Steroid dependency in idiopathic nephrotic syndrome: when to expect

M. Ashraf Abdel Fattah Ibrahim¹, R. Marei Said¹ and D. Amin Ayoub²

From the ²Pediatric Department, Ain Shams University and ²G.P. at Ministry of Health
magidash@yahoo.com

Introduction: Idiopathic Nephrotic Syndrome is a commonly encountered disease in childhood. The disease is sometimes self limiting, steroid responsive or steroid resistant. Favorable response to steroids would make the pediatrician happy but sometimes the problem that sabotage this happiness is steroid dependency. Steroids are the gold standard of treatment in idiopathic nephrotic syndrome yet dependency means extended treatment for longer periods of time with huge cumulative doses of steroids. This means more side effects than a growing child can handle. The aim of our study was to investigate the clinical and laboratory features commonly seen in patients with established steroid dependency that could be of use in anticipating steroid dependency in subsequently seen patients.

Patients and Methods: The study was a retrospective one carried out in Pediatric nephrology clinic, Ain Shams University. Patients enrolled were 66, diagnosed with steroid sensitive nephrotic syndrome (at least diagnosed 6 months prior to the study).

Data reviewed were: the age of onset of the disease, patient’s gender, microscopic hematuria at the onset of the disease, presence of hypertension before initiation of treatment, days to remission after initial steroid therapy, duration of initial treatment with steroids, associated atopy and association of upper respiratory tract infection with relapses. The data were obtained from the patients’ records at the clinic. Patients who were diagnosed with secondary nephrotic syndrome were excluded.

Results: Results revealed that days to remission after initial steroid therapy was the only parameter that was significantly different between steroid dependent and non dependent patients. The faster the patient responds to initial steroid treatment, the less likely he will end up with steroid dependency. This observation, if well used, can help us target patients with likelihood of steroid dependency with early use of steroid sparing drugs.

Serum transforming growth factor beta 2 and feeding intolerance in hydrolyzed protein formula-fed versus breast milk-fed preterm neonates

I.S. Abou Saif¹, R. I.H. Ismail¹, W.K. Zaki² and A.E.R. Aa Hamed³

From the ³Paediatric Department, Faculty of Medicine, Ain Shams University, Cairo, Egypt, ²Microbiology Department, Faculty of Medicine, Ain Shams University, Cairo, Egypt and ³GP, Ministry of Health, Suhaq
ibrahimabusaif@hotmail.com

Background: Transforming growth factor beta 2 (TGF-β2) is present in breast milk in large amount and it improves gut functions and intestinal immune responses. Hydrolyzed protein formula has been used to reduce gastro-oesophageal reflux, to accelerate gastro-intestinal transit of milk, to treat allergy and food intolerance. As far as we knew there is no study describing serum TGF-beta 2 levels and its relationship to feeding intolerance in hydrolyzed protein formula-fed preterm neonates

Objective: To determine serum levels of TGF-β2 in breast fed versus hydrolyzed protein formula fed neonates and their possible role in neonatal feeding intolerance and necrotizing enterocolitis (NEC).

Subjects and Methods: We conducted a prospective observational study on 80 preterm neonates <36 weeks gestational age. The neonates were assigned to 2 groups; breast feeding group (n = 40; received exclusive breast feeding) and hydrolyzed protein formula group (n = 40 received Neocate Infant DHA/ARA nutricia when maternal breast milk was not available). Feeding tolerance and NEC were assessed. Serum TGF-β2 levels were measured by ELISA when neonates reached 75 ml/kg/day feeding.

Results: Serum TGF-β2 levels were significantly higher in breast fed neonates as compared to hydrolyzed protein formula fed neonates, median (interquartile): 77.50 (6500-11250) vs. 250 (0-2250) pg/ml, p < 0.0001. A significant negative relation was found between serum TGF-β2 levels and feeding intolerance (p < 0.0001). Two (5%) of hydrolyzed protein formula fed neonates had NEC and showed undetectable TGF-β2. TGF-β2 serum level below 250 pg/ml has 66.67% sensitivity and 83.93% specificity for diagnosis of feeding tolerance.

