

REPRODUCTIVE ENDOCRINOLOGY

Diabetes, puberty and PCOS risk

Prepubertal girls with type 1 diabetes mellitus (T1DM) exhibit elevated levels of adrenal androgens, anti-Müllerian hormone (AMH) and inhibin B, mimicking endocrine function in groups at risk of developing polycystic ovary syndrome (PCOS), according to the findings of a cross-sectional study published in *Clinical Endocrinology*.

Codner and colleagues set out to test the hypothesis that adrenal and ovarian function may be impaired in young girls with T1DM. The investigators evaluated hormone levels in 73 pubertal and prepubertal girls with T1DM and a matched control group of 86 healthy girls.

Elevated levels of adrenal androgens, AMH and inhibin B were found in the prepubertal girls with T1DM when compared with controls. During puberty, decreasing levels of AMH were detected only in the girls with T1DM; by contrast, inhibin B levels increased in both groups during this phase of development.

These findings intimate that treatment of T1DM might alter ovarian

folliculogenesis. Insulin both stimulates androgen production and acts as a co-gonadotropin; the consequence of insulin therapy in prepubertal girls with T1DM seems to be hyperproduction of secondary and small antral follicles. Exogenous insulin may, therefore, act as a local growth factor, increasing the concentrations of AMH and inhibin B, which in turn results in overstimulation of folliculogenesis.

The data reported by Codner *et al.* suggest that prepubertal girls with T1DM present with similar endocrine pathology to other PCOS risk groups. Follow-up of this cohort may, therefore, help to elucidate how the elevated folliculogenesis observed in girls with T1DM contributes to the risk of developing PCOS in later life.

Rosanne Diaz

Original article Codner, E. *et al.* Elevated anti-Müllerian hormone (AMH) and inhibin B levels in prepubertal girls with type 1 diabetes mellitus. *Clin. Endocrinol. (Oxf.)* doi:10.1111/j.1365-2265.2010.03887.x