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Stuedies on The Toxicity Effect of Mercuric Chloride on The Gonads (Ovary) in Gambusia Affinis

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I. Introduction

Mercury is a naturally occurring metal with a long history of human uses. It has been found in Egyptian tombs dating back to 1500 B.C. more recently, scientists have said that the substance can behave as a neurotoxin in certain form and harm unborn children if ingested by pregnant women. Mercury and its compounds have found usage in a very wide range of activaties through the ages.

Mercury forms few organic compound and it was believed that the Mercury although poisonous would not get into food chain but Microbial action converted inorganic mercury into Methyl Mercury. Fish absorb methyl mercury from water 100 times faster than they absorb including the amount and rout of intake, the duration of exposure, and the species affected.

II. Material & Methods

For the present study the fresh water fish gambusia affinis female was selected. The sexual dimorphism are present in the females and recognizable by swollen belly. The collection of fishes was made for one complete reproductive cyele. Fresh fishes were collected. Prepared the lethal and sub-lethal doses in different ppm. or concentration of mercury chloride and gonad were dissect out and fixed in aqous bouins fuild for the study of toxic. Effect in gonads. The paraffin block of the gonads were prepared & sections of goloads were obtained at 6 u thichness and steined in Heidennain's (1870) azan method. We maasure their total body weight & gonad weight also.

III. Observations

The steined sliedes were examined for histological details. There observations have been done in between a normal & controlled fish.

In the histological sliedes on ovary the following change have been observed in palluted mercury chloride in grmslr. Shrinkage in the size of ovary the treated ovary shows slower rate of oogenesis, lesser number of oocytes & ovarian follicles, pycknosis & presence of artretic follicles the showing deformities is oocytes, damage the developivg stage of oocytos, Hyposecreation of ovarian hormones.

IV. Result & Discussion

In present investigalion on gambusia affinis treated in different doses 3.5 ppm coured sundden death. Indose of 3.0 ppm resulted ½ hour survival. Then we treated in different redusing doses 2.5, 2.0, 1.5, 1.0 ppm Finally in dose of 0.5 ppm the fish survived for long time we came to conclusion that the G.affinis survives for long time is sub lethal dose (0.5). The normal condition treated fish exhibit allmost all the developing stage gonad where as fishes treated for long time showing deformities in ovary, slower rate of oogenesis, lesser number of different stage of oocytes, all these change lead to the decreased rate of metabolism of the body which might probably be due to the toxic effect of Mercuric chloride. Therefor it can be said that gonads are severely effected by the pollutants.

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