Conclusion: Lower serum TGF-β2 level has a role in feeding intolerance in preterm neonates. Using hydrolyzed protein formula in preterm neonates is not recommended as it is associated with lower serum TGF-β2 and higher incidence of feeding intolerance compared to breast feeding.

Assessment of self-monitoring of blood glucose in type 1 diabetic children and adolescents: practice and perspective

R. Adel Thabet¹, A. Shaban Sayed Oda¹, H. Said Elarab² and S. Adel Elhabashy¹

From the ¹Pediatric Department, Ain Shams University and ²Community Medicine Department, Ain Shams University

Introduction: Diabetes mellitus is a group of metabolic diseases characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Self-monitoring blood glucose (SMBG) includes an assessment of the capillary glucose concentration as well as the interpretation of and responding to the readings.

Aim of the work: The aim of the study is to measure patients’ compliance to self-monitoring of blood glucose, identify factors and barriers that affect self-monitoring of blood glucose.

Methods: This cross-sectional study was carried out on children with type 1 diabetes. Patients were recruited from the outpatient diabetes specialized clinic, pediatric hospital at Ain shams university. Study was carried out on 330 children, drawn from the attendance of the diabetic clinic. Patients were subjected to (!) An interview Pre structured questionnaire which included: Personal and medical history, Details about SMBG: ( frequency, regularity, availability, its goals, the effect on daily life by short form of QOL questionnaire WHO, patient satisfaction. (!!) Glycated Hemoglobin (HbA1c) measurement.

Results: we found that 67.4% of the patients assess blood glucose 3 times per day, while 20% assess blood glucose 4 times and 0.57% assess blood glucose 7 times. we found that the patients conceded that the cost of strips and glucometers, the fear of pain & injection, psychological frustration, lack of availability of information to deal with high reading, no motivation and In adequate place to assess SMBG were the main reasons for not practicing regular SMBG. we found that the more the frequency of SMBG daily, the better the HbA1c of the patients (p < 0.01). Patients who assess 3 times daily 7% of them have HbA1c <7, while patients
who assess 4 times daily 68.6% of them have HbA1c < 7 and all patients who assess 6 and 7 times daily have HbA1c < 7.

**Conclusions:** More frequent SMBG more than 3 times was associated with better glycemic control and less diabetic complications. As regard factors and barriers affecting compliance of SMBG of type 1 diabetic children and adolescents we found that regular and irregular SMBG children and adolescents faces the common barriers and factors.

**The critical level of vitamin D in childhood asthma**

R. Hassan El-Owaidy, Y. Mohammed El-Gamal, M. Aly Shabaan and M. Haggag Hassan

From the Pediatric Allergy and Immunology Unit, Ain Shams University, Clinical Pathology Department, Ain Shams University and Ms., Egyptian Ministry of Health

**Objectives:** Studies have suggested a significant link between vitamin D status and asthma. We sought to determine the cut-off level of vitamin D that is significantly linked to asthma status in children.

**Patients and Methods:** Our cross-sectional study comprised 90 asthmatic children, aged 2-18 years. They were evaluated clinically and classified according to asthma severity and control. Asthma control test (ACT) was performed in those aged above 6 years. Pulmonary functions were performed in cooperative children (n = 59). Serum 25 hydroxy-vitamin D levels were measured by ELISA in all patients.

**Results:** The study comprised 52 boys (57.7%) and 38 girls (42.3%) with mean age 7.03 ± 4.36 years. Thirty-six patients (40%) had mild asthma, 37 (41%) moderate asthma and 17 (19%) had severe asthma. Forty-two patients (46.6%) had controlled asthma; 14 (15.6%) partially controlled and 34 (37.8%) had uncontrolled asthma.

