**Results** There were 405 genes, 3 splicing variants, and 2 promoters that were statistically significantly different between case and control. We detected abnormal thyroid function, impaired myelination, and delayed ossification of the mandible in the poor oral feeder (10⁻¹⁵ < p < 10⁻³). Genes involved in neurodevelopment, hyperphagia, and adipocyte development were differentially expressed between subjects (10⁻⁵ < p < 10⁻²).

**Conclusions** Targeted comparative RNA sequencing analyses identify global, and patient specific, aberrations in developmental pathways directly related to oral feeding pathology. Our study demonstrates the feasibility of neonatal salivary sequencing for identifying key regulatory genes and pathways that are differentially expressed and regulated between successful and unsuccessful oral feeders, and suggests that this approach will lead to new insights into neonatal pathophysiology.

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**Results** DMTU administration induced a ~3 times increase in serum urea concentration (p < 0.0001) without a significant change in osmolar clearance or serum electrolytes, creatinine levels and fractional excretion of urea (p > 0.05) with a decrease in urine osmolality.

**Conclusions** We report for the first time that DMTU has a prominent diuretic effect with increased urea excretion, which may be explained by the inhibitory effect of the drug on urea transporters. Our findings suggest that DMTU may be used as a diuretic agent and also could be used as a lead compound for development of a novel group of diuretics.

**Results** Among the adolescents in our study 47 were obese. Obese adolescents had a higher systolic and diastolic blood pressure (p < 0.001 and p: 0.04 respectively), higher blood levels of fasting insulin (p < 0.001) and lower High Density Lipoprotein (HDL) (p < 0.01) compared to non-obese. Insulin resistance and insulin sensitivity indexes were associated with obesity (HOMA-IR, p < 0.001, QUICKI p<0.001).

**Conclusions** Increased insulin resistance, higher blood pressure and low levels of HDL were associated with increased adiposity among adolescents. It is therefore necessary to screen for elevated blood pressure and hyperlipidaemia amongst obese adolescents.

**Results** Among the adolescents in our study 47 were obese. Obesity evaluate metabolic syndrome and insulin resistance frequency in children and adolescent population. Seventy obese children with a mean age of 10.8±2.47 years and body mass index > 95th percentile were enrolled the study. Patients were assessed birth weight, duration of breast-feeding, prevalence of obesity and type 2 diabetes in parents, age at onset of obesity and components of metabolic syndrome. The diagnosis of metabolic syndrome were defined according to modified WHO criteria adapted for children. Each subject was submitted to an oral glucose tolerance test. Obesity and type 2 diabetes rates in parents of cases, were %42.8(30 cases) and %12.8 (9 cases) respectively. According to homeostasis model assessment insulin resistance (HOMA-IR) index, insulin resistance was determined %88.5 (66 cases). In our study birth weight, duration of breast-feeding weren’t association with metabolic syndrome and insulin resistance.

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we assessed weight, height, BMI and z-BMI at diagnosis and 1 year later. We also investigated the compliance with the prescribed food program and GFD, then selecting only patients with strict adherence to GFD, and subdividing them into 2 groups: A (balanced diet) and B (non-controlled diet).

Results The characteristics of A and B, as in Tab.1, show a reduction of z-BMI (Δz-BMI= -0.49±0.41) in all patients of group A, while in group B (Δz-BMI= -0.28±0.54) the z-BMI increased in 2 cases and reduced in 6, but less than in A.

Conclusions Probably due to the small number of cases, the differences in the z-BMI changes between OCC with a balanced GFD and those with a non-controlled GFD are not significant. Nonetheless, we assert that is fundamental that these patients follow an adequate diet, especially to avoid the worsening of a state of malnutrition in excess, often already present at the diagnosis.

Abstract 1418 Table 1

<table>
<thead>
<tr>
<th>Age at diagnosis</th>
<th>z-BMI at diagnosis</th>
<th>z-BMI at follow-up</th>
<th>Δ z-BMI</th>
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<tr>
<td>A group (5M and 6F)</td>
<td>11.35±3.79</td>
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<td>B group (8M and 5F)</td>
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1419 OBESITY AND BINGE EATING DISORDER IN CHILDHOOD: AN INTEGRATED THERAPEUTIC APPROACH

doi:10.1136/archdischild-2012-302724.1419

A Macari, R De Marco, M Margiotta, A Zazzotta, C Cassini, ME Liverani, MP Villa. Sapienza University of Roma, Roma, Italy

Background Binge Eating Disorder (BED) is related to obesity in children; treatment of obesity could be improved by using either a nutritional and psychotherapeutic strategy.

