**Introduction & Aims**

- Obese children are at risk for increased DHEAS production, which is assumed to arise from hyperinsulinemia, hyperleptinemia, increased IGF-1 production or chronic low grade inflammation.
- The consequences of exaggerated adrenarche in boys have not been well studied.
- Therefore, a retrospective study was set up:
  - To evaluate the prevalence of exaggerated adrenarche in a cohort of obese boys and girls and its correlation with obesity-associated hormonal changes.
  - To evaluate whether obese children with exaggerated adrenarche are at higher risk for a more advanced pubertal maturation, dyslipidemia or central obesity.

**Patients & Methods**

234 overweight or obese (BMI SDS > 1.3) children, aged between 4 and 18 years, with simple obesity, starting a weight loss program at the UZ Brussel in 2013 and 2014, were studied retrospectively.

Standard anthropometric measurements including 4 site skinfolds thickness measurements and pubertal staging

Body composition by BIA (Bodystat 1900)

DHEAS, fasting insulin, IGF1, leptin by automated immunoassay and fibrinogen and lipid levels by standard laboratory methods

Logarithms of all hormones were standardized for age using residuals of a simple regression analysis (res).

**Results**

**Comparison between children with and without exaggerated adrenarche**

**Conclusions**

- Exaggerated adrenarche is observed in 10% of obese children and adolescents.
- Exaggerated adrenarche appears to be mainly driven by compensatory hyperinsulinemia.
- Exaggerated adrenarche is associated with lower HDL cholesterol levels and a more advanced genital development in obese adolescents.

**Correlates of DHEAS /logDHEAS res**

**Patient characteristics**

- Exaggerated adrenarche is observed in 10% of obese children and adolescents.