case control study on 52 obese children (body mass index (BMI)>95th percentile) aged 4 to 16 years underwent at the outpatient endocrine clinic of the Children Hospital at Tabriz University between 2009–2011. This study was conducted to compare the prevalence of vitamin D deficiency and secondary hyperparathyroidism in obese children compared with 57 non obese (BMI<85th percentile). 109 children including 52 (50.5%) boys and 57 (49.5%) girls were studied. Most of case (76.9%) and control (42.1%) groups suffered from degrees of vitamin D deficiency. There was meaningful statistical difference between two groups considering to vitamin D deficiency and parathyroid hormone (p = 0.001). A negative relations was found between iPTH and vitamin D level (p<0.001, r=-0.2), BMI and 25-OH vitamin D (p<0.001, r=-0.2). A positive relation was observed between parathyroid hormone and BMI (p<0.001, r=0.1). Obese children are at high risk at vitamin D deficiency and secondary hyperparathyroidism. BMI appears to be an important risk factor for vitamin D deficiency.

Material and Methods Thirty macrosomic and 30 sex-matched control newborns were recruited for a retrospective case-control study at the Maghnia Maternity Hospital of Tlemcen Department (Algeria).

Results The serum plasma ORAC, albumin, vitamin E, SOD, CAT and GSH-Px levels were significantly decreased in macrosomic than in control newborns, yet no difference was observed after adjustment for weight. Additionally, serum concentrations of malondialdehyde and xanthine oxidase were significantly higher in macrosomic than in controls before adjustment for weight. Moreover, macrosomia was significantly associated with low levels of ORAC (OR = 4.96, 95%CI 1.2–20.55), vitamin E (OR = 4.5, 95%CI 1.29–16.68), SOD (OR = 6.88, 95%CI 1.35–35.11) and CAT (OR = 5.67, 95%CI 1.37–23.46), and with high levels of MDA (ORA = 10.29, 95%CI 2.02–52.36).

Conclusions Excessive weight could be a potential factor for decreased anti-oxidative capacity and increased oxidative stress.

Abstracts

1434 CLINICAL-LABORATORY PECULIARITIES IN CHILDREN WITH OBESITY AND METABOLIC SYNDROME

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Aim To determine clinical-laboratory peculiarities in children with obesity (O) and metabolic syndrome (MS).

Methods 119 children with O and MS were examined in the endocrinological department of University hospital (Minsk) over 2011 year. Group1 patients with O 90(75.6%) (boys/girls = 50/40), mean±SD age 12.2±3, group2 MS 29(24.4%) (boys/girls =16/13), mean±SD age 14.2±2 yrs (p=0.04). Insulin(Ins); total cholesterol(TC); triglycerides(TG); high-density(HDLc); low-density(LDLc) lipoprotein cholesterol; atherogenic coefficient(AC); OGTT with HOMAIR index were defined to all patients. The results were processed using the Statistica 6.1.

Results BMI boys group1 28.1±5.4 kg/m2, group2 33.8±4.4 (p=0.3); group1 girls 31.5±5.6, group2 36±5.5 (p=0.6). The average levels of TC were in normal limits, gender and intergroup differences weren’t noted (p=0.1). TG boys and girls with MS were 1.73±0.98 and 2.02±0.6 (0.45–1.7 mmol/L), the reliable difference weren’t noted (p=0.8 and p=0.3 respectively). HDLc was norm in all groups regardless of gender (p=0.2). LDLc was upgraded in girls group2 3.43±1.0, (p<0.05), unlike those weighing over 2600g (hypotrophy) whose percentage was higher in the group “weight gain” (6.2% p<0.05), weight gain greater than 16 kg represented a risk factor for dystocia (34.7%).

Conclusions Dyslipidemia was typical to group with MS. Insulin resistance with maintaining the basal and postrandial normoglycemia was noted by conducting OGTT in all patients regardless of gender.

1435 BIOMARKERS OF OXIDATIVE/ANTIOXIDATIVE BALANCE IN MACROSOMIA

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Background To investigate whether the anomalies affecting the antioxidant defenses could start at birth and to check the decrease in antioxidant defenses in macrosomic newborns.