

عنوان مقاله:

Pathophysiological mechanisms of gonadotropins– and steroid hormones–related genes in etiology of polycystic ovary syndrome

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خلاصه مقاله:

Objective(s): Polycystic ovary syndrome (PCOS) is an endocrinopathy in women, which, unlike its impact on fertility and health of women, there is no clear understanding about the causal mechanisms of this pathogenesis. The aim of this review paper is to investigate the pathophysiological pathways affecting the PCOS etiology, based on functions of gonadotropins– and steroid hormones–related genes. **Materials and Methods:** Due to different hormonal and metabolic signs of this complex disorder, different hypotheses are mentioned about etiology of this syndrome. Because of the heterogeneity of the reasons given for this syndrome and the spread of the effective genes in its pathophysiology, most of genes affected by sex-related hormonal imbalances are examined for discriminative diagnosis. For this purpose, published articles and reviews dealing with genetic evaluation of PCOS in women in peer-reviewed journals in PubMed and Google Scholar databases were included in this review. **Results:** In previous studies, it has been well demonstrated that PCOS in some individuals have a genetic origin. Pathophysiological functions of genes are primarily responsible for the synthesis of proteins that have role in PCOS before hyperandrogenism including GnRHR, FSH β , FSHR, LHCGR, CYP19A1, HSD17B, AR and SHBG, and their effects in PCOS of human have been confirmed. **Conclusion:** Hormonal imbalances are the first reason mentioned in PCOS etiology, and usually characterized with menstrual irregularities in PCOS women. Hyperandrogenism and gonadotropin secretion disorders are shown in PCOS condition, which are related to steroidogenesis pathways and hypothalamic–pituitary–ovarian axis disturbances, respectively.

کلمات کلیدی:

Genes, Gonadotropins, Hormones, Hyperandrogenism, Polycystic ovary syndrome, Physiopathology, Steroids

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