amiodarone intravenous pumping joint digoxin oral treatment after 3 weeks, the electrocardiogram (ecg) and heart function of the children were back to normal.

**Conclusion:** treatment of amiodarone combined with digoxin for neonatal severe arrhythmia are obvious therapeutic effective, safety range is wide, with no serious adverse reaction, it can be used as an effective therapy in the clinical treatment of neonatal severe arrhythmia .

**Key Word(s):** 1. Amiodarone; 2. digoxin; 3. neonatal severe arrhythmia;
Analysis on the ADHD screening of children from 3 to 17 years old

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Objective: To understand the ADHD situation of children from 3 to 17 years old in Baoan District, Shenzhen, and provide the basis for the establishment of prevention and control model.

Methods: 1455 children from 3 to 17 years old in Baoan District were randomly selected to complete “Conners children behavioral questionnaire (parents)” and “the Vanderbilt ADHD Parent Rating Scale (IV)” in 2015 January to June, then the screening results were analyzed.

Results: The learning problem rate of girls (4.74%) and 6-8 years old children (4.74%) were higher than others (P<0.05). The hyperactivity and impulsive symptoms rate of boys (3.16%、4.26%) and 6-8 years old children (3.23%、3.71%) were higher than others (P<0.05). Learning problems, psychosomatic problem and impulsive hyperactivity problems appeared in 3-5 years old children, then behavior problems appeared in 6-8 years old children, anxiety problems appeared in 9-11 years old children lastly.

Conclusion: children's behavior problems had their time characteristics, 6-8 years old was the key age. Learning problems, hyperactivity and impulsive symptoms were main performance. We need to prevent the problems before key age. More learning skills training to girls and more hyperactivity and impulsive behavior control training to boys might be good for prevent the occurrence of behavior problems and ADHD.

Key Word(s): 1. ADHD; 2. health education; 3. child psychology;
The Structural Equation Model Study of Parents’ Psychological Influence on Children’s Mental Health

**Objective:** Using structural equation model to find whether the mental problems of children affected by family psychological environment and explore the relationship between children’s mental health and the family members’ psychological influence.

**Methods:** A total of 416 children (209 boys and 207 girls) were recruited from three schools, one public secondary school, and two 9-year private schools in Bao'an district, Shenzhen. Children with mental problems were categorized according to the scores of ‘Student Mental Health Test (MHT manual)’. The family psychological factors included children’s personalities, parents’ personalities and parents’ rearing patterns. Children’s personalities were categorized according to the scores of ‘Eysenck Personality Questionnaire(EPQ)’, parents’ personalities were in accordance with the score of ‘Eysenck Personality Questionnaire’ and parents’ rearing patterns with the scores of ‘”Egma Minnen av Bardndosnaupforstran (EMBU)’.

**Results:** This study revealed that children of E-personality parents were not more susceptible to mental problems, while children of N-personalities parents were more susceptible to mental problems. There was a significant negative correlation between parents’ P-personalities and children’s E-personalities, and while there was a positive correlation between parents’ E-personalities and N-personalities and children’s E-personalities. The Accepting-refusing rearing pattern was negatively correlated with child’s E-personalities and parents’ P-personalities. The order of parents’ influence on children’s E-personalities are as follows: parents’ P-personalities > parents’ N-personalities > parents’ E-personalities > the Accepting-refusing rearing pattern . Parents’ E-personalities were negatively correlated with children’s N-personalities. Parents’ N-personalities were positively correlated with children’s N-personalities. The Accepting-refusing rearing pattern was negatively correlated with child’s N-personalities. The Excessive interference and Protection rearing pattern were positively correlated with child’s N-personalities. The orders of parents’ effects on children’s N-personalities are as follows: the Accepting-refusing rearing pattern> parents’ N-personalities >parents’ E-personalities &gt; the Excessive interference and Protection rearing pattern

**Conclusion:** Parents’ personality is an important influence factor on children’s mental health and which may affect children’s mental health directly as well as children’s mental health through parents’ rearing patterns indirectly. Therefore, improving children’s mental health level by improving parents’ personalities is crucial.

**Key Word(s):** 1. mental health; 2. child healthcare;
Application of pulse-coupled neural network combined with genetic algorithm on MR images of hypoxic-ischemic encephalopathy

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Objective: To perform segmentation and feature extraction of lesions on the brain MRI of neonatal patients with HIE to provide a basis for the establishment of an early diagnostic system for HIE.

Methods: Three figures of MRI of transverse plane of the brain and the lesion of HIE patient. Segmentation on brain MRI of HIE based on GA combined with PCNN was performed.

Results: PCNN segmentation based on genetic algorithm had better segmentation results than PCNN segmentation with fixed parameters.

Conclusion: PCNN based on genetic algorithm can provide effective assistance for diagnosis and research.

Key Word(s): 1. HIE; 2. PCNN; 3. MRI;
Clinical Efficacy of Cranial Electrotherapy Stimulation on Children with Tic Disorder

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Objective: To investigate the effect of cranial electrotherapy stimulation for tics symptoms.
Methods: 26 patients with transient tic disorder (TTD), 28 with chronic motor or vocal tic disorder (CTD) and 21 with Tourette’s disorder (TS) received 60 sessions of cranial electrotherapy stimulation. The clinical effect was evaluated with Yale Global Tic Severity Scale.
Results: The patients with three types of tic disorder all showed a reduction of tics symptoms (TTD: 10.53±0.85 vs 5.79±4.87; CTD: 12.32±1.52 vs 4.00±2.23; TS: 25.56±2.79 vs 13.65±4.11; P<0.01).
Conclusion: Cranial electrotherapy stimulation is an effective and valuable treatment in tic disorder especially in the patients with transient tic disorder and mild chronic motor or vocal tic disorder.
Key Word(s): 1. Tic disorder; 2. Cranial electrotherapy stimulation; 3. transient tic disorder; 4. chronic motor tic disorder;
PHENOTYPIC ANALYSIS OF LUMAN/CREB3 DEFICIENT MICE: NOVEL ROLE OF LUMAN IN THE REGULATION OF EMOTION, LOCOMOTOR ACTIVITY, MATERNAL RESPONSE AND ENERGY BALANCE

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Objective: LUMAN is a transcription factor involved in the regulation of endoplasmic reticulum stress and viral infection. The expression sites of LUMAN in tissues and organs and its biological function haven’t been explored. We investigated the biological function of LUMAN in the relevant tissue and the underlying mechanism in this study.

Methods: Wild-type and Luman knockout mice in a congenic C57BL/6J mice were used in this study for phenotypical analysis.

Results: We found that LUMAN was abundantly expressed in the nuclei of neurons in many regions of the central nervous system including the forebrain, the midbrain, and the cerebellum. Particularly, LUMAN-positive neurons aggregated in four areas where the cell bodies of the principle neurons are located: the mitral cell layer of the olfactory bulb, the stratum pyramidale of the hippocampus, the stratum granulosum of the dentate gyrus region of the hippocampus, and the Purkinje layer of the cerebellum. We characterized at least two unknown phenotypes of Luman-/- mice in body weight and animal behaviour respectively. In conspicuous contrast with its wild-type littersmates, both male and female Luman-/- mice were spontaneous lean without any substantial body weight gain over time. Pups born to Luman-/- dams all died within two days after birth. Obvious lactation and olfaction defects were excluded from the possible causes. Video monitoring revealed impulsive and hyperactive activity of Luman-/- dams that might have directly caused the deaths of the pups. Virgin female Luman-/- mice displayed reduction of anxiety-like behaviour and hyperactive behavior. Additionally, the expression of anti-apoptotic genes (Bcl-2 and Bcl-xl) was repressed while the expression of pro-apoptotic genes (Bax, Puma, Noxa, and Caspase 3) was elevated in Luman-/- mouse embryonic fibroblasts as compared to Luman+/+ mouse embryonic fibroblasts.

Conclusion: We propose that LUMAN plays an important role in the regulation of emotion, associated locomotor activity, and energy balance in the central nervous system.

Our data provides new insights into understanding the biological function of the Luman gene. Luman gene knockout mice provide a potential animal model for studying the underlying molecular mechanisms and the therapeutic treatments for neuropsychiatric or obesity related disorders.

Key Word(s): 1. Luman knockout mice; 2. animal behavior; 3. hyperactivity; 4. principle neurons;
The clinical significance of plasma D-dimer, fibrinogen degradation products and fibrinogen level changes of children acute leukemia and its clinical significance

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Objective: To investigate the clinical significance of variations of plasma D-dimer (DD), fibrinogen degradation products (FDP), and fibrinogen (FIB) in children with acute leukemia (AL) in order to estimate the pathogenetic condition, therapeutic effect and prognosis.

Methods: A total of 65 cases of children with acute leukemia were divided into newly diagnosed group, chemotherapy remission group, and relapse group according to the diagnostic criteria of children acute leukemia, compared with the healthy control group. Plasma DD, FDP and FIB level changes in each group were observed by using colloidal gold method measuring plasma D-dimer levels, ELISA method measuring FDP, FIB levels.

Results: Compared with control group, plasma D-dimer, FDP and FIB in newly diagnosed group and relapse group were significantly higher (P<0.01), while in chemotherapy remission group there was no significant difference (P>0.05); Compared with newly diagnosed group, plasma D-dimer, FDP and FIB levels in chemotherapy remission group were significantly lower (P<0.01), while in relapse group these indicators were significantly higher (P<0.01). Compared with chemotherapy remission group, there indicators in relapse group is significantly higher (P<0.01).

Conclusion: D-dimer, FDP levels of acute leukemia children were significantly increase in newly diagnosed and relapse stage, but reduced to normal in chemotherapy remission stage, indicating that there were different degrees of coagulation and fibrinolytic system activation, and secondary fibrinolysis accentuation in AL newly diagnosed and relapse stage, with complete remission after chemotherapy, secondary fibrinolysis released. This clinical experiment indicates that plasma D-dimer, FDP and FIB level changes of acute leukemia in children is closely related to pathogenetic condition, which could be indicators estimating the pathogenetic condition, the effect of chemotherapy and prognosis.

Key Word(s): 1. acute leukemia; 2. D-D; FDP; FIB; children ;
NEONATAL CEFUROXIME SODIUM TREATMENT AFFECTS THE SYNAPTIC PLASTICITY OF PARALLEL FIBER-PURKINJE CELL SYNAPSE IN RATS

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Objective: To investigate the impact of cefuroxime sodium (CS) on the synaptic plasticity of cerebellar purkinje cells (PCs) in neonatal rats.

