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- Degree - .
- Title of Thesis: Possible ameliorative effect of antioxidants in evaluating the physiological status of rats associated with administered water and fish from El Bats drain at Fayoum Governorate

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ABSTRACT

Male albino rats (*Rattus rattus*) were divided into six groups of fifteen rats in each group. Three of the studied groups (Group I, II & III) including the control group (Group I) administered tap water and uncontaminated dried fish collected from a branch of the river Nile, Bahr Yousef at El-Fayoum Governorate. Other studied groups (IV, V & VI) administered highly heavy metals contaminated water and dried fish collected from El-Bats drainage canal, where agricultural and waste municipal of Fayoum Governorate discharged. Moreover, rats in the aforementioned groups administered uncontaminated and contaminated water and dried fish, for eight weeks, supplemented with 60 mg curcuma/kg body weight/day (Second and fifth groups) or 300 mg fennel /kg body weight/ day (Third and sixth groups).

Results of the present study revealed highly bioaccumulated heavy metals (copper, lead. Cadmium and zinc) accompanied by histopathological changes in liver and kidney of rats administered contaminated water and dried fish. Moreover, rats exhibited the lowest growth rate and progressive fall in RBCs count, Hb content ,haematocrite value, HDL and serum total antioxidant . These effects were concomitant with significant increase in the WBCs count, serum glucose, total protein, albumin, globulin, AST, ALT, creatinine, urea, total cholesterol, triglycerides , LDL and malonaldhyde in comparison with those of control group rats before and after supplementation with the studied antioxidants.

However, rats administered contaminated water and dried fish supplemented with 60 mg curcuma/kg body weight/day for eight weeks showed an improvement in the growth rate and a tendency to exhibit close to the control values for most of the other physiological, biochemical and histopathological investigation followed by that suppleminted with 300 mg fennel /kg body weight daily.

The summary not more than 500 words