

Endocrinology and Metabolic Disorders Abstracts

Oral Presentation

Review of the Effect of the Growth Hormone on Growth Velocity, Thyroid Functions and HbA1c on Children with Idiopathic Short Stature

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Objective: Idiopathic short stature includes short children with their height less than -2.25 standard deviation, compared with their height proportionate to their age and sexuality. There is no evidence of systemic, endocrine or chromosomal abnormalities for their short stature. Moreover, their response to growth hormone stimulation test is a normal one. Treatment with growth hormone in these children, as a result of negative mental, psychological and social reaction to their short stature short is of utmost importance. Different studies on response to treatment with growth hormone in children with idiopathic short stature, report contradictory. The Objective of this study is review of the effect of the growth hormone on growth velocity, bone age, thyroid function and HbA1c.

Methods and Subjects: This prospective study focuses on 35 short children with idiopathic short stature who had referred to the Institute for Endocrinology and Metabolism in a 3 years period. This group of children consists of 16 girls and 19 boys between 10 and 16 yrs old, with the mean age of 13±1.5. Their height was less than -2.25 standard deviation, compared with their height proportionate to their age and sexuality. Their response to growth hormone stimulation test was more than 10ng/L and in physical examination and screening tests they registered normal short stature. The growth velocity in these patients in a period of 3 months, with the consumption of vitamins and recommendations on nutritional regime was kept under review. They, additionally, were treated, for one year, with growth hormone with the dosage of 0.1 IU/kg of the body weight subcutaneously. These patients were examined once in a 3 months, in terms of growth velocity, weight, bone age, thyroid function and HbA1c. Collected information was analyzed with SPSS 11 software. P.value \geq 0.05 was considered as significant.

Findings: Girl's mean growth velocity, before and one year after treatment with growth hormone, was 4±2.1 and 8.1±2.4 centimeter, respectively (P<0.001) and in boys 4.2±1.7 and 7.9±1.74 centimeter, respectively (P=0.04). Mean bone age of the patients

before and one year after treatment was 12.2±1.6 and 13.4±1.4 years respectively. Mean amount of the TSH, before and one year after treatment was 3.85±1.1 and 2.8±1.0 mIU/L, respectively (P=0.07). Mean amount of T4 before and one year after treatment was 8.8±1.6 and 8.9±2.0 mcg/dL, respectively (P=0.08). Mean HbA1c before and one year after treatment was 3.5±1.4 and 4±1.5 percent, respectively (P=0.3).

Conclusion: Given the significance of the difference between growth velocity before and after treatment with growth hormone, it can be concluded that treatment with growth hormone in children with idiopathic short stature, is effective and in terms of complications of treatment with growth hormone, this study did not identify consequences like hypothyroid, progress in bone age and increasing levels of HbA1c.

Key Words: Idiopathic short stature; Growth hormone; Growth velocity; Thyroid function; HbA1c

Oral Presentation

Evaluation of Endocrine Disorders in Amirkola Thalassemia Center

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Objective: Thalassemia major is a genetic disorder, in which blood transfusion is critical for the survival of patients. Hypertransfusion therapy in these patients has significantly increased life expectancy and quality of life. Unfortunately, however, this type of therapy has also increased the frequency of complications due to iron overload. Today endocrine abnormalities are far more common than before in beta Thalassemia patients. The aim of this study was to evaluate the prevalence of endocrine disturbances in patients with thalassemia major.

Methods and Subjects: 240 patients with thalassemia major were selected, patients were examined to determine their pubertal status, and SDS for height and weight for evaluation of endocrinopathies; patients documents were reviewed for FBS, 2 hr PP BS, Ca, P, Alk-p, T4, TSH, LH, FSH, estrogen, testosterone.

Findings: In this study, the prevalence of short stature, hypogonadism, diabetes mellitus, hypoparathyroidism, hypothyroidism, were 53%, 46%, 2.5%, 7%, 11%, respectively.

