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Summary

The present study focused on the effect of lead toxicity and its counteraction by treatment with the antioxidant (Antox) on female and male genital system .

50 rats at age of weaning used . The rats divided into three groups . Group (1) ; fed on diet containing 80 mg lead acetate / kg. Bw. , group (2) ; fed on diet containing 80 mg lead acetate / kg.bw. and Antox in a dose of 20 mg / animal / day , group (3) ; used as control .

After two months of treatment , all rats slaughtered and examined grossly . Samples for histopathological examination were collected (from both female and male genital organs) , fixed in 10 % neutral buffered formaline and imbeded in paraffin wax . Sections of 5 microns thickness were stained with hematoxylin and eosin stain . Lead and testosterone were measured biochemically in the serum .

Analysis of serum revealed that the antioxidant had a significant role in decreasing the lead level in serum .

Lead toxicity had a gross and histopathological effect on the female genital system . It delayed the day of vaginal opening in about 40 % of cases .

In the ovary , the primordial and the primary follicles had necrobiotic changes which affected about (47.2 % , 50 %) respectively . While the secondary and vesicular follicles were greatly distructed along the whole layers (69.6 % , 87.5 %) respectively . The mature follicles (only 16.7 % was affected) .

Antioxidant protected oocytes of the primordial and primary follicles from the necrobiotic changes . Only the granulosa and theca cells were protected in the secondary follicles . In the vesicular follicles , its role was limited in the protection of theca interna and externa and prevention

of cell desquamation in the vesicular fluid . In mature follicles , antioxidant protected the whole layers of the follicle except the oocyte .

Lead toxicity induced focal metaplasia of fallopian tube , uterine glands , cervix and vagina with presence of Intranuclear inclusion bodies in the metaplastic epithelium of oviduct and cervix . The antioxidant corrected the effects of lead toxicity , as the whole tract was apparently normal .

Lead toxicity significantly decreased the serum testosterone level , in contrast , the antioxidant raised the level of testosterone to be apparently normal . Lead toxicity affected the testes as it decreased the number of the whole cells of the spermatogenic cell cycle .