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THE ROLE OF VITAMIN D_3 AND ITS RECEPTOR IN THE FEMALE REPRODUCTIVE SYSTEM

Summary

Recent studies suggested an increasing problem with deficiency of vitamin D_3. Except for the well-known role of vitamin D_3 in the maintenance of calcium and phosphate homeostasis, its contribution to the regulation of the female reproduction becomes more popular. The presence of vitamin D_3 receptor in the ovary, endometrium and placenta indicates that these tissues are target for vitamin D_3 action. Many studies confirm that low level of active vitamin D_3 promotes the occurrence of abnormalities in the structure and function of the ovary and uterus. To date, a significant role of calcitriol in folliculogenesis, steroidogenesis, embryo implantation, pregnancy and the offspring health has been observed. Decreased level of vitamin D_3 associated with many pathologies in the female reproductive system such as polycystic ovarian syndrome, premature ovarian failure, endometriosis or uterine fibroids. Exposure to sunlight and balanced diet help to maintain normal levels of calcidiol in blood serum. Increasing knowledge about the role of vitamin D_3 in female reproductive pathogenesis may contribute to the use of adequate vitamin D_3 supplementation as an effective tool in the preventive and therapeutic treatment.

Key words: ovary, PCOS, receptor, uterus, vitamin D_3, vitamin D_3