Conclusion: Despite recent chelation therapy in thalassemia management, risk of secondary endocrinopathies are significant especially hypogonadism. Endocrinopathies are more significant

in short stature patients so endocrine evaluation of thalassemia especially short statures should be emphasized.

Key Words: Thalassemia; Endocrinopathies; Short stature

Oral Presentation

Obese Children and Adolescents, A Risk Group for Metabolic Syndrome (Tehran Adolescent Obesity Study)

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Objective: The metabolic syndrome is not only a serious problem for adults, but is also afflicting an increase in number of children and adolescents as the world wide epidemic of obesity spreads across the groups. The aim of this study was to estimate the prevalence of metabolic syndrome and its association with weight status among a representative sample of children and adolescents in Iran.

Methods and Subjects: This study included an analysis of data collected from 554 overweight and obese teens aged 11 to 17 years. The survey included the body mass index (BMI), measurements of blood glucose, high density lipoprotein – cholesterol (HDL-C), triglyceride (TG) and blood pressure. The metabolic syndrome was determined using the third National Cholesterol Education Program Adult Treatment Panel (ATP III) modified for age.

Findings: The overall prevalence of the metabolic syndrome was 26.6%. The metabolic syndrome was detected in 22.5% of obese adolescents (BMI \geq 95th percentile as compared with 4.1% of overweight adolescents (BMI=85-95th percentile) ($P < 0.001$). All of the component of the metabolic syndrome was significantly more common in obese subjects in comparison with overweight subjects. Overall, high fasting triglyceride (54/8%) was the most commonly risk factor for the metabolic syndrome whereas low HDL-C was the least common (6.6%). There was no significant differences in the prevalence of the metabolic syndrome with respect to gender (25.2% in girls VS 28.1% in boys). More than half of the subjects met at least one of the five criteria, 32% had two or more and more than 18% had 3 or more risk factors for the metabolic syndrome.

Conclusion: These findings suggest a high prevalence of the metabolic syndrome, in a sample of overweight children and adolescents in Iran. This presents a serious threat to the current and future health of Iranian youth. The metabolic syndrome and its many consequences, including cardiovascular disease and type 2 diabetes, will continue to increase

until we could find ways to prevent obesity and the metabolic syndrome in childhood and adolescence

Key Words: Metabolic syndrome; Adolescents; Obesity

Poster Presentation

The effect of Zinc Supplementation on Linear Growth of Short Stature School-Aged Children, Qazvin

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Objective: Physical growth retardation is an early and prominent feature of zinc deficiency. The goal of this study was to determine the effect of zinc supplementation on linear growth of school children with short stature in Qazvin.

Method and Subjects: The study was conducted as a double-blind randomized clinical trial of zinc supplementation during a 5 month period. All of the children were free of disease and appeared healthy except for the fact of abnormally small for their age. Anthropometric data was collected at 0,1,2,3,4,5 months. Measurements included plasma zinc concentration, height, weight, nutrition state. Subjects were 52 short stature female students (<3rd percentile) aged 10-11 years old. They were divided randomly to two groups, one with zinc supplementation (15mg/day) and other as placebo. 15 normal growth healthy children were compared with these groups.

Findings: The prevalence of short stature in children was 7.1% (52 from 725 children). The mean age was 10.5 ± 0.5 years. After supplementation zinc group had higher serum zinc (89.5 ± 12.99 vs. 81.1 ± 9.04 Mgr/dl) than the placebo group (72.66 ± 7.82 vs. 86.13 ± 17.8 Mgr/dl) ($P = 0.009$). The linear growth was raised at 3, 4 and 5 months after supplementation. Zinc supplementation had a significant impact on the growth rate of stunted children. The height velocity increased significantly in zinc group (3.22 ± 0.9 cm) compare to placebo group (2.33 ± 0.7 cm) and control group (3.02 ± 1.59 cm) ($P = 0.004$). Also, weight was increased significantly at the end of 5th month in zinc group.

