

ALTERATION IN THE ACTIVITIES OF A FEW ENZYMES IN THE LIVER OF HOUSE SPARROW, *PASSER DOMESTICUS* (LINNAEUS) EXPOSED TO MERCURIC CHLORIDE

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The effect of mercuric chloride (5.0 µg/one bird, weighing 19.95 ± 0.51 gm) on the enzymes in liver of house sparrow, *P. domesticus* was observed at 5, 10 and 20 days. The activity of alkaline phosphatase enzyme decreased after the treatment period in comparison to control. Acid phosphatase and glucose-6-phosphatase activity increased significantly ($P < 0.05$) at the 5 days stage, however, after the 10 and 20 days stages it was decreased ($P < 0.001$). The activity of succinic, lactic and pyruvic dehydrogenases decreased ($P < 0.01$) in all the stages in comparison to control one.

INTRODUCTION

Most commonly recognized toxic contaminants of our environment are some of the heavy metals like cadmium, mercury and lead. Harrison *et al.* (1971) reported that non-essential metals like mercury produces cumulative effects after small doses, while acute toxicity at higher intake. Though many experimental observations have been made on mercury (Hinton *et al.*, 1973; McNeil & Hinshaw, 1945), its effect on carbohydrate metabolism is poorly known. Same view has also been expressed by Sahaphoung & Trump (1971). The chlorides of mercury, used as disinfectants and medicinal agents in veterinary and poultry practice are occasionally responsible for toxic reactions in birds. Mercurial chloride (calomel) is tolerated by most species but geese seems to be particularly susceptible to this compound. Bichloride of mercury is sometimes consumed in sufficient quantity to produce toxic effects (Glover, 1932). Since mercury is particularly deposited in most of the tissues chiefly liver and kidney, the lesions found in birds as the result of mercurial poisoning resemble those characteristic of a general toximia. The present study was performed on common house sparrow, *Passer domesticus*. Quantitative observations on various enzymes have been correlated with the amount of mercury retained in the liver after a particular periodic exposure.

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