variables derived from simple anthropometry: 1) Body Mass Index (BMI), 2) skinfolds (SF) and 3) Waist-to-Height ratio (WHtR) in young children.

Methods: Body composition of twenty-five healthy, non-obese children, aged 4 to 7 years, was measured by the use of BMI, SF, WHtR and the 3C model. Fat mass (FM; kilograms) was derived from SF equations (Goran and Slaughter) and the 3C model, which consists of measurements of weight, body volume by air displacement plethysmography (BOD POD) and total body water by Deuterium water dilution (D2O). BMI and WHtR were derived from anthropometry.

Results: Correlation coefficients of (a) BMI, (b) FM calculated from SF equations by Goran, (c) FM calculated from SF equations by Slaughter and (d) WHtR with FM estimated by the 3C model were 0.877, 0.950, 0.945 and 0.644 respectively. Bland-Altman plots showed a bias of -0.621 kg for Goran SF equations (CI -0.8766 to -0.3659). Slaughter SF equations showed a bias of -0.876 kg (CI -1.1449 to -0.6064).

Conclusions: Using 3C model derived FM as reference, the results indicate that WHtR has limited utility in estimating body composition, whereas BMI and SF seem to be more useful in estimating body composition in young children.

1097

BONE MINERAL DENSITY ADJUSTMENT IN CHILDREN WITH SHORT STATURE

P. Gallagher[1], A. Snow[2], E. Roche[1,3], E. O'Mullane[1,3], H. Hoey[1,3], on behalf of the NESGAS Group (North European Small for Gestational Age Study Group)

[1]Paediatrics, [2]Radiology, Adelaide & Meath Hospital Incorporating the National Children's Hospital, [3]Paediatrics, Trinity College Dublin, Dublin, Ireland

Background: Children may have low bone mineral density (BMD) on Dual energy x-ray absorptiometry (DEXA) scanning due to smaller bones and/or less mineral than expected for bone size (volume). BMD, a 2D measurement may underestimate BMD in small subjects. Bone mineral apparent density (BMAD) will adjust for calculated bone volume rather than bone area

Aims: To compare BMD with BMAD Z scores in a cohort of 21 children born small for gestational age (SGA) on growth hormone treatment

Methods: A retrospective study was conducted on DEXA scans and growth parameters performed on this cohort over a 4 year period

Results: Mean birth weight 1.36Kg. Mean age at time of DEXA scans 8.8yrs. 14/21(66%) had a height >3SDs below the mean. 29 DEXA scans were performed. BMAD demonstrated significantly different results (p=0.000). Mean BMD score was -1.1 with 27/29(93%) below the mean. Mean BMAD score was +0.1 on the same DEXA scans with only 9/29(31%) below the mean. 18/29(62%) DEXA's with previously abnormal results on BMD reports moved to within normal range.

Conclusion: Adjustment of BMD to account for short stature using BMAD significantly altered results in our homogenous group of children born sga. The majority of children moved to within the normal range. DEXA scans are usually performed on children with chronic disease at increased risk of low BMD and osteoporotic fractures. These children are often small for their age hence a low bone density may simply reflect small body size. This has implications for diagnosis and treatment of osteoporosis.

1098

EVALUATION OF LIPID PROFILE IN CORD BLOOD OF TERM NEWBORNS IN OUR CENTER

S.A.N. Kazemi[1], H. Babaei[1], A.A. Mellati[2], M. Sadeghzadeh[1], L. Ebrahimi Zohravi[3], F. Golipoor Maemodan[4]

[1]Pediatrics Ward, Mousavi Hospital, Metabolic Disease Research Center, Zanjan University of Medical Sciences, [2]Biochemistery Department, [3]Vali Asr Hospital Lab. Center, [4]Neurology Department, Vali Asr Hospital, Zanjan University of Medical Sciences, Zanjan, Iran

Background and aims: Clinical studies have demonstrated a close association between lipoprotein abnormalities and susceptibility to cardiovascular diseases. Recent studies have shown that cardiovascular diseases start in childhood. Evaluation of newborns lipid profile might be benefit. So we measured lipid levels in cord blood of newborns.

