case control study on 52 obese children (body mass index (BMI)>95th percentile) aged 4 to 16 years undertaken 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 were formed according to weights 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 vit D level (p<0.001, r=-0.2), BMI and 25-OH vit D (p<0.001, r=-0.2). A positive relation was observed between parathyroid hormone and BMI (p=0.009, 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.

### Results

The results were processed using the Statistica 6.1.

- **Group 1**: patients with O 90(75.6%) (boys/girls 50/40), mean±SD age 14.2±2.2 yrs (95% CI 12.2–16.2), BMI 28.1±5.4 kg/m2, group 2 10.87±5.9 kg/m2 (95% CI 9.0–15.68), SOD (OR = 6.88, 95%CI 1.35–35.11) and CAT (OR = 5.67, 95%CI 1.37–25.46), and with high levels of MDA (OR = 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

**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. Group 1: patients with O 90 (75.6%) (boys/girls = 50/40), mean±SD age 14.2±2.2 yrs, group 2 MS 29 (24.4%) (boys/girls = 16/15), mean±SD age 14.2±2.2 yrs. Insulin(Ins), total cholesterol (TC), triglycerides (TG), high-density (HDL), low-density (LDL) 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 group 1 28.1±5.4 kg/m2, group 2 33.8±4.4 kg/m2 (p = 0.3); group 1 girls 31.5±5.6, group 2 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 0.3 respectively). HDLc was norm in all groups regardless of gender (p = 0.2). LDLc was upgraded in girls group 2 3.42±0.79 (< 3.5 mmol/L) (p = 0.4). AC, in boys and girls group 2 was 3.3±1.1 and 3.8±1.0 (p = 0.1). Basal and postprandial plasma glucose levels by conducting OGTT didn’t exceed normal limits in group 1 and group 2 regardless of gender (p = 0.08). Ins boys group 1 24.2±5.2 U/mL (2.1–22), group 2 40.1±23.2 (p = 0.1); girls group 1 20.8±14, group 2 37.8±16.1 (p = 0.6). HOMAIR boys group 1 5.16±3 (< 2.77), group 2 10.87±5.9 (p = 0.1); girls group 1 4.6±3, group 2 8.5±4.3 (p = 0.8).

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

### 1435 BIOMARKERS OF OXIDATIVE/ANTIOXIDATIVE BALANCE IN MACROSOMIA

**Objectives** To determine oxidative/antioxidative balance in macrosomia.

**Materials 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 1.29–15.68), SOD (OR = 6.88, 95% CI 1.35–35.11) and CAT (OR = 5.67, 95% CI 1.37–25.46), and with high levels of MDA (OR = 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.