



## Effects of Potassium Dichromate on Reproduction and Fertility in Albino Female Mice

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**Abstract :** The acute toxicity of hexavalent chromium as potassium dichromate ( $K_2Cr_2O_7$ ) was studied in female albino mice. Reproductive parameters in ovary and uterus and fertility rate were evaluated to investigate the possible effects of chromium intoxication. Seventy-five adult albino mice were used in this study. The mice treated orally with 500 and 1000 ppm of potassium dichromate that dissolved in tap water for 10, 20, and 30 days. The results of this study indicated that potassium dichromate produced a significant reduction ( $P<0.05$ ) in the weights of body, ovaries, and uterus for treated female mice in comparison with control groups. Also, there were a significant decrease ( $P<0.05$ ) in the levels of LH, FSH, and  $E_2$  in blood serum. The findings of present study showed that potassium dichromate induced a significant decrease ( $P<0.05$ ) in values of some reproductive parameters including diameters of ovaries and mature follicles, numbers of ovarian follicles and corpora lutea, and thickness of uterine layers. Also, the oral administration of female micewith potassium dichromate for 30 days resulted in a significant reduction ( $P<0.05$ ) in the number of pregnant females and the number and weight of litters. Overall, the current study proved that potassium dichromate compound has a potential toxicity in female reproductive system and fertility of albino mice.

**Keywords:** Potassium dichromate, Reproductive parameters, Fertility, Ovary, Uterus, Mice.

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