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T7b:P7b-061**A NOVEL TREATMENT FOR CHILDHOOD OBESITY USING MANDOMETER® TECHNOLOGY**

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Introduction: Few effective treatment regimens exist to tackle the rising tide of childhood obesity. Binge eating is a common problem among obese children and adolescents.

Aims: Mandometer® technology is effective in the treatment of DSM-IV classified eating disorders. We studied its use with amended software in order to achieve effective weight management in obese adolescents who had not responded to standard therapy.

Methods: Nine obese adolescents agreed to take part (mean age 15 years (range 11.8-18.1); mean BMI Standard Deviation Score (SDS) +3.6 (range +3 to +4.3)). Each patient was given a Mandometer® (weighing scales + hand-held computer, providing continuous feedback on eating rate during meals), a satiety meter (device prompting the child to report their levels of satiety), a pedometer, a food/training programme and weekly follow-up.

Results: The mean duration of treatment to date is 213 days (range 86-280). Seven children have achieved a reduction in Body Mass Index Standard Deviation Score (mean -0.24 ; range -0.1 to -0.57). Two are now close to normal weight. Two children have sustained small increases in BMI SDS (+0.08 and +0.14) that are minimal compared to their previous weight increases. All have documented improvements in eating behaviour and self-esteem as measured by standard questionnaires.

Conclusions: These data suggest that this use of Mandometer® technology may provide a novel approach to the treatment of obesity in childhood (*contributed equally).

T7b:P7b-063**THE EFFECT OF OVERWEIGHT TO CARDIOVASCULAR RISK FACTORS AMONG KOREAN ADOLESCENTS**

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Aims: Cardiovascular complications develop over a long time, and childhood and adolescent obesity often do not present clinical diseases. We evaluated the effect of overweight to cardiovascular risk factor profiles to clustering in Korean adolescents.

Methods: Nationwide population-based surveys and health examinations were done in 1998. Among the subjects, adolescents aged 10 to 18 were included for this study. Age- and gender-specific BMI percentile was calculated by Korean reference. Cardiovascular risk factors were defined as values above the 95th percentile (specific for age, gender) for the group as a whole.

Results: The prevalence of obesity over the 95th percentile was 5.5% among 1,634 adolescents. Obesity increased with adverse levels of risk factors. Adolescents with a BMI above the 95th percentile were 6.3, 4.8, 9.8, 5.1, and 4.9 times more likely to have adverse levels of systolic blood pressure, total cholesterol, LDL-cholesterol, triglycerides, and HDL-cholesterol, respectively, than normal-weight subjects. Obese boys had a higher prevalence of hypertension than obese girls. The number of risk factor profiles increased with obesity, but not in linear pattern. Sixty percent of overweight above the 95th percentile had risk factors, while 23% of the normal-weight group did not.

Conclusions: Adolescent obesity in Korea was highly associated with cardiovascular disease risk factors, and clustering. The prevalence of risk factors increased substantially above the 75th percentile, and even among overweight above the 95th percentile adolescents. The risk of clustering increased BMI above the 85th percentile.

T7b:P7b-062**PARENTAL GLUCOSE METABOLISM MAY BE IMPORTANT IN DETERMINING WHICH OBESE CHILDREN ARE MOST LIKELY TO DEVELOP TYPE II DIABETES**

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Introduction: Childhood obesity is associated with the development of Type II Diabetes (T2DM). However, a family history of diabetes may have equal relevance.

Aims: To assess whether obese children with a parental history of T2DM (Group A) have a greater degree of hyper-insulinaemia than counterparts who do not have such a family history (Group B).

Methods: Family histories were compared between 96 obese children (mean Body Mass Index Standard Deviation Score +3.6; range 2.4 to 5.7), who attend our specialist paediatric obesity clinic and 84 normal-weight children. Fasting insulin levels were determined in 80 of the former group.

Results: The prevalence of parental T2DM was similar in both normal and obese children (19%). In Group A (n=12), the mean (SD) fasting insulin was 193pmol/l (176) compared with 118pmol/l (93.6) in Group B (n=68). Linear regression demonstrated that the mean log insulin was significantly higher in Group A after correcting for gender, puberty and BMI SDS (p=0.02). Puberty and parental DM were the only significant determinants of the log fasting insulin value.

Conclusions: Obese children with a parental history of T2DM develop much greater hyperinsulinaemia, and may be at most risk of developing T2DM, compared to obese children without such a family history.

T7b:P7b-064**PREVALENCE OF OBESITY/OVERWEIGHT AND EATING HABITS IN GREEK ADOLESCENTS**

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Aims: To provide national estimates for overweight/obesity in Greek adolescents and to investigate their eating habits.

Methods: The study was part of the Health Behavior in School Aged Children (HBSC) survey. A representative sample of 3807 school-aged adolescents aged 11, 13 and 15 y was obtained (50.9% girls and 49.1% boys). Students completed a translated form of the international HBSC questionnaire. Data for this study were drawn from its core questions on eating and physical activity habits.

Results: The overall prevalence of overweight and obesity in Greek adolescents was 15.2% and 2.3%, respectively, following the IOTF cut-off points. The prevalence of either overweight or obesity was twofold higher in the male group (19.6% overweight, 3.1% obese) compared to the female group (11% overweight, 1.5% obese). Overweight and obesity were found to increase with age in boys, and to decrease with age in girls (p<0.001). Obese students, compared to overweight and normal, were more likely to report a higher daily consumption of sweets and soft drinks and a lower daily consumption of fruits and milk. Meal frequency consumption was found to decrease with BMI in both sexes (p<0.05). Breakfast skipping was more prevalent among obese (68.3%) and overweight students (66.1%) compared to normal ones (60.5%). Similar findings were observed for dinner skipping.

Conclusions: Preventive actions should be taken towards changing meal patterns and food preferences of overweight students.