Conclusion: Zinc supplementation had significant impact on the growth rate of short stature children and serum zinc concentration. According to high prevalence of zinc deficiency in female students and growth spurt during pubertal age and positive effects of zinc, we recommend zinc supplementation for school aged children.

Key Words: Zinc; Linear growth; Short stature; School aged children

Oral Presentation

Effect of Swedish Massage on Glycohemoglobin in Children with Diabetes Mellitus**Firoozeh Sajedi, MD; Zahra Kashaninia; Samaneh Hosainzadeh; Akram Abedini**

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Objective: Diabetes mellitus (DM) is the most common endocrine disease in children. Stress management through massage therapy can improve glucose metabolism in DM. This study was conducted to determine the effect of Swedish massage on the Glycohemoglobin (HbA1c) in children with DM.**Methods and Subjects:** This study was an experimental (clinical trial) conducted on 36 children, 6-12 years old with DM, recruited from a clinics of the Qom City, Iran. They were randomly assigned to intervention and control groups. Swedish massage was performed during a 3 month-period, 3 times weekly, for 15 minutes in intervention groups. The HbA1c was evaluated at the beginning of the study and 3 months later.**Findings:** The average age of children in the intervention (n=18) and control (n=18) groups were 9.05 (± 1.55) and 9.83 (± 2.03) years, respectively. There was statistically no significant difference in Glycohemoglobin before intervention between the two groups (P=0.5), but the Glycohemoglobin was lower significantly in intervention group in comparison with control group after intervention (P<0.0001).**Conclusion:** Massage therapy can be an assisted treatment in children with DM; reducing the drugs for control of disease.**Key Words:** Diabetes Mellitus; Swedish massage; Glycohemoglobin (HbA1c); Children

Oral Presentation

Bicarbonate Therapy in Children with Diabetic Ketoacidosis**Siamak Shiva, MD**

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Objective: Diabetic ketoacidosis is the most important metabolic emergency, in children and about 20–40% of children with type-1 diabetes, at the beginning of their illness referred to diabetic ketoacidosis. If it is diagnosed on time and treated properly, usually there will be no side effects. There is some controversy regarding the need for

bicarbonate therapy in children with diabetic ketoacidosis. This study compares the criteria for bicarbonate therapy in children with diabetic ketoacidosis.

Methods and Subjects: In this semi-experimental study the results of bicarbonate therapy in children with diabetic ketoacidosis was compared between two groups; Group A: administration of bicarbonate was recommended only when the pH was 7.2 or less, Group B: administration of bicarbonate was recommended in cases with pH of 6.9 or less and in cases with PH<7.1 and hemodynamic instability. Between April 2006 and March 2008, 51 cases were treated as group B and the results were compared with medical recordings of 51 cases that previously had been treated as group A.**Findings:** There was no statistically meaningful differences between groups regarding age (P=0.2), sex (P=0.2), weight (P=0.8), and serum pH (P=0.3), bicarbonate (P=0.5), and Pco2 (P=0.6) at the time of diagnosis. Although there was no mortality in both groups, but mean administered bicarbonate was considerably high in group A (P<0.001). Brain edema was found in 3.91% of cases in group A. There was no clinically evident brain edema in group B.**Conclusion:** There is a little indication for bicarbonate therapy in children with diabetic ketoacidosis. In addition, bicarbonate therapy may increase the risk of brain edema in these patients.**Key Words:** Diabetes; Ketoacidosis; Bicarbonate; Children

Poster Presentation

Prevalence of Obesity in Girls in Qazvin, Iran**F Saffari, MD; T Karimzadeh, MD; M Rostamian, MD**