Methods: P7 SD rats were divided into early groups and late groups. The early groups were divided into three groups: early treatment group I, early treatment group II, and early control group. The late groups were divided into late treatment group and late control group. The rats in all of the treatment groups underwent a 7-days course CS injection. CS was given from P7 to P14 for early treatment group I and II, and from P14 to P21 for late treatment group. Rats in early treatment group I and early control group were decapitated at P15, and the rats in other groups were decapitated at P22. Whole cell patch clamp technique was used to record the inward current and action potential of PCs on cerebellum slices. PC excitatory postsynaptic currents (EPSC) long term depression (LTD) was induced by low frequency stimulation of parallel (PF).

Results: Compared with control groups, the amplitude of inward current and action potential of PCs were slightly increased in all of the treatment groups, with no significant difference (P > 0.05). The PC LTD were significantly enhanced in early treatment group I, early treatment group II and late treatment group (P <0.05). And the inhibitory degree of EPSC in early treatment group II was greater than that in late treatment group (P <0.05).

Conclusion: Our findings indicate that CS exposure during the neonatal period can significantly affect the synaptic plasticity of PF-PC synapses in rats. These changes may be long-lasting and therefore warrant neonatologists of potentially adverse effects of treatment of human neonates with CS on developing brain and behavior in later life.

Key Word(s): 1. cefuroxime sodium; 2. neonate; 3. synaptic plasticity; 4. Purkinje cell;
Halofuginone alleviates acute viral myocarditis in BALB/c suckling mice by inhibiting TGF-β1

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Objective: Viral myocarditis (VMC) is an inflammation of the heart muscle caused by viral infection. Coxsackie virus B3 (CVB3) is the leading cause of VMC in infants and young adolescent. It has been reported that the generation of Transforming growth factor-β (TGF-β) was indicated at any stage of myocarditis. This study applied Halofuginone (HF), a plant alkaloid, in the regulation of VMC via inhibiting the TGF-β1.

Methods: Animal VMC model was established by infecting CVB3 in BALB/c suckling mice. HF treated suckling mice exhibited relatively normal physiological index (higher survival rate, low heart Weight/body weight ratio and decreased blood sugar concentration) compared with mice infected with CVB3. Moreover, HF significantly reduced the number of Th17 cells, which is important in facilitating the humoral immune response in patients with VMC. HF also significantly down regulated the pro-inflammatory cytokines levels and the expression of TGF-β1 and its downstream nuclear factor kappa-light-chain-enhancer of activated B (NF-κB) pathway proteins in CVB3 treated suckling mice. Finally, the overexpression of TGF-β1 restores the inhibition effect of HF.

Results: In brief, our study suggests that HF protects BALB/c suckling mice from acute CVB3 infection, reduced the number of Th17 cells and pro-inflammatory cytokines levels, through downregulating the expression of TGF-β1/NF-κB P65/TNF-α pathway proteins.

Conclusion: These results offer a potential therapeutic strategy for the treatment of VMC.

Key Word(s): 1. Halofuginone; 2. TGF-β1; 3. Viral myocarditis; 4. Coxsackie virus B3;
The CVVHD/ F of Children with septic shock and multiple organ dysfunction

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Objective: To discussion the emergency treatment of using CVVHD / F to pediatric septic shock with multiple organ dysfunction, and assess the efficacy.

Methods: According to the diagnostic criteria of international conferences and pediatric sepsis with multiple organ dysfunction, 22 cases in our hospital of septic shock and meet the above criteria related to consolidation of multiple organ dysfunction syndrome were treated with CVVHD / F from September 2011 to October 2015, the clinical data were studied including serum electrolytes, mortality rate, PO2, PCO2 and FiO2/PO2 and blood pressure, Cr, BUN, etc.

Results: The average time of treatment in 22 cases of children were 91h (15h-482h), 12-24h after treatment, ARDS and pulmonary edema phenomenon of children has improved significantly, FiO2 / PO2, PO2, PCO2 were also improved, and all types of indicators K+, Na+ and HCO3+ were restored to normal levels after 24h, and then the blood urea nitrogen and creatinine has returned to the normal range after 48h. The overall mortality rate was 59.1%.

Conclusion: The emergency treatment of using CVVHD / F to pediatric septic shock with multiple organ dysfunction can quickly correct the electrolyte imbalance of patients in a short time, and also can being able to clear the patient’s blood urea nitrogen and creatinine, can improving microcirculation and reducing edema, having a significant effect, so worthy of clinical application.

Key Word(s): 1. CVVHD/ F; 2. septic shock; 3. multiple organ dysfunction; 4. children;
Objective: To study the feasibility, efficacy and safety of LMA Supreme (SLMA) in resuscitating of neonates.

Methods: 60 Neonates requiring positive pressure ventilation whose birth weight above 2kg or gestational age above 34w were assigned into 2 groups randomly: SLMA group (30 cases) and LMA Classic (CLMA) group (30 cases). Curative effect, insertion time and possible adverse reactions, etc in the two groups were observed.

Results: Results (1) The insertion time was shorter and first time insertion success was higher in SLMA group \((7.6 \pm 1.3)\) s vs \((4.9 \pm 1.0)\) s, \(t=9.00, P=0.00\). (2) The successful resuscitation rate of SLMA group was higher than CLMA group \([100\% (30/30)\) vs \(90\% (27/30), \chi^2=3.16, P=0.04\]. The onset time\([12.5 \pm 3.7)\) s vs \((15.7 \pm 3.8)\) s, \(t=3.3, P=0.00\) and total ventilation time \([37.3 \pm 17.0)\) s vs \((48.3 \pm 20.0)\) s, \(t=2.3, P=0.03\] of SLMA group was shorter than that of CLMA group. No significant difference was observed in Apgar scores at 1 min between two groups \((P > 0.05)\), but the neonates having higher Apgar scores at 5 min in SLMA group (Mean Rank 25.5 & 35.6, \(Z=-2.43, P=0.02\). (3) There was no significant difference of umbilical artery blood gas, lactic acid and trace blood sugar level existed between two groups \((P > 0.05)\). But SpO2 at 1, 2, 3 min \([47.1\pm 8.4)\% vs (38.7\pm 12.1)\%\), \(t=-3.12\); \((68.1\pm 9.5)\% vs (52.8\pm 10.8)\%\), \(t=5.82\); \((78.3\pm 10.0)\% vs (72.1\pm 9.7)\%\), \(t=2.46; all P < 0.05\) and pulse at 1 min after delivery \((93.5\pm 20.9)\) bpm vs \((74.2\pm 17.8)\) bpm, \(t=-3.86, P =0.00\] was higher in SLMA group. (4) The SLMA group was associated with less gastric insufflation \([0/30 vs 23.3\% (7/30), \chi^2=7.93, P =0.01\].

Conclusion: The LMA Supreme has been shown to be a safe and efficacious device as a stand-alone supraglottic airway than LMA Classic, and may also be used in neonatal resuscitation. Further trials are needed to determine the efficacy of the LMA Supreme compared with other supraglottic airways in airway management situations.

Key Word(s): 1. Infant, newborn; 2. Resuscitation; 3. Positive-pressure ventilation; 4. Laryngeal mask airway supremeTM;
Protection of Succinic Acid on cerebellar Purkinje cells of neonatal rats with seizures

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Objective: To investigate the protective effects of succinic acid (SA) on cerebellar Purkinje cells (PCs) of neonatal rats with seizures.

Methods: A total of 120 7-day-old neonatal Sprague-Dawley rats were randomly divided into neonatal period groups (P7) and pubertal period groups (P30), each of which were respectively divided into control group, seizure group, 30mg/Kg phenobarbital group, 120mg/Kg phenobarbital group, 30mg/Kg SA group and 120mg/Kg SA group. To establish the seizure model, the rats were injected with pentylenetetrazole, and the control group was treated with normal saline instead. Neonatal period groups were decapitated to prepare slices in 30 minutes after being injected with drugs, and pubertal period groups were feed till 30 days old. Whole cell patch clamp technique was used to record the action potential of PCs and the PC excitatory postsynaptic currents (EPSC) long term depression (LTD) induced by low frequency stimulation of PF on cerebellum slices of 7 days (P7) and 30 days (P30) SD rats.

Results: Compared with control group, the AP frequency of PCs in seizure group of both P7 and P30 were significantly increased (P<0.05). The threshold stimuli for evoking PCs spikes in P30 seizure group were significantly decreased (P<0.01), and the PC LTD were also significantly enhanced (P<0.05). Compared with control group, the threshold stimuli for evoking PCs spikes in 120 mg/Kg Phenobarbital group in both P7 and P30 were significantly decreased (P<0.01), with an increased AP frequency (P<0.05) and an enhanced PC LTD (P<0.05).

The AP frequency in 120 mg/Kg succinic acid group were significantly lower than that in seizure groups of both P7 and P30 (P<0.05), but no statistical difference compared with control group (P>0.05). The threshold stimuli for evoking PCs spikes in both doses of succinic acid groups of P30 were significantly increased compared with seizure group (P<0.05), and no statistical difference compared with control group (P>0.05). Compared with control group, the inhibition degrees of EPSC amplitude in both doses of succinic acid groups of P7 and P30 had no significant changes (P>0.05).

Conclusion: The high excitability of PCs and the abnormal PF-PC synaptic plasticity caused by seizures in neonatal rats may be present in puberty, which can be aggravated by the Phenobarbital. SA can reduce the high excitability of PCs and repair the immediate and long-term alterations of PC LTD caused by neonatal seizures.

Key Word(s): 1. Succinic acid; 2. synaptic plasticity; 3. Purkinje cell; 4. Seizure;
Objective: Observation of children with soy granules Alice heat treatment of respiratory infections and the efficacy.

Methods: Admitted to meet the diagnostic criteria of the 180 cases of respiratory tract infection in children, were randomly divided into two groups were observed.

Results: Comparison of the efficacy of the two groups: The total efficiency was 97.8%, The control group was 82.2%, There two groups were significant (p < 0.05).

Conclusion: Soy pediatric clinical Alice heat particles easy to use, drug safety and efficacy, worthy of clinical use.

