

The effect of pomegranate juice extract on hormonal changes of female Wistar rats caused by polycystic ovarian syndrome (Article)

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Abstract

one of important criteria in polycystic ovarian syndrome, found in investigations, is changes of sex hormones levels. Several therapies have been proposed till now for polycystic ovary disease. Due to the side effects of medications, it is critical to identify and provide alternative medicines. Considering the above mentioned issues and the importance of therapy for these patients, so this study was performed by the purpose of investigation on the effect of pomegranate juice extract on changes of active hormones in patients with polycystic ovary syndrome. a total number of 56 female Wistar rats, weighing 170-200 g, were selected. They all had 2 to 3 consecutive estrous cycle during 12 to 14 days. The rats were then divided into 6 groups of 8 each that included; control 61group (without getting any substances were kept for 61 days); PCOS61 group (they intramuscularly received 4 mg estradiol valerate and were killed after 61 days); control 81group (without getting any substances were kept for 81 days); PCOS81 group (they intramuscularly received 4 mg estradiol valerate and were killed after 81 days); experimental 1 group (4 mg estradiol valerate through a single injection and 100 mg/kg Pomegranate extract by gavage); experimental 2 group (4 mg estradiol valerate through a single injection and 200 mg/kg Pomegranate extract by gavage); experimental 3 group (4 mg estradiol valerate through a single injection and 400 mg/kg Pomegranate extract by gavage). At the end of the study, mice of all groups were weighed and then they were made unconscious and blood samples were taken from them. After that, serum samples were obtained and free testosterone blood factor, estrogen and androstenedione were measured by ELISA. The results show that the concentration of estrogen and testosterone hormones and androstenedione in the 61-and 81-day experimental groups had a significant increase compared to the 61-and 81-day control group and in the experimental minimum, average and maximum groups has a significant reduction compared to the 61-and 81-day PCOS groups. Given the above mentioned issues, the use of pomegranate juice improved changes in female sex hormones in PCOS patients. Therefore, it is recommended to use this extract to reduce the symptoms of polycystic ovary syndrome.

Author keywords

PCOS syndrome; Pomegranate; Rat; Sex hormones