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Objective: Prevalence of obesity in childhood is increasing. It can cause obesity in adulthood and influence on individuals' health. It causes cardiovascular disorders, hypertension, and diabetes type 2 and so on. The Objective of this study was determination of prevalence of obesity in girls in Qazvin city, Iran.**Method and Subjects:** This cross-sectional study was conducted on girls who were educated in primary and secondary schools. They were selected randomly in clustered classification of schools. Children with endocrine, cardiac or psychiatric disorders and who were under treating of anticonvulsive drugs were excluded. Girls' height and weight were measured while they were wearing light cloth (by an expert general practitioner). BMI calculated by dividing weight (Kg) to squared height (meter). Children

divided into four groups based on their BMI (percentile <5%= underweight, 5% to 85%= normal weight, 85% to 95%= overweight and >95%= obese). Data were processed by SPSS software and analyzed by ANOVA and t- test.

Findings: Mean of height and weight were 139.9±14.5 centimeter (from 106 to 173) and 36.4± 13.03 kg (from 15 to 89), respectively. According to BMI, 190 ones (8.5%) were under-weight, 313 ones (14%) were overweight and 162 ones (7.2%) were obese. 1576 girls (703%) had normal weight.

Conclusion: Prevalence of overweight and obesity were 21.2% for girls in Qazvin. Thus, lifestyle changes (improve diet and physical activity) should be studied. In our society, prevalence of being under weight is also significant.

Key Words: Obesity; Overweight; Girls; Children; Adolescent

Poster Presentation

Propionic Acidemia with Different Clinical Manifestations in Monozygotic Twin; A Case Report

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Background: Inborn errors of metabolism are very rare diseases that may be inherited AD, AR, or X-Linked. Metabolic diseases are caused by different enzyme or protein deficiency and clinical manifestations are very different and diagnosis are very difficult and usually lead to delayed diagnosis and treatment of closely related parents are common. Metabolic acidosis is one of the most laboratory findings that undergo to death without effective treatment.

Case Presentation: In 2006, monozygotic twin girls born in Khorramabad, admitted to Madany Hospital for jaundice and poor feeding. First twin discharged after 7 days and second twin referred to metabolic center for more evaluation because of severe metabolic acidosis which was unresponsive to high dose bicarbonate. After evaluation propionic academia was proved in second twin and then she was discharged. After this positive family history, first twin was examined and was reported that she was well and unaffected. In 1387, 2 years after: first twin admitted to hospital for severe vomiting, gastroenteritis and loss of consciousness in early physical examination. She was in very poor condition, she was at shock condition. In laboratory exams, severe metabolic acidosis was reported, bicarbonate started and sepsis management was done. She admitted to ICU and other efforts were done. Unfortunately after 3 days, she died with severe metabolic acidosis.

Key Words: Propionic academia; Inborn errors of metabolism; Twin

Oral Presentation

Prevalence of Congenital Hypothyroidism in South of Tehran

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Objective: Hypothyroidism is an important cause of mental retardation that can be prevented and defined as plasma TSH above 5mu/l on filter paper at 3-5 days after birth. Most hypothyroid newborns have very few or no symptoms and signs before discharge from the nursery and are detected by screening; although infants appear NL at birth.

Methods and Subjects: It was a descriptive cross sectional study, which data were gathered from newborn screening centers of the university.

Finding: 70046 neonate were screened (34247 girls and 35799 boys). 47654 cases were examined at 3-5 days after birth. 332 patients were recognized in south of Tehran and 274 patients were treated before end of first month of birth.

Conclusion: Newborn screening is the best method for early detection of hypothyroidism (especially at 3-5 days after birth). It causes for gathering important information about epidemiology & physiopathology of this disease.

Key Words: Hypothyroidism; Screening; IQ; Prevalence

Oral Presentation

Hyperphosphatasia

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Background: Hyperphosphatasia is a rare high turnover and heterogeneous group of bone disorders, characterized by extreme bone resorption and bone formation and widespread skeletal disease and steadily elevated serum alkaline phosphatase concentrations with progressive bone deformity. The radiographic appearances include widening of the diaphyses, vertebral osteoporosis, acetabular projection, and thickening of the skull vault. There is

sizeable inconsistency in phenotype, with some cases presented in infancy and others in later childhood. Most cases show to happen from inactivating mutations in the gene encoding osteoprotegerin, a result of osteoblasts that is significantly involved in osteoclast creation.