Key Word(s): 1. 小儿豉翘清热颗粒; 2. 上呼吸道感染; 3. 疗效
Serum proteomic profiling for autism using magnetic bead-assisted matrix-assisted laser desorption ionization time-of-flight mass spectrometry: A pilot study

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Objective: Autism is a heterogeneous neurodevelopmental disorder characterized by impairments in social interactions, deficits in verbal and non-verbal communication, and repetitive and stereotyped patterns of behavior. The pathogenesis of autism remains elusive, and no diagnostic or predictive biomarkers for autism are available presently. This study aimed to identify proteins that are differentially expressed in autism patients by using magnetic bead-based separation followed by matrix-assisted laser desorption ionization (MALDI)-time-of-flight (ToF)-mass spectrometry (MS).

Methods: Serum samples were collected from autistic children about 3 years of age (n = 32) and healthy controls (n = 20) of similar age and gender, and subjected to pre-fractionation with C8-magnetic beads and MALDI-ToF-MS.

Results: Eight peaks in the MALDI-ToF-MS spectra significantly distinguished autistic children from healthy controls.

Conclusion: The differentially expressed proteins identified in autism patients may represent potential biomarkers for autism.

Key Word(s): 1. Autism; 2. Serum proteomic profiling; 3. MB-WCX; 4. MALDI-ToF-MS;
Objective: to observe the application of magnesium sulfate combined Montelukast pediatric asthma clinical curative effect of sodium. Methods: #5# zhenan county maternity and child care in November 2014 to November 2015 treated 66 cases of children asthma, randomly divided ### control group and research group, 33 cases in each group, control group given conventional treatment, treatment group on the basis of this combined with magnesium sulfate and montelukast sodium, adjuvant therapy, observe the therapeutic effect of two groups. Results: the treatment group effective rate was 96%, better than the control group 81%, comparing the two groups have significant difference (P &lt; 0.05), and the symptoms disappear time significantly less than the control group. Conclusion: the application of combined montelukast sodium and magnesium sulfate on infantile asthma with obvious therapeutic effect, less adverse reaction, worth clinical promotion.

Methods: 1.1 average data There are 66 cases who are of infants and young children bronchial asthma in our hospital pediatric, admitted meeting the Chinese medical association branch of pediatrics breathing committee revised the "child bronchial asthma diagnosis and prevention guide" [4] in 2008. Ages of 0 to 3 years old, They were randomly divided ### two groups: treatment group of 33 people, 18 were male, female 15 cases; Control group 33 groups, 17 were male, female 16 cases. Two groups from the aspects such as age, gender, history of allergies, there were no significant difference after statistics processing (P &gt; 0.05), comparable. 1.2 Treatment control group give routine anti-infection, oxygen, glucocorticoid, β2 agonists and atomization inhalation therapy, treatment group on the basis of it added with 25% magnesium sulfate, 0.1 to 0.16 ml/kg each time, drug concentration of 0.5% to 1.5%, 1-1.5 drops dripping speed/kg, (according to the illness can be repeated every 6 hours, 1-4 times per day; static drops to asthma improved); Montelukast sodium chewable tablets, 2 to 3 years old, 4 mg, once every night, oral. 1.3 Curative effect of standard (1) excellent: breath hold back better, lung sound disappeared, cough disappeared or significantly reduce. (2) effective: asthma to mitigate any, lung sound reduction, cough reduce. (3) invalid: children with symptoms and signs has no obvious improvement, or even worse. Total effective rate = (cases were markedly improved + effective cases)/total number of cases by 100%. 1.4 Statistical methods using SPSS17.0 statistical software for analysis. Measurement data with X ± S said, is compared between group by t test, with P &lt; 0.05 for the difference was statistically significant

Results: Two groups of curative effect comparison: treatment group in 33 cases, 23 cases were markedly effective, effective 9 cases, 1 had no effect, effective rate was 96%, no obvious adverse reactions. Control group 33 cases, 14 cases were markedly effective, effective 13 cases, 6 cases ineffective, effectiveness 81%, comparing the two groups have significant difference (P &lt; 0.05). Thus observed, combined with magnesium sulfate and montelukast sodium in the treatment of bronchial asthma, the treatment curative effect is more remarkable than conventional treatment, adverse reaction.

Conclusion: Bronchial asthma is a kind of chronic airway inflammation, which characterized by airway hyperresponsiveness and reversible airway obstruction, a variety of inflammatory cells and inflammatory mediators involved in asthma airway inflammation process [1]. So the goal of treatment is to control inflammation as soon as possible, remove the airway smooth muscle spasm, reduce airway hyperresponsiveness. Long-term repeated use of β2 agonists lead to desensitization phenomenon in patients, and magnesium, as a kind of important auxiliary factors of enzymatic reaction, low magnesium, magnesia lead to smooth muscle contraction and expansion respectively, therefore, theoretically patients use β2 agonist invalid can achieve good effect if they use magnesium ions [5]. For routine treatment of asthma can’t control, the choice of intravenous magnesium sulfate can be used as adjuvant therapy [6]. At present, it is considered that the smooth wheezing mechanism of magnesium sulfate has [6-10]: 1) limit internal flow of calcium ions, inhibit the release of calcium ions endoplasmic reticulum, reduce the concentration of calcium ion in the smooth muscle cells, and inhibit the interaction between calcium ion and myosin, relax muscle cells, thereby expanding bronchi; 2) Stability of T cells, inhibit mast cell degranulation, reduce the release of inflammatory mediators in the body, and can inhibit cholinergic movement nerve endings release acetylcholine, thereby reducing the excitability of muscle; 3) Increase the number of β2 receptor and its affinity with β2 agonists combination; 4) Against hypoxia caused by the
capillaries and small artery spasm, reduce afterload heart, the lung blood loss indirectly improve the symptoms of respiratory function and lack of oxygen. 5) Magnesium ions with dilated bronchi, reduce the release of inflammatory mediators, stimulate the role of nitric oxide and prostaglandin produced, so as to relieve the symptoms of acute attack of asthma. Intravenous magnesium sulfate with no serious adverse reaction, does not cause low blood pressure, also won't affect pulse and breathing, a handful of patients will appear red face, pain at the injection site, and tired, but are self-limiting, for patients with kidney disease and small bowel underpowered, magnesia hematic disease may occur. Rowe, etc. [11] think, magnesium sulfate may shorten the treatment time of patients in the emergency department. At the same time, Cheuk [12] research shows, such as magnesium sulfate group of patients with asthma symptoms score and lung index were improved, but can not influence the vital signs of patients received magnesium sulfate [11, 13]. So far, all the application of magnesium sulfate in the treatment of acute asthma has not been found intravenous magnesium sulfate has significant adverse reactions [13]. In recent years, the study also considered leukotriene arachidonic acid metabolites that can induce airway in patients with asthma, and other organizations to produce a large number of inflammatory reaction, namely, smooth muscle spasm, changes in blood flow, blood plasma leakage, mucus secretion and inflammatory cells activated [14]. Therefore, leukotriene plays an important role in the pathogenesis of asthma. Montelukast sodium is a kind of long-term and #S#ive leukotriene receptor antagonists, mainly by blocking cysteine leukotriene and exists in all kinds of cell surface receptors, make cysteine acyl inflammatory effect of leukotriene interruption, thus reduce mucus swelling, increased airway secretions, to alleviate muscle convulsion, reduce the infiltration of inflammatory cells in the airway wall, thus improving the airway hyperresponsiveness [15, 16]. At the same time can supplement glucocorticoid can't cover that part of the anti-inflammatory effects [17], so as to play a better curative effect. To sum up, the static drop of magnesium sulfate combined oral montelukast sodium is one of the effective methods to treat asthma in children, from the experimental results can be confirmed its effect, this treatment method is simple, easy and cheap, small adverse reactions, worthy of popularization and application in grassroots hospital.  

**Key Word(s):** 1. pediatric asthma ; 2. magnesium sulfate ; 3. montelukast sodium ; 4. clinical curative effect;
Objective: This research aimed to compare the differences of some clinical symptoms, laboratory examinations, auxiliary examinations and some follow-up inspection indexes in different age groups of children with Kawasaki disease; and calculated their incidence density of abnormal follow-up indexes and coronary artery aneurysm.

Methods: 170 cases of children with KD diagnosed by Shaanxi People's Hospital pediatric hospital from January 2008 to January 2013 were divided into two age groups. SPSS 18.0 statistical software was used to analyze the data.

Results: The male and female ratio was 1:0.8; and the ratio of low age group in all cases was 78.2%. The incidence rates of some clinical symptoms and laboratory examinations (abnormal rates of CRP and ESR) in the low age group were significantly higher than in the high age group (P<0.05). But the incidence rate of abnormal cardiovascular system symptoms, abnormal rate of WBC and detection rate of coronary artery aneurysm in low age group was lower than in high age group (P<0.05). In the low age group, the incidence density of coronary artery aneurysm was 0.008 in the low age group, lower than that of high age group (0.014).

Conclusion: For children with Kawasaki disease, there were correlations of age with some clinical symptoms, examination indexes and some follow-up inspection indexes to exist. It was helpful for clinical doctors to use the appropriate indicators for diagnosis and follow up of KD children in different age.

Key Word(s): 1. children; 2. Kawasaki disease; 3. clinical symptoms,
THE XIAN EXPERIENCE OF KAWASAKI DISEASE – LESSONS LEARNT OVER 5 YEARS
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Objective: Kawasaki disease (KD) is a common vasculitis of young children that is still not being diagnosed as frequently as it should be in developing countries. If left untreated, children with KD can go on to develop coronary artery abnormalities (CAAs) in 20-25% cases (1). KD is now the commonest cause of acquired heart disease in children in Japan, Europe and North America (1,2). KD incidence has gone up in several Asian countries like Japan, Korea, Taiwan and India (3,4).
Although KD is now being increasingly diagnosed in mainland China, there is paucity of data on this condition (5,6). We report our experience on 170 children with KD at Shaanxi People’s Hospital, Xian, China. To the best of our knowledge, this is one of the largest single centre experience from China.

