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Research Title : *The Effect of polyethylene on The Testes in mice*  
تأثير البولي ايثيلين على الخصى فى الفئران

Descriptipn : The present study deals with the effects of Polyethylene (PE) used in packaging and holding hot, frozen foods and bread and which is also used in manufacturing internal and external containers for milk and juice as flexible foils in addition to the effects of Butylated Hydroxy Toluene (BHT) that is added as antioxidant in manufacturing PE on the Testes of mice experiment. The experiment was done upon 105 adult male-mice. The mice were divided into Two main groups. Main group(1) consists of 60 mice divided into three Sub-groups. The period of the experiment was 7days. This main group was assigned to Toxicity test. Main group (2) includes 45 mice divided into five sub-groups. The experiment took over 42 days. Results of PE Test toxicity showed no deaths in mice while BHT test toxicity showed that LD50 was 650 mg/kg. Results also revealed a stastical decrease in mean weights of mice after fulfillment of the experiment in contrast to an increase in weights in both the control group and the thermal PE bogs group. There were clear behavioral changes in mice in comparison with the controls as those mice became aggressive and had less appetite with nervous symptoms when they defended themselves . There were changes in testis tissues accompanied by an increase in thickness of the capsule. There were also a damage and disappearing of spermatogonium that inlay seminiferous tubules most of which appeared with irregular shapes. Light Microscopy showed that seminiferous tubules had the first layer only which their cells were atrophied and had inactive small nuclei. However, other layers disappeared or became inactive and had a cytoplasm full of not tinged vacuoles and most seminiferous tubules were without spermatozoa. There was an increase in Leydig Cells. Atrophy in primary spermatocytes was noted with a stop of Secondary Spermatocytes in the interphase with atrophy in primary Spermatocytes as well as congestion in blood vessels that are near to the capsule (bag) of testes, there was remarkable thickness in that capsule with symptoms of inflammation and infiltration in addition. In some samples we could see corrugation in the basic membrane, cells atrophy and appearance of vacuoles in those cells with a cellular infiltration in the interstitial tissue . Examining testis on hormones there was a relative increase in testosterone that asserts occurrence of changes in the testes by PE and BHT.

Research Type : Master

Research Year : 2007