Case Presentation: In this report, we present our experience with intravenous bisphosphonates (pamidronate) treatment in a 4 year-old girl with hyperphosphatasia. Four years of treatment with pamidronate resulted in obvious clinical improvement and normalization of serum alkaline phosphatase activity. Treatment was well tolerated, she had no further fractures and remained mobile and active.

Conclusion: Treatment with bisphosphonates is beneficial in ameliorating some APPEARANCES of the disorder.

Key Words: Hyperphosphatasia; Bisphosphonates; Alkaline phosphatase

Poster Presentation

Determining the Mean of Thyroid Stimulating Hormone Level in 3-5 Days Old Iranian Neonates Screened in Pakdasht Health System

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Objective: Neonates metabolic disease screening began from many years ago in several countries, and has led to control of their morbidities. Since four years ago, screening of some neonatal diseases such as congenital hypothyroidism (CH) began in our country by the Health System. Considering its economic and spiritual disturbances, necessity of obtaining exact information about normal level of TSH, as a screening indicator, and inadequacy of studies in these fields, it seemed to be necessary to plan a study about it. In this study, we tried to determine mean of TSH level in 3-5 days old Iranian neonates for obtaining a reliable cut off point in this screening.

Methods and Subjects: In this study, blood samples were prepared from neonates heel on filter papers and were sent to reference laboratory. Samples were checked for TSH with ELISA method, and results were reported to the Pakdasht Health System and were analyzed with SPSS software.

Findings: In this study, 2000 3-5 days old Iranian neonates were screened for congenital hypothyroidism. 51.7% (1035 individuals) were males and 48.3% (965 individuals) were females. Minimum of TSH level was 0.1 mU/ L and maximum level was 23.00 mU/ L and its mean was 2.229. Mean

of boys TSH level was 2.276 (Std.Deviation=2.174) and for girls was 2.179 (Std.Deviation=2.183).

Conclusion: Based on health system order, presented cut off point for CH screening is $TSH \geq 5$ mU/ L. On the other hand, neonates with $TSH \geq 5$ mU/ L are suspicious for CH. According to this study findings, we are able to decrease this level to avoid the missing CH cases. It seems that sex has not intervention role in cut off point for CH screening.

Key Words: Congenital hypothyroidism; Thyroid stimulating hormone; TSH; Screening

Poster Presentation

Turner syndrome

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Background: Turner syndrome (TS) resulted from a partial or complete loss of one of the two X-chromosomes in a phenotypic female which is the most common genetic disorder. It was first reported in 1938. Its incidence is 1 in 1500-2500 live born female. Prevalence in fetus and abortion is 10-20% and 15%, respectively. TS is an important cause of short stature in girls and primary amenorrhea in young women. The most important features of the girls having TS are short stature, gonadal dysgenesis, abnormal physical manifestation, and a higher prevalence of congenital heart defect (CHD) comparing general population. The range of CHD associated with TS is 17-44% in medical reported documents.

Case Presentation: In this article, an infant girl aged 35 days with all manifestations of TS is reported. She had TS associated with severe coarctation of aorta (CoA). A good outcome achieved after treating her CoA by angioplasty.

Key Words: Turner syndrome; Coarctation of aorta; Infant

Poster Presentation

Survey of Epidemiologic Status of Neonatal Hypothyroidism in Kalaleh

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Objective: The neonatal hypothyroidism screening program is a way to maintain the health of undertaken children. Rapid diagnosis and treatment of newborn patients, could prevent complications. Prevalence of

this illness in Iran is accurately one in 1000 live birth, that is more than the world. This study is performed to survey epidemiologic status of neonatal hypothyroidism in Kalaleh.