Aims To assess the prevalence of BED and weight trend in an overweight or obese pediatric population; to evaluate an Integrated Therapeutic Approach (ITA) in a BED positive group.

Methods Ninety-seven subjects (M/F 55/44, mean age 11.0±2.4 yr, range 6.1–16.2) with overweight (M/F 8/18) or obesity (M/F 45/26) underwent physical examination, body weight, waist and hip circumference and blood pressure. A Binge Eating Scale (BES) to evaluate BED (positive 17) was used. All BED-positive patients were included in this retrospective (5 years) study.

Results We assessed weight, height, BMI and z-BMI at diagnosis and 1 year later. We also investigated the compliance with the prescribed food program and GFD, then selecting only patients with strict adherence to GFD, and subdividing them into 2 groups: A (balanced diet) and B (non-controlled diet).

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1420 EXAMINATION OF THE RELATION OF DIET AND PHYSICAL ACTIVITY WITH THE APPEARANCE OF OBESITY AT GREEK STUDENTS

doi:10.1136/archdischild-2012-302724.1420

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Background Childhood obesity increases the likelihood of several consequences for a child (precocious puberty, polycystic ovary syndrome, diabetes mellitus type 2, etc) and also later in adulthood (increased mortality due to cardiovascular disease, diabetes mellitus, etc).

Aim The aim of the current study was to investigate the prevalence of overweight and obesity among Greek students and to determine the correlation between diet and physical activity.

Methods 2574 pupils in primary education were considered for the study (1206 boys and 1168 girls). Statistical analyses were performed using SPSS version 15.0 (SPSS Chicago, IL USA). A p-value < 0.05 was accepted for statistical significance.

Results Cross-correlation between overweight and obese children and sex showed that more males (9.2%) are obese than females (5.3%). The rate of overweight children was at 23.9%, of obese children at 7.8% and the rate of central obesity was at 35.5%. Regarding children that did not follow a healthy diet in school, 34.1% of them were overweight or obese and 38.6% had central obesity; 32% of the children that had a healthy diet in school were overweight or obese, and 27.8% of them had central obesity. In multiple regression analyses, central obesity was associated with hours of daily TV watching and with the hours of daily computer use.

Conclusions It is important adhering to a healthy lifestyle which emphasizes healthy food choices and habits, regular physical activity, and limiting screen time.

1421 THE IMPORTANCE OF IR-HOMA AND WTHR IN THE PREDICTION OF THE DEVELOPMENT OF METABOLIC SYNDROME (MS)

doi:10.1136/archdischild-2012-302724.1421


Background and Aim Globesity has made visible the increased risk, yet among youngsters, of cardiovascular diseases, NAFLD, MS, etc.

The Aim of this study is to stress how two simple indexes (IR-HOMA and WtHR) can be useful at out-patients level to detect the presence of an often still unidentified MS.

Methods 857 ob/ob children (405 female, 47.26%), aged 10.54±2.87, were included in this retrospective (5 years) study.

Results The standard risk factors of MS (NCEP ATP III modified) in the studied population were represented as follows: Waist Circumference >90°c 62.40%; Hypertension 21.52%; T triglycerides >100mg/dl 4.72%; besides, 34.64% showed IR-HOMA >2.5. The overall MS prevalence was 5.49%.

Due to an OR=5.29 (p<0.05) for IR-HOMA vs. MS factors, all patients with an IR-HOMA >2.5 are very likely to have 3 or more elements of MS. If both IR-HOMA and WtHR are abnormal, OR becomes 6.24 (p<0.05).

Conclusions In the ob/ob child, IR-HOMA and WtHR are importantanticipating factors of MS, even at a very young age, much below the age of 10, presently considered the lowest age to diagnose such complication. This stresses once again how, in any case of obesity, an early intervention is needed, in order to prevent the development of cardiovascular disease in early adult age.


1422 STUDY OF THE RELATIONSHIP BETWEEN GESTATIONAL WEIGHT GAIN (GWW), CULTURAL LEVEL (CL), BIRTH WEIGHT (BW) AND OVERWEIGHT/OBESITY (OW/OB) OUTCOME

doi:10.1136/archdischild-2012-302724.1422

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Background Child