Methods: We diagnosed 170 children with KD during the period January 2008 – December 2012 at the Shaanxi People’s Hospital. Our hospital serves as a referral centre for children from the region. Diagnosis of KD was based on American Heart Association guidelines. Typical KD was diagnosed when there was fever for at least 5 days and presence of 4 or more criteria. Incomplete KD was diagnosed when there was fever for at least 5 days and less than 4 criteria. On echocardiography, coronary arteries were said to be dilated if the internal diameter was ≥ 2.5 mm in children 3 years or below; ≥ 3.0 mm in children 4-9 years; ≥ 3.5 mm in children above 9 years. A diagnosis of coronary artery aneurysm was given if the coronary artery diameter was ≥4 mm and if tranverse diameter exceeded the longitudinal by 1.5 times. Giant coronary aneurysm was diagnosed if the diameter exceeded 8 mm. Echocardiography was carried out by trained echocardiographers.
Treatment included intravenous immunoglobulin (2 g/kg) as a single infusion along with aspirin, initially in high doses and, thereafter, in antiplatelet doses (1). Children with giant coronary aneurysms were kept on long-term aspirin along with anticoagulants (7).

Results: Children were divided into 2 groups according to age: there were 133 cases in age group 6 months - 6 years and 37 in the group 6-14 years. Male female ratio in younger age group was 80:53 and 20:17 in older age-group. Based on the symptomatology, 128 cases were labelled as typical KD, while 42 had incomplete KD. Reactivation of BCG scar was noted in 12 cases, 36 had CAA and 5 had giant coronary artery aneurysms. Electrocardiographic abnormalities were present in 12 cases – 9 had ventricular premature beats, 3 had changes of myocarditis.
Conclusion: The cohort has been kept on regular follow-up and defaulters are tracked through telephone calls. At the time of analysis, we were able to track 150 patients after discharge. Of these, 120 cases had been followed up for 12 months and 30 cases had been followed up for 12-18 months. There was no mortality in our cohort.

Key Word(s): 1. Kawasaki disease ;
AN EVALUATION OF 182 CHILDREN WITH HENOCH-SCHONLEIN PURPURA(HSP) IN CHINA: A RETROSPECTIVE STUDY AND FOLLOW-UP

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Objective: To explore pediatric allergic purpura (HSP) of the clinical characteristics and treatment methods and effect.

Methods: Collect the clinical data of the HSP children (There are 182 cases of HSP children treated from the Shaanxi Province People's Hospital in Xi'an, from January 2010 to October 2012.), and analyze the pathogenesis and clinical manifestations of these HSP patients.

Results: (1) School-age children is a high-risk group of Children allergic purpura, a total of 72 patients(59.02%); (2) The first sign of HSP for skin is purpura, a total of 95 cases( 65.97%), for the most common symptoms. (3) Glucocorticoid therapy effect is obvious. There are 86 cases of children by glucocorticoid treatment effect improved significantly; (4) There are 109 cases(61.58%) with hospitalization within 10 days of favorable prognosis.

Conclusions: HSP pathogenesis to learning age children to see which, in addition to the skin purpura outside, especially the lower limb skin rash. There are a variety of performances, glucocorticoid treatment effect and prognosis are good. Early corticosteroid exposure was associated with benefits for several clinically relevant HSP outcomes, specially those related to the gastrointestinal manifestations of the disease.

Conclusion: Anaphylactoid purpura, also called Henoch-Schonlein purpura(HSP), is an immunoglobulin (Ig) A-mediated, small-vessel vasculitis that predominantly affects children. Henoch-Schonlein purpura (HSP) is a systemic vasculitic syndrome characterized by non-thrombocytopenic purpura, arthritis or arthralgia, abdominal pain, and glomerulonephritis caused by the inflammation of polymorphonuclear cells accumulated in the walls of small vessels(1). This syndrome was firstly described by Heberden in 1801(2). Later, in 1837, Schonlein defined the association of purpuric cutaneous lesions and arthralgia [3]. In 1874, Henoch described purpura, abdominal pain, and melena. The hallmark of clinical manifestation for platelet not neutropenic purpura is in addition to the outer body skin purpura, most found in the lower extremity rash, which is characterized by migratory. It was happened all the year round, especially in children. It often accompanied with joint swelling and pain, abdominal pain, hematuria and proteinuria, a rash, peripheral edema, vomiting and/or arthritis develop. Hormone therapy can significantly relieve symptoms, improve the condition. HSP patients with abdominal treatment preferred glucocorticoid, severe abdominal pain and gastrointestinal bleeding can be an early short-term use of hydrocortisone, has a good effect.

Key Word(s): 1. characteristics; 2. corticosteroids; 3. effect;
Analysis of changes of disease spectrum in Children from Shaanxi province, China

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Objective: The purpose of this study was to understand the changing trends in disease spectrum and mortality rate of children hospitalised in the department of paediatrics, Shenmu hospital, and to provide scientific basis for the future medical care and prevention of childhood diseases.

Methods: A retrospective statistical analysis was done using the data regarding hospitalization of children in Shenmu County. The study period was of fifteen years, from January 1998 to December 2012. Results: A total of 23,448 children were hospitalised below the age of 14, amongst them 17,173 were males accounting for 73.2%. Majority of the patients were less than three years old constituting 78.8% (which included age 1 months ~1 year 57.2%). The average number of days of hospitalization were 6.8 days, with a median time of six days. The leading cause of hospitalization was respiratory disease. Other major illnesses causing hospitalization included; infectious diseases, digestive tract diseases, neonatal diseases and nervous system diseases. A total of 144 children died during this period but in a declining trend in mortality rate ($\chi^2 = 13.46$, $p <0.01$). The top three causes of death were; asphyxia, premature birth and neonatal respiratory distress syndrome. Conclusion: The changing trends in paediatric disease hospitalisations and mortality rate over the 15 years are significant for clinicians so as to prevent and minimise such diseases by appropriate preventive and therapeutic options to contain them.

Results: During the study period between1998 to 2012, we had 23,448 hospitalized children who were under 14 years old. Most were males 17,173 (73.2%) and 6275 (26.8%) females. From the perspective of age, 3009 children were under 28 days, 10,400 children were between 29 days and one year, 5065 children were between one year and three years, 2746 children were between three years and six years and 2228 children were over six years age. The average length of stay in hospital was 6.8 days and intermediate was 6 days.

On divided the leaving time #I# three time quantum including 1998-2002, 2003-2007 and 2008-2012, we found that the portion of male children increased steadily ($\chi^2=25.20$, $p <0.01$), so did the portion of young children. But at the same time, the length of stay in hospital declined steadily (Kruskal-Wallis $\chi^2=179.93$, $p<0.01$) as seen in Table 1.

Conclusion: According to literature, currently there are only a few reports about disease spectrum in paediatrics from China, except from some secondary A level hospitals in county. A majority of study of disease spectrum focuses on third class A level hospital. It is very important to understand the changes of disease in primary settings, to grasp the image of disease spectrum, to find out the feature of disease area, to direct the decision making and to allocate the medical resources.
The aim of this study is to analyse the changes of disease spectrum of hospitalized children in our hospital from 1998 to 2012.

Key Word(s): 1. paediatric ; 2. disease spectrum, ; 3. childhood mortality, ;
Current situation of Chinese newborn screening for congenital hypothyroidism

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Objective: Neonatal screening has become one of the most successful public health policy since the start. The purpose of neonatal screening for congenital hypothyroidism disease is to find serious, treatable disease in newborn children and apply appropriate interventions, and when to avoid or ameliorate adverse outcomes. Neonatal screening is gradually popular today, with improvement in detection technology, systems technology to enhance and improve diagnosis and treatment, Chinese new born screening for congenital hypothyroidism thyroid level will rapidly increase. Currently, in most Chinese provinces to carry out newborn disease screening programs carried congenital hypothyroidism screening.

Methods: Neonatal screening for congenital hypothyroidism is an effective way to improve birth population quality which is carried out at the international level for nearly 50 years and carried out in China for 30 years, it is one of the most successful public health measure [1, 2]. Domestic and international data show that the development and promotion of neonatal screening for congenital hypothyroidism disease has social benefit to prevent and improve the health of children with mental retardation, to improve the quality of the population born. Neonatal screening is gradually popular today, with improvement in detection technology, systems technology to enhance and improve diagnosis and treatment, Chinese new born screening for congenital hypothyroidism thyroid level will rapidly increase [3]. For 50 years, newborn screening has saved many infant lives, or eliminating the occurrence of severe mental retardation and their physical development disorder, brought joy to millions of households [1]. Status of Chinese newborn screening as follows.

Results: Neonatal screening conditions are met briefly summarized as the following four points:
(1) early diagnosis can allow infants to benefit (even some incurable disease, in favor of the family as a whole can benefit infants and young children).
(2) benefits may be a reasonable balance between the economic and other costs.
(3) there is a reliable detection method for neonatal screening.
(4) there is a satisfactory operating system to handle diagnostic tests, consultation, treatment and follow-up of patients detected.

Conclusion: Neonatal screening has become one of the most successful public health policy since the start. This is largely due to advances in analytical techniques biomarkers of disease areas, the importance of the active participation of parents and community organizations in promoting people to be aware of the importance of disease and treat disease screening method. Challenges neonatal screening is required to ensure that the medical profession does not exceed the range of detectable cognitive disorders or have adequate resources and facilities to manage these abnormalities of the disease [8].

In recent years, the development trend of international neonatal screening and gradually increased to the center with tandem mass spectrometry screening, a comprehensive cost-effectiveness analysis showed that tandem mass spectrometry is to reduce the cost of neonatal screening [9]. In addition to improving the efficiency of tandem mass spectrometry detection, the false-positive rate was significantly lower, not only the newborn disease screening techniques to a new level, has become the development direction of newborn screening for inherited metabolic diseases.

Key Word(s): 1. neonatal screening ; 2. genital hypothyroidism; 3. China;
The Current situation of Child and adolescent psychological problems and intervention in China

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Objective: In China, the psychological health problems of children and adolescents have been more and more serious recently. The psychological disorders not only have a lot of adverse effects for children and adolescents, but also were an important source of mental disease in adulthood. In order to make more people understand this serious problem, this paper summarized the current situation of child and adolescent mental health problems in China and the risk factors for child and adolescent mental health problems; additionally, the interventions of child and adolescent psychological problems were also reviewed in this paper.

Methods: The modern medical mode has changed, from the physical model develop psychology model, and then evolved into social medical model. The occurrences and developments of all kinds of diseases were observed from these three aspects; adolescent mental health problems were no exception as well.

