

EFFECT OF VITAMIN E ON POLYCYSTIC OVARY SYNDROME INDUCED BY DEHYDROEPIANDROSTERONE IN FEMALE ALBINO MICE: HISTOLOGICAL STUDY

ABSTRACT

Polycystic ovary syndrome (PCOS) is the most common endocrine disorder of reproductive-aged women. Vitamin E is used in combination with clomid, metformin, melatonin or other drugs to ameliorate and improve the symptoms of PCOS. The aim is to investigate the histological effect of vitamin E on PCOS. PCOS model using dehydroepiandrosterone (DHEA) was adopted. Female mice were divided into eight groups (n = 6). Group 1 was administered with 1% T80; Group 2 was administered with DHEA; Group 3 was administered with clomid; Group 4 was administered with vitamin E; Group 5 was administered with DHEA and vitamin E; drugs were administered for 20 days. Group 6 was administered with DHEA per day for 20 days followed by clomid, a dose per day, for the next 10 days; Group 7 was administered with DHEA per day for 20 days followed by vitamin E, a dose per day, for the next 10 days; Group 8 was administered with DHEA every day for 20 days followed by no treatment for the next 10 days. Mice were sacrificed, at the end of experiment, by neck dislocation, ovary was surgically separated and kept in 10% formalin for histological analysis. DHEA administration produces PCOS changes in ovary. Clomid did not improve PCOS induced by DHEA, while vitamin E ameliorates PCOS to nearly normal. Vitamin E showed marked recovery of the ovarian tissue with the presence of many follicles in the various stages of development, indicating normal oogenesis. Follicles showed normal granulosa layer with defined thecal layers. The presence of corpora lutea was also seen, indicating that vitamin E treatment restore normal estrous cycle.

Keywords: PCOS, DHEA, Vitamin E, Clomid, Mice