



EFFECT OF NAPHTHA CONTAMINATION ON THYROID AND CORPUSCLES OF STANNIUS HISTOLOGY OF *HETEROPNEUSTES FOSSILIS*

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ABSTRACT

Naptha are comprised of normal, ISO cycloparaffins and aromatic hydrocarbon C_4 to C_{12} for *H. fossilis* LC50 value found to be 23.24 PPM for Naptha and mature fish were exposed for 4 weeks to LD50 value to find out prime changes in Histology of thyroid and corpuscles of stannius. The basic principal of toxicology is that a compound seek entry into the body of an animals, it is corporate into blood and ones it has reached. The circulatory stream through out the body and easily transcend through the plasma membrane the variation of the Thyroid follicles regarding their staining was possible a result of highly effected activity of thyroid but the occurrence of variation all the follicle were effected. Behaviour of thyroidal epithelium was unifor initial stage and appeared as not much district thyroidal follicles started secretion the colloid the development of the vascular at the colloidal mass, the corporates of stannius observed the renal vasculature much filled up with the blood indicating an extra ordinary rise in renal blood supply. The cells were shrunken clumbed loss of staining properties loss of cytoplasmic contents nuclei are more prominent their in early case of female. Naptha toxicity was indicating to be leas effected on male then in female.

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INTRODUCTION

Extremely high level exposure to gasoline kerosene vapour which are primary mix of aromatic hydrocarbons as well as aromatic variety of branched and unsaturated Naptha which is petroleum product has after been referred to as mixture of kerosene and gasoline. It has fair changes of being discharged into the fresh water bodies which are an important resource of fisheries diseases. Roubal et al. (1977) Verma et al. (1975).

In *H. fossilis* the thyroid gland (follicles) is scattered in a group ground the ventral aorta and its efferent branches and thus its belong to the intermediate stages in between compact type and scartted type. In *H. fossilis* hypofunction of thyroid during not breeding periods. Oliveria et al,(2011): Fish thyroid and stress

responses Mishra et al. (2002), Toxicity and behaviour responses in catfish. Khan, M. (2025) effect of sub lethal concentration in cat fish.

Zatshi (2005) studies of pituitary and testis under the fenthion toxicant during breeding session in Hammer fish. The younger follicles are more dominant than the older ones the thickness of thyroidal epethelium wall proceeding from a flat to the cuboidal phase.

The sexes in this fish are widely distributed and also in the kidney ranging from anterior to posterior ends. The maximum corpuscles of stannius was mostly restricted to the middle of kidney and some types extended for back as ureter. It has been common several corpuscles of stannius young various location and the dorsal and ventral side of fully partially

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embedded and lateral margins of kidney the toxicological effect of Naptha on corpuscles of stannius was largely damaged like cells cords was protein mostly were swollen most have not seen fine grain. Basophilia aggregation was noticed the cords of corpuscles cells were damaged at the ventral area of corpuscles.

More paper published indicated highly morality of juvenile fish Pradhan and Hota (1993). *H. fossilis* in a carnivorous fish in order cypriniformas. The accessory respiratory organ for which is quite hard and is usually in muddy water. It grow in the estuarine water Srivastava (1968). Fish is an Omega -3 fatty acid and rich of protein and various minerals that the men need to stay meal. However potentially dangerous toxicant are observed into the body tissue of fish transferred to human being when the take fish in their diet. Fish has great economically value in their direct or indirect pathway of toxicant. The present histopathological work carried out response of thyroid and corpuscles of stannius (endocrine gland) system to their Naptha and the species used as model is *Heteropneustes fossilis*.

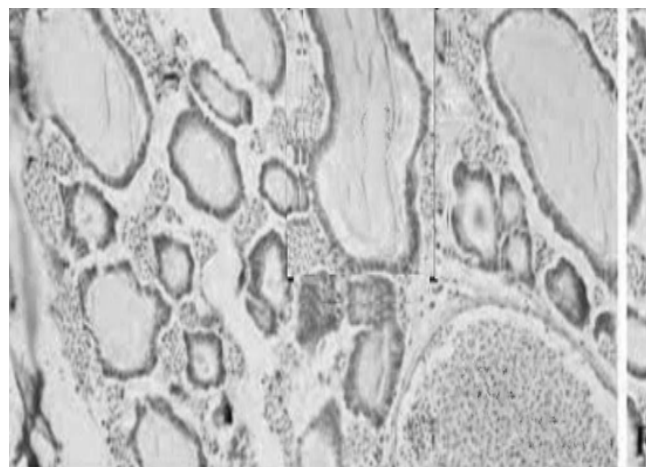
MATERIAL & METHOD

Live and mature specimens of both sexes of the fish *H. fossilis* were obtained from the local fish market and put for the acclimatization for duration of 4 weeks the animal fed only boiled egg albumin and kept in well aerated glass and bath in 1% of KMnO_4 solution the size of glass Aquaria was 75x75x18 cm that contained in the laboratory at the water ambient long 262°C at the water in period value of water $\text{PH}=7.1$ both group of male and female were selected for the experiment evolving exposed to LC_{50} value found to for Naptha and completed the exposure the fishes were anesthetized to MS 222 (0.01%) or fromanaldehyde (1.5%) solution and such specimens were dissected and to take out the organs such as corpuscles of stannius (Kidney) thyroid (jaw) which were in 10% naturals formalin or bouins fluid solutions cell at 4.7 mm thickness the paraffin section of (Kidney) corpuscles of stannius and thyroid were stains the Harish Haemotoxyline eosin, OFG Durey et. at. (1987).

