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RESEARCH ARTICLE

Glycogen post exposure recovery from lead intoxicated freshwater fish, Anabas testudineus

SHAIKH AFSAR

ABSTRACT - Glycogen is important amongst the several molecules available in the cells. Carbohydrates play an important role in the cellular process. Under extreme stress conditions, carbohydrate metabolite such as glycogen has been known to act as the energy supplier in metabolic pathways and biochemical reactions. In the present investigation, fish were treated with an equitoxic dose of 10 ppm of lead nitrate and lead acetate intoxicated fish After a period of 15 days of exposure, a batch from lead nitrate exposed fish and a batch from lead acetate exposed fish were transfered to lead-free water. Fishes were scarified on 1, 4, 8, 12 and 15 days for the analysis of of recovery pattern in tissues *viz.*, liver, muscle, kidney, gill and brain. It was found that lead toxicated fishes were recovered after 15 days depending upon physical condition of the fish.

Author for Correspondence -

SHAIKH AFSAR Department of Zoology, Vivek Vardhini College, Jambagh, HYDERABAD (A.P.) INDIA Email: santoshmetar@gmail.com KEY WORDS - Carbohydrate, Lead, Glycogen, Freshwater fish, Anabas testudineus

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INTRODUCTION.....

Now a days industrialization is increasing rapidly in our country. The modern industries are making use of various heavy metals such as iron, steel, copper, nickel, platinum and lead. Among the different types of pollutions, chemical pollution appears to be the major type which threatens the living systems very extensively. Among the different habitats, aquatic environment is the major target of pollution. Most of the heavy metals are natural constituents of the aquatic environment. Some of them are biologically essential, but some metals like cadmium, lead and mercury are highly hazardous to aquatic biota and normally occur in low concentration (Mali, 2002). It is clearly known the common forms of lead poisoning resulting from the mining, processing and commercial dissemination of lead (Hammond, 1969). The primary source of lead exposure to animals are contaminated soils, lead paints that remain on older structures, water from plumbing systems that contain lead, and lead based products, especially batteries, used crankcase oil, and linoleum (Waldner et al.,

2002). The lead containing gasoline fumes from automobile exhausts constitute the chief and wide spread source of lead contamination in urban environments. A major source of lead to waterfowl and other wildlife is spent lead shot, bullets, cartridge, and lead sinkers used in sport fishing (De Francisco *et al.*, 2003).

RESEARCH METHODS.....

Anabas testudineus was selected as test species in the typical representative of Anabantoid fishes in South India. It is fresh water, euryhaline and eurythermal teleost. Biochemical assays were made in different tissues from both experimental (exposed to toxicant) and normal (toxicant free) fishes. Fish approximately of same size and weight were selected and grouped into 6 batches. 2 batches of fish served as controls, 2 batches of fish were exposed to lead nitrate and the remaining two batches were exposed to lead acetate for a period of 15 days. After a period of 15 days of exposure, a batch from lead nitrate exposed fish and a batch from lead acetate exposed