

Estrogen and type 1 diabetes mellitus

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Patients with type 1 diabetes mellitus (T1DM) face an array of difficulties during puberty which tend to be more significant in females. Excessive weight and fat mass gain, deterioration of metabolic control, loss of height gain and delays in pubertal development may complicate adolescence in girls with T1DM. Hypogonadotropic hypogonadism, hypoestrogenism, menstrual irregularities, polycystic ovaries and early menopause have also been described to T1DM women. In spite of the beneficial effects of estrogen with regard to insulin action and secretion In healthy women, it is striking that women with T1DM seem to lose these beneficial metabolic effects of estrogen. Some of the problems observed in T1DM women may in part be due to the relationship between decreased estrogen levels and insulin action. This article reviews the effects of estrogen on insulin sensitivity and secretion in non-diabetic women, as well as estrogen physiology in T1DM women.