Conclusions: The practice of fluid administration follows similar trends across UK, with slight differences. The tertiary level 3 units are more liberal with their fluids, especially for preterm babies. Most units restrict IV fluids for babies at risk of HIE. There is a variation in practice in terms of liberalizing fluids for extreme preterms and babies on phototherapy. This study highlights the dilemma faced by neonatologists in the fluid management, mainly due to multiple variables influencing fluid balance in the newborn.

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BONE STRENGTH MEASURED BY QUANTITATIVE ULTRASOUND IN NEWBORN INFANTS IN TAIWAN

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Background and aims: The measurement of speed of sound (SOS) by quantitative ultrasound could be used to assess bone strength in newborn infants. There is few data about bone strength in newborn infants in Taiwan. Our objective was to determine the bone strength measured by SOS of newborns in Taiwan and also to evaluate the factors associated with bone strength at birth.

Methods: Full term and preterm infants admitted to baby room or neonatal ward of Kaohsiung Medical University Hospital were enrolled. Birth chart and maternal history were recorded. SOS measured by quantitative ultrasonography was performed at the left tibia in one week after birth.

Results: A total of 513 infants were enrolled in this study. For term infants (more than 37 weeks), mean SOS was 2964.8 m/s (SD 104.1 m/s), which significantly higher than infants with gestational age 32-36 weeks (mean $\pm$ SD, 2951.6 $\pm$ 99.9 m/s) and gestational age less than 32 weeks (2867.2 $\pm$ 123.7 m/s). In all infants, there was a significant positive correlation between SOS and gestational age, birth weight, birth length, and head circumference. Male babies had higher SOS than female babies ($p=0.004$). Multiple regression analysis revealed gender, gestational age and birth weight were two important factors influencing SOS at birth. The procedure was well tolerated in all infants. No adverse effects were found.

Conclusions: Bone strength measured by quantitative ultrasound in newborn infants are correlated with gender, gestational age and birth anthropometrics, but not related to maternal factors, and seasons of birth.

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LONG-TERM OUTCOME IN CHILDREN WITH METABOLIC ENCEPHALOPATHY TREATED WITH EARLY CONTINUOUS VENO-VENOUS HEMODIAFILTRATION

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Aims: To suggest an intensive treatment in children with inborn errors of metabolism; to describe the early use of continuous veno-venous hemodiafiltration for life-threatening hyperammonemic encephalopathy.

Design: Retrospective analysis of children with inborn errors of metabolism (IEMs) that can produce acute pathologic states, characterized by metabolic encephalopathy, hyperammonemia, hemodynamic collapse and alterations in acid-base equilibrium, that range from mild to lethal.

Patients: 8 children with IEM-related metabolic disturbances admitted to our pediatric intensive care unit from July 1 2004 to October 30 2006 who underwent continuous veno-venous hemodiafiltration (CVVH), and a two year follow-up of these selected patients with the aim of seeing the number of relapses, physical development and neurological outcome. In addition we reviewed how these patients have been treated in the acute phase of decompensation.

Results: Eight patients were eligible for review. No patient had a definite diagnosis of disease at admission. All patients were transferred to our unit from peripheral hospitals: delay from suspected diagnosis to the start of depuration therapy ranged from 8 to 48 hours, with a duration of coma ranging from 3 to 36 hours. Time to start dialysis upon admission was within 2 hours. Two patients died. The six patients surviving the first episode had a good neurologic outcome according to the Bailey Scale of Infant Development.

Conclusion: Patients with IEM surviving their first decompensation had a good neurologic follow-up.

Since it seems that a rapid start of extracorporeal depuration is imperative in determining survival.

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PARASITIC INFECTIONS IN CHILDREN UNDER 2 YEARS OLD FROM RURAL AREAS AND THEIR RELATIONSHIP WITH MICRONUTRIENTS DEFICIENCIES

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Background: Micronutrients deficiencies such as iron or zinc deficiency were shown to be associated with parasitic infections.

Objective: Our objective was the detection of parasitic infections in a group of children from rural areas of Constanta County and the correlation with the presence of microcytic anemia and iron and zinc deficiencies.

Material and methods: 455 clinically children were biologically analyzed, to determine their micronutrient status and relationship to parasitic illnesses.

Blood samples were collected to detect hemoglobin, iron and zinc serum levels. Patients were also collected a blood sample for immunologic tests (detection of toxocara antibodies) and 3 stools samples to detect the presence of intestinal parasites.

Results: 39% were diagnosed with microcytic hypochromic anemia and 27% had a latent iron deficiency.

In 28% of children was revealed a low zinc level. Prevalence of both iron and zinc deficiency was identified in 9.2% of cases.

Of all children with deficiencies 29% were diagnosed as infected with Giardia, 12% with Ascaris lumbricoides and 34% had anti-Toxocara antibodies .Children with anemia and iron deficiency without anemia were diagnosed with the following parasitic infections: Giardia 14%, and 1.9% Ascaris lumbricoides, 7% had anti-Toxocara antibodies.

In zinc deficient group were found: 34% infected with Giardia, 14% with Ascaris lumbricoides., 36% with anti-Toxocara antibodies.

Conclusions: Iron and zinc deficiencies of micronutrients are major deficiencies in children younger than 2 years. The presence of deficiencies of micronutrients and high prevalence of parasitic diseases in this age group raises issues of implementation of effective prevention programs.

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ACIDEMIA WITHOUT ACIDOSIS A TYPICAL PRESENTATION OF PROPIONIC ACIDEMIA

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Background: One of the most common recessively inherited organic acidemias is the Propionic acidosis (PA) which results from propionyle-CoA carboxylase (PCC) enzyme deficiency . Classically this disease presented with high anion gap metabolic acidosis with its clinical consequences. We reviewed the records of 4 patients who were diagnosed as PA with normal pH. All of them were found to have high ammonia level. Diagnosis was confirmed by tandem MS/MS and urine gas chromatography/mass spectrometry (GC/MS). All of them were treated supportively

Methods: We retrospectively reviewed the medical records of 24 patients with a confirmed diagnosis of PA, 4 out of them were excluded because of unclear or/and incomplete documentation.

Results: There were four patients who were diagnosed as PA without Acidosis at the time of presentation. They were 3 females and one male. 3 out of them were the product of consanguineous marriage. All of them presented during the first month of life. The first case was referred only because of the significant family history and decreased activity, the second presented with seizures and anemia, the third had septic like picture and pancytopenia and the fourth one presented with respiratory distress and leukocytosis. All of them had normal PH and high serum ammonia. Diagnosis was confirmed by using tandem MS/MS and urine gas chromatography/mass spectrometry

Conclusion: The presence of hyperammonemia should increase the suspicion of PA diagnosis even in the presence of normal pH. Diagnosis can be confirmed by tandem MS/MS and urine gas chromatography/mass spectrometry.