Results: According to conservative estimates[1], there were 30 million minors suffered from various learning, emotion and mood disorders among 367 million minors whose age are under 18 in the Chinese mainland. The primary school students’ psychological barriers are mainly including the problems of interpersonal relationship, emotional stability and learning adaptability, whose prevalence was 21.6 to 32.0%. Among that, the prevalence of common ADHA(attention deficit hyperactivity disorder) in children was 1.70 to 5.07%, of which 5.7% in Beijing, 6.0% in hunan province. It is estimated

Conclusion: The typical clinical manifestations of children with autism are language development disorders, social interaction disabilities and repetitive behavior. Some children have different levels of developmental disorders. According to the general low prevalence estimates in China[13], there are about 100000 autism children. Autism is a chronic course disease, prognosis is connected with the severity of the disease, childhood language development situation, the discretion of the intelligence quotient (IQ), training, education and timeliness of disease intervention. Child care doctors provide professional knowledge, formal training and treatment at an early date.

Key Word(s): 1. intervention; 2. adolescent psychological;
The adaptability study of quality of life scale for 13-18 years old adolescent in school

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Objective: To compare the effects of quality of life scales for 13-18 years old adolescent in school, to provide practical tools and suggestions to better understand and improve the quality of life of youths.

Methods: Using PedsQL4.0 scale and WHOQOL-BREF scale to investigate 300 young people aged 13-18 from two high school in Changchun during December of 2013 and March of 2014.

Results: The average score is 78.26 point in PedsQL 4.0, and the social domain goes the highest, the emotion domain goes the lowest. Ceiling effect obviously appear only in social domain. There is no evident ceiling effect and floor effect in other domains. The average score is 65.38 point in WHOQOL-BREF, and the social domain goes the highest, the environmental domain goes the lowest. There is no evident ceiling effect and floor effect in any domains. The Cronbach’s α of PedsQL 4.0 was 0.93 and the Cronbach’s α exceeds 0.80 in four sides and the split-half reliability is 0.86. The content validity of items ranged from 0.59 to 0.89. Five factors were extracted by exploratory factor analysis and could explain 68.87% of the total variance. The criterion validity was 0.49. The Cronbach’s α of WHOQOL-BREF was 0.91 and the Cronbach’s α exceeds 0.7 in three sides except the society side which below 0.6 and the split-half reliability is 0.89. The content validity of items ranged from 0.51 to 0.83. Five factors were extracted by exploratory factor analysis and could explain 64.68% of the total variance. The criterion validity was 0.49.

Conclusion: The PedsQL4.0 scale is more suitable for assessment the quality of life of 13-18 years old adolescents than WHOQOL-BREF.

Key Word(s): 1. Adolescents; 2. Quality of Life; 3. Reliability; 4. Validity;
Analysis the causes and bone age of 374 children with short stature

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Objective: Objective We attempted to analyze the causes of short stature and the average age of treatment, and extract the characteristics of bone age.

Methods: We recruited 374 short stature children. Their body weight, blood pressure, waist and hip circumferences were measured. The development of the situation and secondary sexual characteristics were observed, and related laboratory tests were carried out.

Results: Most of children with short stature were caused by the endocrine diseases. Among them, 206 cases of children have growth hormone deficiency (GHD), accounting for 55.08%, followed by idiopathic short stature (ISS), accounting for 26.74%; children small for gestational age (SGA), accounting for 6.15%; thyroid function a reduction, accounting for 5.35%; Turner syndrome, accounting for 4.28%; age and bone age of different short stature groups have significant difference.

Conclusion: GHD and ISS are common reasons in short stature. bone age of short stature with different reasons is significantly difference. It is important to discover early the cause of short status for treatment.

Key Word(s): 1. short stature; 2. etiology; 3. Age; 4. bone age;
Correlative factors influencing efficacy of recombinant human growth hormone treatment in short stature children

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Objective: To analyze the correlative factors that affect efficacy of recombinant human growth hormone treatment in short stature children.

Methods: Multivariate linear regression analysis were performed to assess factors related to rhGH treatment curative effect on height growth by in 103 cases of short stature children with rhGH treatment for more than 6 months~2 years. In the study the height growth after rhGH treatment is the dependent variable (Y), and age, height, weight, target height, height standard deviation score, bone age, height, father mother height, CA (age)-BA (bone age), BA/CA, growth hormone peak, treatment time and diagnosis are independent variables.

Results: Multiple liner regression analysis showed that height growth of children with rhGH treatment was negatively correlated with their height before treatment, were positively correlated with treatment time, target height, father height and CA (age)-BA (bone age).

Conclusion: Retardation of bone age, heigh at the start of treatment, and target height can be used for forecasting indicators of height growth of children with rhGH treatment.

Key Word(s): 1. children.; 2. rhGH; 3. Height growth; 4. Correlative factors;
The Development and Challenges of Chinese Pediatric Rehabilitation

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Objective: to explore the development process, characteristics and the challenges of Chinese pediatric rehabilitation.

Methods: Literature review, questionnaire, interview, etc.

Results: Chinese pediatric rehabilitation cause has gone more than 30 years since the early 1980s which goes through the three development stages including to explore the starting stage, Universal development stage and Rapid development stage. The Chinese government has been bringing pediatric rehabilitation to Chinese undertakings for disabled persons development outline during "the eight five-year plan" to" the twelfth five-year plan" with the different emphasis at different stages. Chinese pediatric rehabilitation ways mainly included hospital based rehabilitation, institution based rehabilitation and community based rehabilitation, and priority for the first two ways. In 10 major rehabilitation needs diseases and disabilities, cerebral palsy, development delay and autism are in the top three. The main places of diagnosis and treatment of special children in a timely were the general hospitals, maternal and child health care hospitals and children's hospitals. The latest epidemiological results showed that the incidence of cerebral palsy was 2.48‰ and the prevalence was 2.45‰ of 1 to 6 years old children in China. It is estimated that the number of cerebral palsy children less than 14 years old was about 5 million, the new cerebral palsy occurred about 40 thousands a year. Chinese pediatric rehabilitation demand is huge including all special needs children. The challenges now mainly includes the contradiction between demand and supply of rehabilitation, the imbalance of the rehabilitation services in different regions as well as urban and rural, the problems of combination of medical rehabilitation and educational rehabilitation and the chances to receive education of the disabled children, some non-standard rehabilitation behavior, comprehensive rehabilitation services and rehabilitation technology level need to improve. community based rehabilitation and network rehabilitation services have not yet spread, professional team quality needs to improve and so on.

Conclusion: Even though Chinese pediatric rehabilitation is developing quickly, there are still many challenges and problems. There is still the certain distance comparing with the developed countries. Achieving the goal of "everyone join the rehabilitation services" and with more satisfactory rehabilitation services needs the government-led, pediatric rehabilitation workers and the whole society joint all their efforts.

Key Word(s): 1. pediatric rehab.; 2. China; 3. development; 4. challenge;
Comparison of Caffeine Citrate and Aminophylline for Treating Primary Apnea and Complication in Premature Infants

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Objective: To investigate the clinical efficacy of caffeine citrate and aminophylline in the treatment of primary apnea and complication in premature infants

Methods: The clinical data of 152 premature infants with primary apnea from June 2014 to August 2015 were retrospectively analyzed. According to the therapeutic strategy, the patients were divided into caffeine citrate group (n=77) and aminophylline group (n=75). The time of the apnea disappeared from treatment, needing oxygen, NCPAP and endotracheal intubation mechanical ventilation, and the morbidity of some complications in the two groups were compared, including bronchopulmonary dysplasia, necrotizing enterocolitis, retinopathy of prematurity, patent ductus arteriosus, intercranial hemorrhage.

Results: The time of the apnea disappeared from treatment, needing oxygen, NCPAP and endotracheal intubation mechanical ventilation in the caffeine citrate group were significantly lower than in the aminophylline group (P<0.05). The morbidity of bronchopulmonary dysplasia, patent ductus arteriosus, intercranial hemorrhage in the caffeine citrate group were also significantly lower than in the aminophylline group (P<0.05), but there were no difference between the two group about the morbidity of necrotizing enterocolitis, retinopathy of prematurity (P>0.05). However the hospitalization time in the caffeine citrate group were significantly lower than in the aminophylline group (P<0.05), but there was no difference about the hospitalization expenses (P>0.05).

Conclusion: The caffeine citrate is more effective than aminophylline in the treatment of primary apnea, and it can also decrease the morbidity of bronchopulmonary dysplasia, patent ductus arteriosus and intercranial hemorrhage in premature infants.

Key Word(s): 1. caffeine citrate; 2. aminophylline; 3. primary apnea; 4. premature infants;
HOMOZYGOUS MUTATION IN THE DIHYDROPTERIDINE REDUCTASE GENE QDPR IN A PATIENT WITH TETRAHYDROBIOPTERIN DEFICIENCY

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Objective: Inherited Dihydropteridine reductase (DHPR) deficiency in humans causes hyperphenylalaninaemia as well as impaired production of monoamine neurotransmitters derived from tyrosine and tryptophan, dopamine, norepinephrine, and serotonin. We report a homozygous mutation in the dihydropteridine reductase gene results in tetrahydrobiopterin deficiency in an 11 month Chinese boy.

Methods: Clinical investigations included a complete medical history, physical examination. Hyperphenylalaninaemia was detected on neonatal screening and DHPR deficiency was diagnosed at nine months of age. Exons and boarding introns analysis of 404 genes were performed in the patient using second-generation sequencing. The identified mutations were confirmed by bi-directional Sanger sequencing in parents and 300 healthy controls.

Results: The patient is an 11 month boy, G1P1. Apgar score was 10 at birth. No abnormal was detected at birth. Hyperphenylalaninaemia was detected on neonatal screening, Phe5.51mg/dL at first test and 6.41mg/dL by repeat test. DHPR activity was 0.69, 18% of the control. Repeat test still showed that DHPR activity was 1.49, 39% of the control. Following diet control treatment, phenylalanine was between 0.6-4.7mg/dL. When the boy at 9 months old, his physical develop was delay. He can not sit up by himself. Homozygous mutation in QDPR gene was detected, which is c.68G>A,p.G23D. DHPR deficiency in the boy was diagnosed. Patient was treated with diet control, sapropterin hydrochloride, madopar, 5- hydroxy tryptophan, and calcium folinate and physical therapy. His phenylalanine was between 4.7-8.2mg/dL.

Conclusion: Dihydropteridine reductase associated with homozygous mutation in the dihydropteridine reductase gene QDPR is a rare form of tetrahydrobiopterin deficiency with hyperphenylalaninaemia. Next generation sequencing increased the identification of rare form of hyperphenylalaninaemia which benefit the patient management.