Method and Subjects: In this cohort study, all newborns who were entered in national screening program for hypothyroidism during 2007-2008 enrolled in this study. Data's were analyzed with SPSS 14.

Finding: This survey showed that from 7081 newborns, 6944 infants (98.07%) were screened, from this 3414 individuals (49.16%) were males and 3530 (50.84%) were females. On the basis of screening day after birth, 4873 (70.18%) during first 3-5 days, 1905 (27.43%) during 6-21 days and 166 (2.39%) after 22 days. Test results showed that 6652 of (95.79%) newborns have TSH<5, 263 (3.79%) have TSH=5-9.9, 16 (0.23%) have TSH of 20. Totally, 25 infants had TSH=10-19.9 and 13 (0.19%) had TSH \geq 20 (3.5 in 1000 live birth). This study showed that 29.8% of newborns were followed for screening after first 3-5 days of birth.

Conclusion: Based on the results, newborns with hypothyroidism are about 3.5 in 1000 live births. This rate is higher than other studies in Iran. Early diagnosis of illness, with education of parents before discharge after labor to refer for screening on 3-5 days, after birth and start of treatment in early stages of illness could prevent complications of the illness.

Key Words: Newborn; Screening; Hypothyroidism; Treatment

Oral Presentation

Metabolic Bone Disease in VLBW Infants in Gorgan (North of Iran)

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Objective: To discover the incidence and some contributing factors of metabolic bone disease in Golestan, Gorgan (north of Iran), between April 2006 to April 2007.

Methods and Subjects: A prospective, hospital based study with fifty one neonates weighing less than 1500gr at birth born during a one year period of study who were admitted in two referral center. They were monitored for biochemical and radiological evidence of metabolic bone disease at discharge time and 2-5 months of age.

Findings: Incidence of metabolic bone disease in the first and second monitoring were 17.6% and 49%, respectively. Radiologic rickets was found in 47% of patients. All infants were exclusively breast fed and received 400IU vitamin D daily from day 14. There was a significant negative correlation between

metabolic bone disease and factors such as birth weight and gestational age. Also, there was significant positive correlation between metabolic bone disease and use of dexamethasone, aminophylline and duration of NPO in their admission days.

Conclusion: Metabolic bone disease is a common problem in the very low birth weight neonates in our area and we suggest monitoring for Alkaline Phosphatase (ALP) and phosphorous routinely in very low birth weight infants especially in 2-5 months of age for early diagnosis and treatment.

Key Words: Metabolic bone disease; Iran; Very low birth weight

Oral Presentation

The Relationship between Thyroid Hormones and Apgar Score at 20 min in Premature Neonates

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Objective: Apgar score at 20 min is an important index for rapid assessment of neurodevelopmental status of neonates. However, thyroid hormone levels are lower in premature infants. Therefore, this study was performed to assess the relation between thyroid hormone and Apgar score at 20 min in premature neonates.

Methods and Subjects: 128 premature neonates were selected and their T3, T4 serum and TSH level were measured on the second day of life and its relation with Apgar score at 20 min were assessed. Gestational age, weight, head circumference and Apgar score of the studied neonates were measured according to standard indexes. T4, T3, TSH serum levels were measured using RIA Method. Data were analyzed using SPSS software and T-Test.

Findings: Mean T3, T4 and TSH serum were 77.01 \pm 33.9 ng/dL 9.35 \pm 9.9 μ g/dL and 5.18 \pm 3.07 mIU/L, respectively. Mean Apgar score at 20 min was 7.65 \pm 1.42. Apgar score at 20 min was correlated to T4 and T3 serum of premature neonates (P<0.05) but not to TSH. The relation between thyroid hormone levels and weight, height, head circumference and gestational age of premature neonates was significant.(P<0.05)

Conclusion: According to our findings, new methods such as injection of thyroid hormone in amniotic fluid in order to prevent neurodevelopmental complications of premature neonates should be investigated.