Methods: During August and October 2009, Samples of umbilical cord blood was collected from 200 full term newborns (89 males and 111 females) to be used to determine lipid profile levels: The analysis was performed using Selectra 2 auto analyzer (vital scientific, spankeren, Netherlands). Total cholesterol (TC) and triglycerides(TG) levels were assayed with a sensitivity of 5 mg/dl using enzymatic colorimetric tests with cholesterol esterase and cholesterol oxidase and glycerol phosphateoxidase respectively (ParsAzmon kits, Iran). High-density lipoprotein cholesterol (HDL-c) was measured after precipitation of the Apo lipoproteins with phosphotungistic acid. Low density lipoprotein cholesterol (LDL-c) was calculated from serum TC, TG and HDL-c using Fried Wald formula. It was not calculated when TG concentrations were more than 400 mg/dl. and Non-HDL cholesterol was calculated.

Results: Mean TC: 74.58, Mean TGs: 96.59, Mean HDL-C:28.68, Mean LDL-C: 29.25 and Mean Non-HDL cholesterol: 45.90. Biochemical factors which been studied had not significantly difference between genders.

Conclusions: Our findings show that cord blood TGs level in neonates of our center are higher than other countries that have been studied previously, no significant difference be observed in others biochemical factors. More detail researches of predisposing factors of cardiovascular system in Iranian population is highly suggested.

1099

NEURO-PSYCHOMOTOR DEVELOPMENT IN CHILDREN WITH CONGENITAL HYPOTHYROIDISM

M. Baserga[1], V. Talarico[1], S. Miniaci[2], B. Vonella[1], R. Marotta[3]

[1]Department of Pediatrics, University "'Magna Graecia'" of Catanzaro, Calabrian Center for "Diagnosis and Follow-up of Congenital Hypothyroidism", [2]Department of Neonatology, "Pugliese-Ciaccio" Hospital of Catanzaro, [3]Department of Psychiatry, University 'Magna Graecia' of Catanzaro, Catanzaro, Italy

Aims: Neuro-psychomotor development follows different evolutionary phases that successive one another with different phases in each child. The achievement of a normal psycho-intellectual development is the main goal of the treatment of Congenital hypothyroidism(CH).

The objective of our study was to evaluate the neuro-psychomotor development and intellectual ability in a group of 127 (74F, 53M) children with permanent CH.

Methods: CH children have carried out: 62.2% assessment of Global Functioning, with analysis of functional acquisitions; 34.6% test with Brunet-Lezine test in order to evaluate the quotient of motor skills, correlated to chronological age; 33.8% a proper reagent Level for assessing the standard of their Intellectual

Results: 7,6% of children that had assessment of Global Functioning showed an initial slowing of the neuro-muscular development that was confirmed in 2.5% of this children. To the children that had valuation with Brunet-Lezine test 2.3% had moderate delay and 2.3% mild delay; this date was confirmed in 2.3% of children. 4.6% of children had mild delay at the valuation with reactive intellectual level, confirmed in all children. There was no difference between genders.

Conclusions: Most of our patients presented psychomotor and intellectual development in the normal range, only 7.8% of CH children had initial inadequate levels of development (mild or moderate) that was confirmed, at follow-up, only in 3.9% of children, all mild delay. These data represent the clear advantage given by early diagnosis and subsequent therapy in children with CH, which ensures complete somatic and neuro-psychic-motor development of the children with this endocrine disorder.

1100

PRESENTATION, CLINICAL AND GENETIC OUTCOMES IN A SERIES OF INFANTS WITH CONGENITAL HYPERINSULINISM

A. Carroll[1], C. Mc Donnell[1], S. Moloney[1], S.E. Flanagan[2], A. Monavari[3], S. Ellard[2], N.P. Murphy[1]

[1]Department of Endocrinology, Children's University Hospital, Dublin, Ireland, [2]Institute of Biomedical and Clinical Science, Peninsula Medical School, Exeter, UK, [3]National Centre for Inherited Metabolic Disorders, Children's University Hospital, Dublin, Ireland

Background & aims: Congenital hyperinsulinism (CHI) is a rare condition but a significant cause of recurrent hypoglycaemia in infancy and childhood. Prompt recognition and appropriate management is