Key Word(s): 1. PKU; 2. dihydropteridine reductase gene ; 3. Homozygous mutation;
Pleuropulmonary blastoma in children

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Objective: To summarize the main clinical characteristics, treatment method, histological characteristic of children with PPB.

Methods: Retrospective description clinical symptoms, imaging findings, diagnosis methods, treatment approach, and pathological morphology of eight patients whom were treatmented with PPB in our hospital from 2006 to 2015, to summarize the main clinical characteristics, treatment method, histological characteristic of children with PPB.

Results: The common chief complaint was nonspecific upper respiratory tract symptoms include fever, cough, tachypnea, poor appetite, chest pain, joint pain, weight loss. Spontaneous pneumothorax always complicate with type I. The common radiologic appearances include opacification of the lung, a mass lesion in the chest, pleural effusion, a cystic lung lesion, mediastinal shift to the opposite side, pneumothorax, and haemothorax. One case underwent bone marrow and chest fine needle biopsy, Surgical resection underwent seven cases through thoractomey. Histopatological examination showed type I two cases, type II two cases, type III four cases.

Conclusion: The tumor common chief complaint was nonspecific and has no characteristic findings on imaging studies. The appearance of PPB and its differential diagnosis from imaging studies depends upon the type. Tumor resection and histological examination should be undertaken as a standard procedure to reach a confident definitive diagnosis on which appropriate aggressive therapy will be based.

Key Word(s): 1. blastoma; 2. clinical presentations; 3. treatment approach;
PULMONARY AGENESIS WITH MULTIPLE RARE ABNORMALITIES: A CASE REPORT

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Objective: The clinical presentation of the present case broadens the clinical spectrum of pulmonary agenesis.
Methods: We reported a case of patient with unilateral pulmonary agenesis, tracheal stenosis, asymmetric crying facies, ventricular septal defect, patent ductus arteriosus, partial cervical and thoracic vertebral deformity, left radius and thumb aplasia, left metacarpal bones partial agenesis, 2 ribs absence at the left thorax.
Results: The ventricular septal defect was repaired and patent ductus arteriosus was ligated.
Conclusion: Pulmonary agenesis is not contraindicated to treatment congenital heart disease with pulmonary agenesis and tracheal stenosis, but it is quite a challenge for that. Longterm follow-up and support are important to ensure normal development of patients with unilateral PA. This case is remarkable in which multiple rare abnormalities occurred together in one same infant, which broadens the clinical spectrum of pulmonary agenesis.
Key Word(s): 1. pulmonary agenesis; 2. congenital heart disease; 3. asymmetric crying facies;
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DISTRIBUTION AND FUNCTION OF T-TYPE A1H CA2+ CHANNELS (CAV3.2) IN THE RAT MODEL OF HIRSCHSPRUNG’S DISEASE

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Objective: To establish HD rat model and observe the distribution and function of Cav3.2 in abnormal colon of HD rat model.

Methods: Microinjection catheters were carefully placed into the rectum of neonatal SD rats of 6-8 days old, and 0.2% benzalkonium chloride (BAC) solution was injected to establish HD rat model. The distribution of Cav3.2 in abnormal colon of HD rat model was assessed by immunohistochemical staining and the co-localization of Cav3.2 and c-kit receptor was examined by double immunofluorescent staining. Besides, function of Cav3.2 was surveyed with the model rats tensile force of colonic muscle strip in vitro.

Results: After 8 weeks of BAC treatment, the HD rat model was successfully established. The distribution of Cav3.2 was detected by immunohistochemical staining. In the normal colon, Cav3.2 were mainly distributed between circular muscle and longitudinal muscle, and showed continuous distribution. However, in the narrow segment of HD rat model, the expression of Cav3.2 was decreased significantly, and its continuity was disrupted. The co-localization of Cav3.2 and c-kit was studied by double immunofluorescent staining. Similarly, in the normal colon, the co-localization of Cav3.2 and c-kit were distributed between circular muscle and longitudinal muscle, and showed continuous distribution. By contrast, the co-localization of Cav3.2 and c-kit were significantly reduced or vanished in the narrow segment of HD rat model. In motility studies, muscle strips from colon of control rats showed a regular pattern of spontaneous mechanical activity, while the spontaneous mechanical activity were vanished in the muscle strips from colon of HD rat model. Besides, on the premise of a regular pattern of spontaneous mechanical activity in control muscle strips, when we add ZnCl2, known to inhibit Cav3.2 among three T-channel isoforms, into muscle bath, the pattern of muscle contractions appear similar to HD model rats.

Conclusion: In comparison with the normal colon, the distribution of Cav3.2 and c-kit receptor were both decreased significantly in the narrow segment of HD rat model. Meanwhile, the spontaneous mechanical activity were vanished in the muscle strips from colon of HD rat model. When adding ZnCl2 into muscle bath, the pattern of muscle contractions appear similar to HD model rats. The above results suggest that abnormal alteration of Cav3.2 probably mediates the functional change of ICCs in the Hirschsprung’s disease, resulting in the intestinal dysfunction of HD.

Key Word(s): 1. Aganglionosis; 2. Cav3.2; 3. Interstitial cells of cajal; 4. Rat model;
The relation between OSAS in children and bronchial asthma about their cellular immune

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Objective: To explore the changes of cellular immunity imbalance and disorder in the role of OSAS in children with asthma and the relevant mechanism.

Methods: Extract macrophages from peripheral blood in OSAS with asthma between September 2011 and June 2013 from Xi’an children’s hospital, analysis the proportion of M1 and M2 with normal child as negative control, analysis the disease clinical features and the curative effect of conventional GINA scheme.

Results: There is no correlation between the classification of the OSAS with asthma and their macrophages in the peripheral blood (p > 0.05). While the M1 and M2 show strong correlation (p < 0.01), which M1 show positive relation (r = 8.887), and negatively correlation in M2 (r = -7.657).

Conclusion: We confer that the different subsets of macrophages in peripheral blood in OSAS with asthma could evaluate the prognosis of the disease. This experiment prompt that the M1 and M2 macrophages subgroup in OSAS with asthma have different role in immune response and immune regulation effect. But the related research is still in the initial stage, to be large-scale cohort study to explore the correlation and molecular mechanism.

There are lots of similarities between obstructive sleep apnea syndrome and bronchial asthma among the pediatric population in the clinical features, and tend to misdiagnosed. Immune response of macrophages in asthma and adjust for the important role, participates in the regulation of airway hyper responsiveness, immune response and regulation, airway remodeling process. Macrophages are highly heterogeneous cell populations, in complex environment, show the corresponding unique phenotype and function. There are a series of continuous function in Macrophages, M1 and M2 types is a continuous state of the two extremes. M1 secreted inflammatory cytokines and chemokines, and presenting antigen, participate in positive immune response. The function of immune is surveillance. M2 antigen presenting ability of M2 is week, plays the negative regulation.

Key Word(s): 1. OSAS; 2. bronchial asthma; 3. Macrophages;
Down-regulated stem cell factor and c-Kit expression maybe associated with Hirschsprung's disease

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Objective: Hirschsprung's disease has been shown to be associated with abnormal distribution and function of interstitial cells of Cajal. The signaling pathway involving stem cell factor and the c-Kit receptor is essential for development and maintenance of interstitial cells of Cajal. The aim of this study was to investigate the role of SCF/c-Kit in Hirschsprung's disease.

Methods: The expression of c-Kit and SCF were evaluated in the surgical tissue samples from HD patients or distal colon tissues from HD animal models. The morphology of primary cultured interstitial cells of Cajal from normal and HD rats were assessed by immunofluorescent staining. Expression of c-Kit before and after SCF intervention in cultured ICC were examined by western-blots and qRT-PCR.

Results: The expressions of c-Kit and SCF decreased significantly in the surgical tissue samples or distal colon tissues. The primary cultured ICCs from the colon of rats with HD exhibited undeveloped morphology, and c-Kit signaling activation promoted ICCs development. Expression of c-Kit in cultured ICCs from HD colon were down-regulated significantly, which were reversed by addition of stem cell factor in the medium.

Conclusion: The abnormality of SCF/c-Kit signaling is involved in the pathophysiology of Hirschsprung's disease.

Key Word(s): 1. Hirschsprung’s; 2. Interstitial cells of Cajal; 3. c-Kit; 4. stem cell factor;
Objective: Neonatal electrocardiographic (ECG) screening is used to screen infants who may be at risk for sudden cardiac death, such as with prolonged QT intervals. The present study aims to investigate possibility of detect inherited arrhythmia syndromes in infancy using screening in Chinese infants.

Methods: Neonatal ECG screening was performed in newborn at age of one day to four days from August to November, 2015 in Northwest woman’s and children’s hospital in Xi’an, China. All infants with QTc ≥470 were follow up at the age of one month.

Results: Total of 4178 infants ECGs were screening. Male 2175 cases (52.1%), female 2003 cases (47.9%). Birth weight was 3.347±0.0158kg, 0.7-4.98kg. Forty seven are premature infants. Two infants were diagnosed with prolonged QT intervals from both first ECG check up and follow-up ECGs. An infant, female, her QTc was 638 ms with 2:1 atrioventricular conduction at 1 day of age. Her 24 hours Holter showed multiple ventricle premature beats. Her father had multiple episodes of syncope. Inherited ionchannelopathy related genetic testing was performed in this girl and her parents using next generation sequencing. Compounds mutation KCNH2 and SCN5A were detected in this girl. Corresponding mutations Sanger sequencing were performing in this girl and her parents. Another is a boy. His QTc were prolonged in repeating ECGs. His untracardiagrapy showed enlarged right ventricle. Genetic testing detected a heterozygous mutation in MYH7B and two heterozygous mutations in TTN. We also identified an infant with idiopathic ventricular tachycardia during his following up.

Conclusion: Neonatal electrocardiographic screening can identify infants likely to be affected by long-QT syndrome in the Chinese population, as already shown in whites and Japanese. This screening may also be useful in identifying other important cardiac diseases.

Key Word(s): 1. ECG; 2. Neonatal electrocardiographic (ECG) screening; 3. inherited arrhythmia syndromes;
A Comparative Study of Child Neglect in China Eastern, Central and Western Rural Primary Schools

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Objective: Comparative Study of China's rural primary purpose eastern, central and western neglected status, for the rest of the development of targeted and effective preventive interventions to provide a theoretical basis.

