Conclusion and recommendation: Drug resistant epilepsy patients in general and specifically those on valproate should closely monitor their body weight and BMI. Those using valproate should decrease their fat intake.

Effect of body mass index on peak growth hormone in children with short stature
R.T. Hamza and W.A. Mouharam
From the Department of Pediatrics, Faculty of Medicine, Ain Shams University, Cairo, Egypt
wessam_mouharam@yahoo.com

Introduction: Growth hormone (GH) is secreted by the anterior pituitary gland in a pulsatile manner under the regulation of growth hormone releasing hormone (GHRH), somatostatin, and GH-releasing peptide (ghrelin). Obesity attenuates both spontaneous GH secretion and GH response to exercise. The decrease in spontaneous 24-h GH secretion in obesity has been attributed to a diminished pulsatile GH release and a shorter half-life of endogenous GH.

Aim: To determine the impact of body mass index (BMI) on Results of GH stimulation testing in children with short stature.

Subjects and Methods: Subjects included 546 GH naive children with short stature. They were subjected to history, anthropometric assessment and Tanner pubertal staging. BMI and height standard deviation scores (SDSs) were calculated using National Child Health Statistics 2000 standards. They underwent GH stimulation testing using insulin and clonidine, without sex steroid pretreatment; and bone age assessment. Children with known genetic syndromes, congenital heart disease, renal failure, chronic hemolytic anemia, neoplasms, other endocrinopathies or receiving medications that may affect endogenous GH secretion were excluded.

Results: Mean BMI SDS was -0.17 ± 2.1. Median peak GH level by insulin provocation was 5.6 μg/liter. On univariate analysis, BMI SDS was significantly and negatively associated with peak GH by clonidine (r = 0.23; P < 0.0001) and insulin (r = -0.13; P < 0.003). Height, BMI SDS, bone age and Predicted adult height SDSs all were significantly associated with peak GH by insulin. Univariate analysis showed significant positive correlation between age and peak GH level by both clonidine and insulin (P = 0.60 and 0.51, respectively). It also showed significant positive correlation between height SDS, bone age SDS and peak GH by clonidine provocation. Significant negative correlation between BMI SDS and peak GH level by clonidine. Similar finding with peak GH level by insulin. Univariate association between BMI SDS and peak GH by insulin provocation was stronger in pubertal children (prepubertal, r = -0.06, P = 0.35, pubertal r = -0.19, P = 0.002) and equivocal between the both pubertal and prepubertal children by clonidine provocation (prepubertal, r = -0.2, P = 0.002, pubertal r = -0.2, P = 0.002 ). Peak GH by both insulin and clonidine provocation was highest in children with BMI SDS less than -1.

Conclusion: Long term nutritional status presented by BMI affect peak GH level. GH levels response to provocative test decreases with increased BMI SDS. This relationship between BMI and peak GH is not unique to obesity but rather persists in the normal and underweight pediatric population.

Diagnostic and prognostic value of lactate clearance in pediatric patients with sepsis and septic shock
A. Rezk
From the Pediatric Department, Ain Shams University
ahmed_rezk@med.asu.edu.com

Background: Sepsis is a systemic inflammatory response syndrome caused by infectious etiology. A lactate level rise is a

Glutathione-S-transferase in neonates with gross congenital anomalies
S. Abd ElRazek Mohamed1, M. Darweish Mostafa2 and S. Samir Abd ElMaksoud3
From the 1Paediatrics, Ain Shams University, 2Specialist at Police Hospital and 3Clinical and Chemical Pathology, Ain Shams University

Background: Congenital anomalies are structural or functional defects that occur during intrauterine life. One of the most recent theories causing congenital anomalies is the disturbance in the intrauterine redox hemostasis, resulting in altering the pathways that control the embryonic reactive oxygen species (ROS) balance. Oxidative stress posttranslationally modifies redox-regulated transcription factors with subsequent gene expression in embryo. Glutathione-S-transferase (GST) is one of the important constituent of cellular antioxidant enzyme system and its consumption indicates a state of intrauterine oxidative stress.

Objective: Measuring the serum level of glutathione-S-transferase to evaluate the role of oxidative stress in neonates with gross congenital anomalies.

Methods: Two groups were enrolled in the study; Group A included 40 neonates with gross congenital anomalies(20 term& 20 preterm), Group B included 20 healthy neonates born to healthy mothers. History of consanguinous marriage, exposure to obvious teratogens, apparent syndromic combination and history of chorioamnionitis were the exclusion criteria. Detailed History taking, clinical examination together with the appropriate imaging were done. A venous cord blood sample (2-3ml) was collected immediately at birth. Serum GST was measured using ELISA.

Results: In Group A, cardiovascular anomalies (VSD, ASD, TGA and Fallot tetralogy) represent 22.5% of cases, Central nervous system anomalies( hydrocephalous, meningomyelocele and spina pifida)and gastrointestinal anomalies (omphalocele and TEF) each represent 20% of cases. Cleft lip, hypospadias and polydactyly represent 15%, 12.5% and 10% respectively. Group A had a highly statistically significant (p = 0.000) lower mean serum GST level compared to neonates without gross congenital anomalies.

Conclusion: Low serum GST in the cord blood of neonates is a promising indicator of an intrauterine oxidative stress which has an embryopathic role in the development of congenital anomalies.

16.77+/−5.09 (p < 0.001) respectively for the valproate and non-valproate group. Patients consumed higher fat content in their diet compared to control children.

Diagnostic and prognostic value of lactate clearance in pediatric patients with sepsis and septic shock
A. Rezk
From the Pediatric Department, Ain Shams University
ahmed_rezk@med.asu.edu.com

Background: Sepsis is a systemic inflammatory response syndrome caused by infectious etiology. A lactate level rise is a