Hyperandrogenism and Its Possible Effects on Endometrial Receptivity: A Review

ABSTRACT

Endometrial receptivity is a state of the endometrium defined by its readiness for embryo implantation. When the receptivity of the endometrium is impaired due to hyperandrogenism or androgen excess, this condition can lead to pregnancy loss or infertility. Hyperandrogenism encompasses a wide range of clinical manifestations, including polycystic ovary syndrome (PCOS), idiopathic hirsutism, hirsutism and hyperandrogaenemia, non-classical congenital adrenal hyperplasia, hyperandrogenism, insulin resistance, acanthosis nigricans (HAIR-AN), ovarian or adrenal androgensecreting neoplasms, Cushing's syndrome, and hyperprolactinaemia. Recurrent miscarriages have been shown to be closely related to elevated testosterone levels, which alter the endometrial milieu so that it is less favourable for embryo implantation. There are mechanisms for endometrial receptivity that are affected by excess androgen. The HOXA gene, aVβ3 integrin, CDK signalling pathway, MECA-79, and MAGEA-11 were the genes and proteins affect endometrial receptivity in the presence of a hyperandrogenic state. In this review, we would like to explore the other manifestations of androgen excess focusing on causes other than PCOS and learn possible mechanisms of endometrial receptivity behind androgen excess leading to pregnancy loss or infertility