Methods: The method of administration according to the geographical division of the eastern, central and western stratified cluster random sampling method, rural pupils from all seven provinces and two municipalities 7943 people, the "China Rural 6-8 year-old pupils neglect evaluation norm" and "China rural 9-11 year-old pupils neglect evaluation norm" in the development of scale questionnaire. Using SPSS18.0 statistical software for statistical analysis, evaluation eastern, central and western students ignore status differences.

Results: (1) The eastern, central and western rural areas of 6 to 8 years old (elementary 1--3 graders) neglect rates and total neglect of the overall difference was statistically significant (P <0.01); The boy or girl three regional neglect rate and total neglect of the overall statistical difference significance (P &lt;0.01); However for eastern, central and western neglect rate between men and women was not statistically significant (P &gt; 0.05).
(2) The eastern, central and western rural areas 9 to 11 years old (Grade 4 - Grade 6 students) neglect rates and total neglect of the overall difference was statistically significant (P &lt;0.01); The boys and girls of three regions and total neglect of neglect rate was significantly different (P &lt;0.01); For both 6 to 8 years old and 9 to 11 years old, Physical, emotional, medical, education, security, and social activities neglect rate all showed statistically different (P &lt;0.01) among three regions, in which the west region was the most worst.

Conclusion: (1) neglect of rural pupils of the West is very serious, whether suddenly or ignored video of strength, higher than the east, central, central better than the east. (2) Eastern, Central different ages neglected condition and there are differences in the level of neglect.

Key Word(s): 1. child neglect ; 2. countryside; 3. Comparative Study; 4. Students;
Comparative analysis of the clinical features, bacterial etiology, and antimicrobial susceptibility between early-onset and late-onset neonatal sepsis

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Objective: To explore the risk factors, clinical symptoms, hematological parameters, causative pathogen and antibiotic susceptibility of neonatal sepsis in a Chinese NICU.

Methods: An open retrospective observational study was performed. Patients were divided into early-onset sepsis (EONS≤72 h after birth, 43 cases) and late-onset sepsis (LONS >72 h after birth, 97 cases) groups according to their positive blood culture occurrence time.

Results: There was significant difference for risk factors like umbilical venous catheters, intravenous nutrition and peripherally insertion central catheter (PICC) between two groups. The clinical symptoms or laboratory results such as low response, jaundice, shock, feeding intolerance, apnea chilly periphery, Pneumonia, Septic shock and hematological parameters also had between-group differences. Gram-positive bacillus was found more in the EONS group than that in LONS group. Gram-positive cocci were found to be the most common causative pathogen in both EONS and LONS groups. The highest resistance rate of staphylococcus to levofloxacin is 75.56% and the best sensitivity was observed with vancomycin and linezolid in staphylococcus. The highest resistance of enteric bacilli to cefuroxime is 66.67 % and the best sensitivity was observed with the combination of piperacillin and tazobactam, imipenem, and amikacin in enteric bacilli.

Conclusion: Premature is a bigger risk factor for neonatal late-onset sepsis. Staphylococcus epidermidis was the leading pathogen present in neonatal sepsis in a tertiary maternal & child care hospital in southern China. Vancomycin, combination of piperacillin and tazobactam, imipenem, amikacin and linezolid may be the best choice to management of neonatal sepsis.

Key Word(s): 1. neonatal sepsis; 2. Clinical features; 3. Bacterial etiology;
Brain development in male adolescents: a preliminary voxel-based morphometry (VBM) study

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Objective: To investigate developmental pattern of cerebral gray matter (GM) and evaluate the developmental process of specify and similarity on gray matter density in male adolescents.

Methods: 44 boys were recruited, aged from 6-18 years old, and were divided in to three groups according to their ages. Group 1, 13 boys aged 6-9 years old. Group 2, 15 boys aged 10-13 years old and group 3, 16 boys aged 14-18 years old. All subjects underwent multispectral structural MRI and data were analyzed via voxel-based morphometry (VBM). The volume and gray matter density were compared in different groups.

Results: Changing pattern of cerebral gray matter was different in male adolescents. The major difference was the structure of default mode network (DMN) and cerebellum between group1 and group2. The temporal lobes gray matter density was also different between goup2 and group3.

Conclusion: The cerebral gray matter development was a motive and asynchronous changing pattern. The developmental trajectory of DMN was relative complicated. The temporal lobes maturity was latest. The developmental effect was not only on different brain areas and also on generating topological structure of brain network.

Key Word(s): 1. brain development; 2. voxel-based morphometry (VBM); 3. adolescents; 4. male;
Analysis of children's GUT injury cases caused by swallowing multiple magnets

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Objective: To study the injury mechanisms and treatment of complications and harmful affection from swallowed magnets by children.

Methods: The author surveyed radiologists and researched cases of magnet swallowing in the literature and documented age, gender, area, numbers of magnets, source of the magnets, diagnosis, removal methods and clinical course.

Results: A total of 79 instances of magnet swallowing were identified, one fatal. Cases from 15 countries were found. Magnet swallowing occurred throughout childhood, there were 76 patients under 18 years, with most children younger than 6 years of age, particularly among 3 years. All patients were varying degrees of delay in diagnosis and treatment. One of them died due to severe infection. Numbers of swallowed magnets ranged from 2 up to approximate 100. 11 children were known to be autistic (11.4%). The swallowed magnets mostly from toys (76%), and then from care facility (10%) and ornaments (10%). A wide range of gut damage was encountered from esophagus to colon, including perforation, intestinal fistula and peritonitis. Intestinal damage among the most common (51.3%), followed by the small intestine - Colon fistula (16.6%).

Conclusion: More than one magnet has been ingested will lead to severe gastrointestinal damage and affecting children's health, therefore must be removed without delay. More early diagnosis and treatment and preventative measures are needed.

Key Word(s): 1. magnet ingestion; 2. fistula; 3. bowel perforation; 4. gut damage;
Stevens-Johnson syndrome and toxic epidermal necrolysis in a 6-year-old child: a case report and an update

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Objective: Introduction: Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) in children are rare, but potentially life-threatening mucocutaneous reactions. The exact pathogenesis of SJS/TEN in children is not well established, includes infection, medical genomics and immunological mechanisms.

Methods: Case report: We report here a rare case of SJS/TEN triggered by a combination of infection and drug in a 6-year-old boy. The child developed SJS/TEN with a progressive multiple skin lesions noted all over the body with liver and gastrointestinal involvement one week after the initiation of upper respiratory infection therapy. All related drugs, such as penicillins and saridon, were discontinued, and intravenous methylprednisolone, intravenous immunoglobulin, fluid supplement, special wound care, and supportive medical care for SJS/TEN were administered. He was discharged in a stable condition on the 24th day.

Results: Conclusion: Our case suggests that prodromal infection history, together with a drug-drug interaction between amoxicillin and saridon may contributed to the cause of SJS/TEN in children.

Conclusion: Purpose of review: This study summarizes up-to-date insights and understanding of the pathogenesis of SJS/TEN and provides an update on the treatment of these conditions in children. We hope that this report will add to the existing meager body of literature and throw some light on the occurrence and manifestation of this condition.

Key Word(s): 1. children; 2. Stevens-Johnson syndrome; 3. toxic epidermal necrolysis; 4. pathogenesis;
The time and dose-dependent effects of phenobarbital on neonatal jaundice

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Objective: Purpose: To investigate the time and dose-dependent effects of phenobarbital on neonatal jaundice.

Methods: 1.1 Collection of the patients 40 full term neonates suffered with asphyxia were collected at Zhenan Maternity and Child Healthcare Hospital from October 2010 to October 2015, and divided into two groups: observation group and control group. The birth weight was between 2.5kg to 4kg and the Apgar score was >7. The patients who suffered with intrauterine infection, hemolytic disease and biliary atresia were excluded. 1.2 Treatment methods Observation group: The patients who had neurologic syndromes (myoclonus or convulsion) in 24h after birth were treated with a phenobarbital loading dose of 20mg/kg in 12-24h and followed with a maintenance dose of 3-5mg/kg/day. If the pathological jaundice occurred, the patients would be treated by light phototherapy. Control group: The patients who didn't have neurologic syndromes after birth were followed with the changes of jaundice. When the pathological jaundice occurred, the patients would be treated with a Yinzhihuang oral liquid dose of 3ml, 3times/day, a phenobarbital dose of 5mg/kg and light phototherapy. 1.3 Detection of jaundice: The icteric index was detected by the percutaneous jaundice tester from 1d to 6d after birth. Two places (Centre of the forehead and chest) were examined each time and the average value was taken into compare. 1.4 Statistical analysis: The data was showed as x±s and student’s t test was used to compare.

Results: There were no differences of icteric indexes at 1d, 2d and 6d after birth between these two groups (P>0.05). The icteric indexes of control group were much higher than observation group at 3d, 4d and 5d. There were 5 patients in observation group who treated with light phototherapy, but didn’t treat with Yinzhihuang. The cure time of observation group was 3 days. The patients in control group were treated with a Yinzhihuang oral liquid dose of 3ml, 3times/day, a phenobarbital dose of 5mg/kg and light phototherapy. The cure time from pathological jaundice to normal was 6 days. 两组新生儿黄疸指数的比较（x±s）Comparison of the icteric index between observation and control group:---------------------------------------------------------------组 别(Group)      1天     2天     3天     4天     5天     6天观察组(Observation)      5.3±2.4     7.5±3.4     9.6±3.6     10.3±3.1     11.1±2.8     12.9±3.5对照组(Control)      5.2±2.5     7.4±3.6     10.5±4.2     12.8±4.25
14.2±4.9---------------------------------------------------------------注：与对照组比较p<0.05, p<0.01Note: p<0.05, p<0.01

Conclusion: The neonatal jaundice is a common syndrome in neonatal period, especially in 1 week after birth. Because of the potential neurotoxic of bilirubin, the early appropriate intervention could efficiently reduce the morbidity and mortality of bilirubin encephalopathy caused by the high bilirubin. There are two reasons for the high level of bilirubin. First, the lifespan of red blood cells is markedly reduced in full term infant, and the damage of hemoglobin and the hepatocerebral circulation are much faster. Second, the enzyme, uridine diphosphate glucuronosyltransferase isoform 1A1 (UGT1A1), to eliminate bilirubin, is not active until several months after birth, leading to the aggregation of bilirubin. These two reasons cause the higher levels of bilirubin in the serum of neonates, especially exposed at the high risk factors of pathological jaundice, like asphyxia, anoxia and acidosis. To investigate the sufficient intervention is helpful for the improvement of therapy. The mechanism of phenobarbital to pathological jaundice was to accelerate the circulation of water and bile salt in capillary vessel, and could induce the enzymes activity of mitochondrial to expedite the production of the conjugated bilirubin and improve the elimination of unconjugated bilirubin. The normal dose is 5mg/kg/d, and divided 2-3times by 4-5days. Phenobarbital is common used to treat the convulsions, especially the recurrently attack. It can also be used to treat the convulsions caused by central stimulants toxicity, high fever, tetanus encephalitis and others. The loading dose to treat the convulsions caused by asphyxia is 20mg/kg in 12-24h, and the maintenance dose was 3-5mg/kg/d. The time and dose are different to treat with different convulsions above. The occurrence and severity are also different. While treated with high dose of phenobarbital for pathological jaundice still needs further investigation to evaluate the influence of nervous system and other organs.