**ACT score ranged:** 11-26, with a mean score: 18.9 ± 4.3 SD. Serum 25 hydroxy-vitamin D levels ranged between 2-48 ng/ml (mean ± SD: 12.2 ± 9 ng/ml); levels were comparable among different grades of asthma severity (f = 1.975, p = 0.145), while the uncontrolled asthma group showed the lowest levels (f = 8.511, p < 0.001). Vitamin D levels correlated positively with ACT score (r = 0.369, p = 0.001) but not with inhaled steroids doses or any of the parameters of the pulmonary function tests. Vitamin D level of 7.5 ng/ml was associated with partial/complete uncontrolled asthma with 81% sensitivity and 53% specificity.

**Conclusion:** Vitamin D levels below 7.5 ng/ml are associated with poor asthma status in children.

**Evaluation of quality of care offered to children and adolescents with beta-thalassemia major: single center experience**

S. Adel El-Habashy, A. Ahmed Abdel-Maksoud, S. Mostafa Makkeyah and H. El-Hosafi Hasan

From the Faculty of Medicine, Ain Shams University, Department of Pediatrics

safinazelhabashy@med.asu.edu.eg

**Background:** Over the past few decades, there has been a remarkable improvement in the survival of patients with thalassemia in developing countries. Availability of safe blood transfusions, effective and accessible iron chelating medications, the introduction of new and non-invasive Methods of tissue iron assessment and other advances in multidisciplinary care of thalassemia patients have all contributed to better outcomes.

**Objective:** To evaluate quality of care offered to patients with thalassemia major against the standard of care at Hematology/Oncology Unit, Ain Shams University Children’s Hospital.

**Subjects and Methods:** Two hundred patients with beta thalassemia major with age range between 2 and 17 years were recruited. Data was collected by reviewing the patients’ records then compared with thalassemia international federation guidelines for care of transfusion dependent thalassemia patients.

**Results:** The mean value of pre-transfusion Hb among our patients was 7.26 ± 0.89 g/dl. Initial extended red cell antigen typing had been done in 4.5% of patients. Almost all the studied patients (198/200) were on chelation therapy either as monotherapy or combined chelation therapy with DFO/DFX being the most frequently used combination. Many patients suffered endocrinical complications with short stature being the most common complication (39%). Twenty-eight patients had delayed puberty while hypothyroidism and hypoparathyroidism were uncommon (only one patient for each). Liver and myocardial iron concentrations (LIC and MIC) assessment using MRI T2* was done in 13.5% of the patients. Most patients had moderate to severe degree of hepatic iron overload (30% each), while only 7.4% had high risk myocardial iron deposition. HCV infection was prevalent among one fifth of the patients.

**Conclusion:** Specialized care is mandatory for the patients with beta thalassemia. Assessing the quality of care is of utmost value in guiding resources and redirecting therapy.

**Anthropometry, body and food composition analysis of patients with drug resistant epilepsy: a case control study**

S. Ahmed Maher Deifalla, R. Yahia Bahr, Y. Gamal Elgendy and I. Khairy

From the Pediatrics Department, Faculty of Medicine, Ain Shams University and General practitioner Elkhanka Central Hospital

Shaymaadeifalla@med.asu.edu

**Aim:** Growth, body and food composition assessment in children with drug resistant epilepsy.

**Subjects and Methods:** The study included 150 children with drug resistant epilepsy, their weight, height, midarm circumference, triceps skin fold thickness and body mass index (BMI) were measured. Body composition analyzer was used to measure body fat, fat free mass, muscle mass and body water. A three-day food diary was used to calculate their food intake for the past consecutive three days to estimate their average daily intake of calories, carbohydrate, fat and proteins. Patients were further classified into two subgroups according to the antiepileptic drugs used; those who were on valproate and those who were on other antiepileptics than valproate. Another 150 apparently healthy children served as control.

**Results:** All anthropometric analysis assessed were higher in patients compared to control and were further higher together with body composition measurements in the valproate group compared to the non-valproate group; for body fat 12.29+/−6.66 and 7.44+/−5.29 kg (p = 0.004), fat free mass 32.30+/−8.81 and 34.97+/−7.01 kg (p = 0.002), muscle mass 30.64+/−8.36 and 23.25+/−6.77 (p = 0.001) and body water 23.64+/−6.44 and