Key Words: Apgar score; Prematurity; Neonate; Thyroid hormones

Oral Presentation

A Comparison of the Effect of Different Dose of Vitamin D3 on its Serum Level of Female Students of the Secondary Schools in Yazd**Zahra Nefei, MD; Mehrdad Shakiba, MD; Malihe Ghadir, MD**

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Objective: Vitamin D is an essential hormone for growth and development of bones in children. There is a lot of evidence for deficiency of this vitamin in middle East female. This study was conducted to find a way to combat deficiency in girls during rapid growth phase of puberty in academic year.

Method and Subjects: 105 guidance school girls who did not consume any vitamin participate in this randomised clinical trial, received 50,000 or 100,000 IU vitamin D3. In October and three months later in January, one group received vitamin E as placebo. At the end of winter blood sample for 25 hydroxy vitamin D was checked.

Findings: The mean of 25 hydroxyvitamin D were 5.5 ± 1.5 ng/ml, 15.2 ± 6 ng/ml, $23. \pm 6.8$ ng/ml in placebo, 50,000 and 100,000 IU vitamin D groups, respectively ($P < 0.05$). Urine calcium/creatinin ratio was equal in groups ($P > 0.05$).

Conclusion: Although 100,000 IU of vitamin D3, every three months, can raise 25 hydroxyvitamin D above 12 ng/ml in all cases but for area with high prevalence of sever deficiency, dosage of more than 100,000 IU every three months (800IU/day) or shorter interval is recommended to achieve optimal level.

Key Words: VitaminD; Calcium/creatinin ratio; Bolus dose; Girl

Poster Presentation

Homocystinuria: A rare cause**Maryam Nakhaei Moghadam, MD; Nor-mohammad Noori, MD; Raheleh Darafshy, MD**

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Congenital metabolic disorders are rare in children. In general, the important causes of many cases are mental retardation, neurologic disorder, convulsion, and death in children. Up to now, 1400 types of congenital metabolic disorders have been reported throughout the world. Homocystinurias' are a group of metabolic disorders inherited by autosomal recessive. After phenylketonuria it is considered the

second most treatable aminoacid metabolism defect. It was first reported by Carson and Neill in 1962. The incidence of the homocystinuria is 1 in 344000 worldwide and 1 in 65000 in Ireland. The clinical manifestations of homocystinuria are vascular, central nervous system, connective tissue disturbances, and skeletal abnormalities resembling those of Marfans' syndrome. High concentration of homocystine in the urine, and an increased level of homocystine and methionine in the plasma indicate homocystinuria. In this article, we report, 2 brothers aged 4 and 12 years with clinical manifestations of homocystinuria and high concentration of homocystine in the urine.

Key Words: Homocystinuria; Homocystine; Children

Poster Presentation

Prevalence of PKU Disease in Isfahan Province in 2008**Feria Ghafari, MSc; Fatemeh Sokhanvari, MD; Reza Fadaei Nobari, MD; Athar Aflakian, MSc**

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Objective: PKU is a autosomal resiseve disease which caused by lake of phenylalanine hydroxylase enzyme and in 50% of patient there is a problem in cofactor enzyme that named biopterin. these metabolites along with other informed metabolites, effect in nervous system and occurs mental damage in children. If the patient dose not be treated in each mounts will be decrease 4 number of their IQ and until the end of year will be lost 50 IQ number. Indeed hyperactivity, convulsion and body undesirable odor, is other complication due to lactic acid metabolites. PKU incidence is differs from 1 per 3000 to 60000 in different countries. According to formal document it's incidence 1 per 4000- 5000 in life birth in Iran. On the other hand in pilot screening study in some area of country has been reported 1 per 8000 life birth. In Isfahan province don do any screening at the moment and the last number of formal patient is 80 person.