Key Word(s): 1. 苯巴比妥; 2. 用量及时机; 3. 新生儿黄疸; 4. 影响;
The clinical significance of serum and joint fluid osteopontin levels in juvenile idiopathic arthritis

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Objective: To evaluate the clinical significance of osteopontin (OPN) in serum and joint fluid in juvenile idiopathic arthritis (JIA).

Methods: 39 children with JIA in acute phase or remission phase and 30 children with inguinal hernia (control group) were enrolled in this study. Joint fluid was extracted in 15 JIA patients in acute phase. Enzyme linked immunosorbent assay (ELISA) was employed to measure the level of OPN in serum and joint fluid.

Results: Serum OPN level of JIA children in acute phase was significantly higher than that of control group and JIA children in the remission stage. The joint fluid OPN level of JIA children in acute phase was significantly higher than serum OPN level of JIA children in acute phase. The serum OPN level of JIA with joint damage was significantly higher than that without joint destruction. The serum OPN level of JIA children in acute phase was positively correlated with WBC, neutrophil, CRP, ESR, the number of joint swelling, not correlated with hemoglobin, platelet, the number of joint pain, morning stiffness.

Conclusion: OPN may be as a proinflammatory factor involved in JIA activity and joint damage.

COMPARATIVE TESTING OF BETADINE® AND OTHER COMMERCIALLY AVAILABLE PRODUCTS ON VIRUSES BASED ON CURRENT EUROPEAN SUSPENSION ASSAY

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Background: Hand, Foot and Mouth Disease (HFMD) is a common infectious disease in the Asia-Pacific region affecting mainly infants and children, resulting in many fatalities, especially during outbreaks. Most enteroviruses are causative agents for HFMD; Coxsackievirus A16 (CA16) causes self-limiting HFMD whereas Enterovirus 71 (EV71) can cause neurological complications and fatality. No effective antiviral drugs/vaccines are currently available, and treatments are symptom-based with little effectiveness, especially against EV71.

Objective: To evaluate the antiviral activity of povidone-iodine (BETADINE®) products versus other commercially available products for hand disinfection, throat and oral applications.

Methods: CA16 and EV71 were evaluated using a virucidal quantitative suspension assay (DIN EN 14476). Products were tested undiluted except for lozenges, which were dissolved in an equal amount of water to a concentration of 1 g/ml. A 4 log₁₀ (99.99%) reduction of virus titre, evaluated by 50% tissue culture infective dose (TCID₅₀), was considered to demonstrate virucidal activity.

Results: BETADINE® products (10% antiseptic solution, 7.5% surgical scrub, 7.5% skin cleanser, 1% gargle, 7.5% gargle, 0.45% throat spray) and 70% ethanol were effective against both CA16 and EV71. Chloroxylenol liquid was effective against EV71. Other hand disinfection (chlorhexidine solution, octenidine gel, polyhexanide wound gel) and oral products (chlorhexidine mouthwash, hexetidine liquid, thymol, salt water, benzydamine hydrochloride and 1.2 mg 2,4-dichlorobenzyl alcohol/0.6 mg amylmetacresol lozenges) were ineffective.

Conclusion: BETADINE® products are effective against the leading strains of HFMD in Asia and Middle-East and may have a role in infection control to protect both the health care professionals and consumers during HFMD outbreak via prophylaxis and effective disinfection.

Sponsor: Mundipharma Research

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SURVEY OF PUBLIC KNOWLEDGE AND PERCEPTION OF PEDIATRIC CLINICAL TRIAL

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Objective: This study was conducted to investigate the public knowledge and perception of pediatric clinical trial

Methods: The survey was conducted through We-Chat investigation network and hospital wards.

Results: The effective questionnaires are 1098 copies. The overall awareness rate of the clinical study is 50.8%. We found that about 12.0-25% people believe that clinical research is to treat people as experimental rats, 12.0%-16% medical related education people also has this choice. 62.8% people do not know, if the indication of drugs have not been studied in children, the children will be exposed to unknown risks. 68.7% people do not know that the subjects can stop research at any time. On how to reduce the concerns of the investigation, more than 60% choose the following three options “physicians detailed introduction of the whole procedure of the study”, “the full understanding of the research contents and risks” and “withdraw the study at any time, and will not be subject to discrimination or unfair treatment”. As to the attitudes of participating in the pediatric clinical research, approximately 37.8% people choose neutral. For “if a clinical study has no direct benefits and no harm to the subjects, but helpful for the future treatment of their own and other child” 52.9% are very willing and willing to participate, 33.4% remain neutral, 10.2% people are not willing to participate. For “what can encourage your children to participate in a clinical research”, most people (59.4%) choose “have the knowledge of the results after the research”. 86.8% of people think it is necessary to carry out pediatric clinical research education in the public.

Conclusion: The public knowledge about pediatric clinical trial is very limited. It is very necessary to enhance the public understanding of clinical research, and try to improve the pediatric clinical trial recruitment difficulties.
小气道功能在特异性免疫疗法在过敏性鼻炎哮喘综合征中的研究

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Objective: 探讨特异性免疫疗法对过敏性鼻炎哮喘综合征（CARAS）儿童肺功能小气道炎症的作用。

Methods: 随机选取门诊诊断的CARAS患儿40例为实验组，在GINA方案规范治疗（吸入糖皮质激素）基础上给予尘螨特异性免疫治疗；对照组45例只给予GINA方案规范治疗。年龄5-14岁，随访1年，每三个月给予儿童哮喘控制测试（C-ACT）、过敏性鼻炎症状评分及肺功能测定，参数包括气道功能指标如FEF50%, FEF75%, MMEF%, IOS测定Zrs, R5, X5。

Results: 在治疗12个月，实验组C-ACT评分显著高于对照组（P<0.05）。治疗9个月开始，实验组鼻炎症状评分显著低于对照组（P<0.05）。肺功能小气道功能指标如FEF50%, FEF75%, MMEF%显著提高（P<0.01）；IOS检测Zrs, R5, X5明显下降，差异有统计学意义（P<0.01）。

Conclusion: 尘螨特异性免疫治疗联合吸入糖皮质激素治疗效果优于单用吸入激素，能显著改善小气道功能。

Key Word(s): 1. 特异性免疫治疗 2. 过敏性鼻炎 3. 哮喘 4. 小气道
Objective: To Investigate the Diagnosis Value of Video electroencephalogram monitoring (VEEG) in Neonatal Seizure.

Methods: 30 Neonates with Doubtful Seizures in our Newborn Intensive Care Unit (NICU) from January to July in 2014 were Selected to Monitor the Electrical Activity of Brain and the Clinical Action with VEEG. The Monitoring Results were then Analyzed.

Results: Among 30 Newborn babies with Doubtful Seizures, Seven cases (23.3%) were Definitely Diagnosed as Neonatal Convulsions. Six of the seven cases had Certain causes, which were 2 of Hypoglycemia, 2 of hypoxic-ischemic Encephalopathy and 2 of Central nervous system Infection. One of the Babies has no Definite causes. Besides one baby gave up Therapy, The other six Babies Accepted Therapy and a Follow-up 1-12 months. Six cases had not Seizures again. Four of them Developed well in Psychomotor, one cases Suffered from Central Hemiplegia with the left side and one case Discharged recently.

Conclusion: Seizures in the Newborn were always not Typical ones and Appeared as Subclinical or minor Seizures, Which were Difficult to be Identified and easy to be Missed and Misdiagnosed. VEEG Monitoring is useful in the Diagnosis of Seizures in the Newborn. It has Good Qualities of Sensitive, Precise and Noninvasive, and is Valuable to Perform early to Improve prognosis. Which is now the Golden Standard to Diagnose Neonatal Seizures Clinically.

Key Word(s): 1. Seizure; 2. electroencephalogram monitoring; 3. newborn;
Objective:
谁都希望自己的孩子聪明、健康有美好的未来，所以人们不遗余力的在孩子的智力教育、饮食质量上下力气，绝不让自己的孩子输在起跑线上。但是，最新的研究发现，这些力气下得有点晚了，更应该在生命胚胎形成的过程中下工夫，才是从根本上解决问题的办法。

Methods:
大家知道，生命胚胎的形成，是男女双方的精子与卵子结合形成的。母体一生大约有500个成熟卵子排出，周期是一个月，而随着年龄的增长，排出的卵子质量会下降，一般到35岁后卵子的质量下降明显。由此可见，母体排出的成熟卵子数量只有一个，没有选择性。那么，如何提高生命胚胎的质量呢？研究发现，提高生命胚胎质量的有效途径，就是筛选精卵结合的机会，努力实现活力旺盛精子与卵子的结合，形成高质量的生命胚胎。

Results:
众所周知，男性精子的形成是男性的身体中孕育的，成熟精子一般需要90天。男性一次射精一般7~10毫升，精子数量上亿只，而健康卵子当前正常值应在4000万以上。这4000万个精子中只有一个有机会实现与卵子结合，那么，这个幸运精子实现与卵子的结合程度就决定了生命胚胎的质量。

谁能在精子与卵子结合的途中，助精子一臂之力，实现活力旺盛精子与卵子的结合提高生命胚胎质量，谁就是这个优质生命胚胎形成过程中的功臣，也就是人类提高生命健康质量的功臣。

Conclusion: 一种优生助孕的优生助孕套，于2013年底设计成功并被国家知识产权局授予专利。
Key Word(s): 1. 优生 2. 不孕不育症 3. 精子优化 4. 胚胎治疗