HISTOPATHOLOGY OF THYROID

Thomas Addison is father of Endocrinology. It is messenger system of hormones released by internal gland direct connect into blood circulatory system hypothalamus is the mural control centre for all end ovine system the Thyroid gland and its associated endovins hormones is growing area of regulatory toxicant due to the important role of metabolism low

potential for thyroid hormone affect from exposure to Naptha stream, especially where the aromatic content is low regulatory studies for most chemical do not inducts.

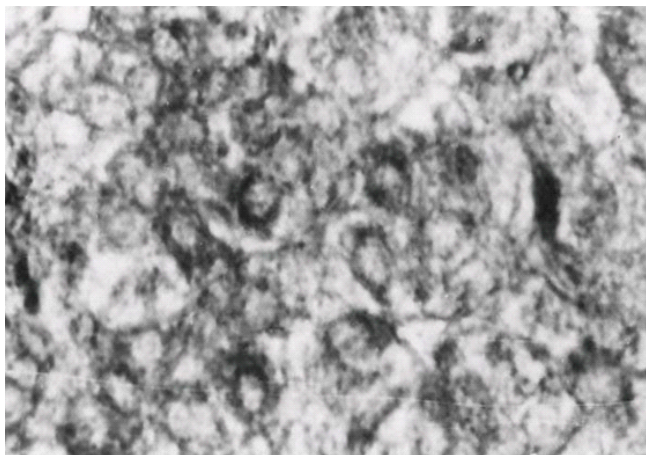


T.S. of Fish Thyroid under the exposure of Naptha 100X.

In *H. fossilis* the thyroid gland is scattered in a patches around the ventral aorta and afferent branches it belonged intermediate stage in between compact type and scattered type. Through very small numbers of follicle gene rare not exceeding that follicles enclosing the colloid of highly variable histochemical nature were record. Some of the appeared that reabsorption vacuoles which actually they were not close to closer examination revealed. That on the colloidal mass of such follicles were only patches of different standings some time producing a short mosaic vision suggested that due to coming colloid as was caused by outgoing quanta the thyroid has been given an department place for the purpose of judgement of the toxicological interference Chung et al. (2019). Sexes specific effect hormones and their function. Simon, J. (1944) comparative anatomy of the gland. Giles et al. (1968) effect of hyper and hypocalcemia in the thyroid calcitonin. Haya (1989) toxicity of parathyroid in fishes the colloid was vacuolated but in the both case epithelium remained flat, these vacuoles were close to epithelial liaing and most of the follicles were stained uses the orange, G.

HISTOPATHOLOGY OF CORPUSCLES OF STANNIUS (CS)

The C.S. of fish are widely distributed on and also in the kidney ranging from anterior to posterior ends the large concentration of the C.S. was usually restricted to middle kidney.



T.S. of Fish Corpuscles of Stannius under the exposure of Naptha 100X.

The toxicant effect on kidney the renal vasculature was too much filled up with the blood i.e. indicating an extra ordinary rise in the orenal blood supply implicating to the fact of the rise blood pressure many of blood vessels had come in usually thick, Swaroop et al. (1980) responses of calcitonin cells administrate, the cells were shurken to that extent that instead of appearing as normal chords at time there was sufficient loss of staining property and such features mean the loss of cytoplasmic content as possible for such strong concentration cell and places the cell cord were broken the C.S. in these moles had a weak and reduced fibrous covering and weak staining of nucleus of their corpuscular cells were more prominent their in earlier case of female i.e. is toxicity of Naptha was indicating to be less effective on male then in female. Nand Karni et al. (1966) structure of C.S. in normal and Thyroparathyroidectomized.

DISCUSSION

All vertebrates and invertebrates perform all of teristrial ones respire acirially and so the aquatic concentrate that it has live an water to respire through water excrete in water which head to peculiar situation of being contacted with chemicals which contaminate the only medium being used and inhabited by the fish both physically and physiologically for the such reason H. fossilis was selected for the present study because the under present experiment Nand Karni et al. (1966), Tiwari (1993) endocrinal regulation Correa et al. (2021) occurrence of contaminates. If there were clear cuts chances of double exposure the complete influences of the toxicant could be noticed as the responses of different organs system in present course for the H. fossilis. Stagant water Ram et al. (1983) effect of Mercuric chloride in reproductive cycle in teleost fish

Green Wood et al. (2002) coted the corpuscles of stannius is calcium sensing receptors. The basic principal of toxicology is that one compound seek entry into the body of an animal. It is containely in incorporated into the blood and ones it has reached the circulatory stream. It circulate through out body as per general rate that compound have higher affinity with lipids through the plasma membranes as well as the Naptha compound easily get a transfer from blood to the tissue they cannot remain with in blood also for the reason that a opposed to blood proteins tissue. Like brain which are such in phospholipids can be larger entry. It has been noticed to during hypophitic substances as Naptha induced enlargement of mitochondria both in liver and other tissue.

The variation of the thyroid follicles regarding their staining was highly effected activity of thyroid for the reason of all the follicles were effected. Follicle of thyroid have responded in different way behaviour of thyroid follicles epethelium started secretion the colloids the development of the vascular very appeared at the periphery of the colloidal mass.

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