Methods and Subjects: This is a descriptive-analytic study. The under study population are patient with PKU disease that have been introduced by PKU association and had referred to Amin hospital. The information have been received and analyzed from related forms.

Findings: Statistics show that has been formed file for 65 patient from 80 registered patient .which 38 person of theme (47%) were girls and 42 person (53%) were boys. Aaccording to age group 2 person (2.5%) under 1 year, 47 person (58.7%) 1-9, 20 person (25%) 10-19, 7 person (8.75%) 20-29 and 4 person (5%) were more than 30. According to

definition time only 3 patients (5%) under one month, 24 patients (37%) between one month to one year 17 patients (26%) between 1-2 years 21 patients (31.4%) more than 2 years has been defined. From 65 filed patient 47 family have only one patient child (72.3%), 13 family have two (20%) and 7.7% family have more than one patient child. Only one person of this patient with under one month definition, have academic education and 2 with on time definition are studying in usual schools now. and 10 are in primary schools. that some of them are in exceptional schools and one in usual school. Some of other 52 patient were unable to studying due to mental retardation and some of them were less than school age.

Conclusion: According to congenital, lack of cure and prevention possibility from doing PND tests and patient life quality improvement to normal range with on time definition and treatment diet. on the other definition is very late in this study, so this is essential that at the first degree we should screen the new born in Isfahan and the second encourage patient family to genetic consulting and pre natal test.

Key Words: Phenylketonuria; PKU; Congenital; Phenylalanine

Poster Presentation

Fatness in Children and Relevant Factors

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Objective: Fatness means consistence of extra fat in the body. Fatness is considered to be the most common nutrition problem in the industrial world. It is also calculated that one third of children in progressed country have over weight. Fatness is one of the important risk factor of atherosclerosis, insulin resistance diabetes, hypertension and some cancers. About 80% of fat young and children will be fat in future too. In Iran this problems are grew up and is increased. WHO in last Monica studies result in 1988 reported that Iran is one of the 7th country with high number of fatness disease in child hood. There are more factors regarding to fatness such as environmental change and habits are the most important to compare with genetic change in alimentation models such as adipose and high energetic foods and increase use of animal fat and lose of fiber

and weeds. There are some Methods such as antropotic specification (BMI, skin density, body inspection) which most studies has done on the base of BMI. Because special experts are convinced that this specification (BMI) can be a valid Methods to inspect fating in children and adults. BMI more than 95% for any body is called fatness and between 85%-95% is called extra weight.

Methods and Subjects: Data sources and methods This is a review study. All of issues been reached from another studies and bank of information through internet.

Findings: In Isfahan according to studies on children and young in years 1994-1999 we release that the profiled of fating and extra weight is going to be increased up twice. also in Tehran this amount fating in childhood and young is increased to compare with last 10 years. Fatness in children and young child is increased in recent years 1994-2000 in world. For example in USA fatness in children between (6-11) years from 11.3% reaches to 15.3%. In England fatness in children from 5.4% in year 1989 increased to 9.2% in year 1998. Also children fating between children 6-11 years 13 % and young children (12-19) years 14% reported. In Iran prevalence of fatness in pre school children in Sistan and Baloochestan province is 8% and in Tehran is 16% reported. Fatness prevalence in school in Tehran is 77% and extra weight 13.3% and finally 21% of children have extra weight. Fatness prevalence in young children in Tehran is about 7.8 % and extra weight is 21.1 % and finally 28.9% by Results. extra weight in girls is 23.1% absolutely more than also the amount of BMI is differs across the rural and urban area.

Conclusion: Now day fatness in children and young is getting a public problem across the world not a especial progressed and industrial countries. Change of life style specially eating of bonny energetic food with undesirable combination and use of fat mean mail or sweets decrement of use and eating those foods which have fiber and loss of daily physical activity are used fatness in most countries. The period of TV watches in those fat students were more than the others but was not indicates between to groups of students in morning exercise in school.

Key Words: Fatness; Children; Risk factor; Extra weight