Metabolic syndrome in adult patients with Prader-Willi syndrome.

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Background and aims: Prader-Willi syndrome (PWS), the most common genetic cause of obesity, is characterized by elevated morbility and mortality in all ages. In this context, non-obese PWS children showed low frequency of metabolic syndrome (MetS), while a comparable prevalence was observed in obese PWS and obese controls. Aim of this study was to estimate the occurrence of MetS and its components in a large group of PWS adults, according to obesity status.

Methods and results: A cross-sectional study was performed in 108 PWS aged 18.0-43.2 years (87 obese and 21 non-obese) and in 85 controls with nonsyndromic obesity matched for age, gender, and BMI with obese PWS.

Non-obese PWS showed lower waist circumference, insulin, HOMA-index, triglycerides, diastolic blood pressure, and higher HDL-C than both obese PWS and obese controls ($p < 0.017$). Obese PWS showed higher glucose and systolic blood pressure than both non-obese PWS and obese controls ($p < 0.017$). MetS was found in 1/21 (4.8%) non-obese PWS, 36/87 (41.4%) obese PWS and 39/85 (45.9%) obese controls. Non-obese PWS showed lower frequency for each MetS component as compared with obese PWS and obese controls. PWS patients with deletion of the chromosome 15q11-13 showed a lower risk for low HDL-C ($p < 0.01$) and a trend towards a lower MetS risk ($p < 0.06$) compared to subjects without deletion.

Conclusion: Our findings suggest the main role that obesity status plays on the individual metabolic risk clustering in PWS adults. Early identification of MetS could be helpful to improve morbidity and prevent mortality in such patients.