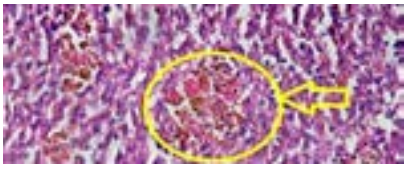
CO-ORGANIZED EVENT
International Conference on
Toxicology and Clinical Pharmacology
&
2nd International Conference on
Generic Drugs and Biosimilars
December 14-16, 2017 Rome, Italy

Tayyaba Sultana et al., Clin Exp Pharmacol 2017, 7:6(Suppl)
DOI: 10.4172/2161-1459-C1-025

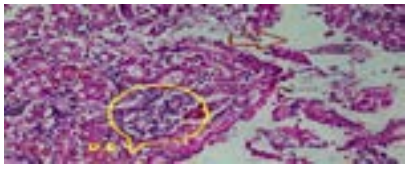
Fish organs histopathology exposed to domestic wastes and industrial effluents revealing the toxic effects in selected fish species

Tayyaba Sultana, Arshad Rana, and **Salma Sultana**
Government College University Faisalabad, Pakistan

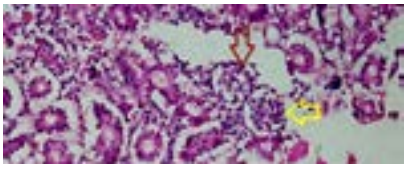
This study was designed with an objective to study the effect of domestic wastes and industrial effluents on water and aquatic organisms particularly fish. These effluents were collected from Chakbandi Drain containing different industries effluents and domestic wastes. Representative water samples from each site were collected in 1.5L capacity of polypropylene bottles with polyethylene caps from the five selected sites along the drain. The experiment was performed in glass aquaria containing fingerlings of approximately of ~5-8 gm each of *Cirrhinus mrigala*, *Catla catla* and *Labeo rohita*. These were exposed to composite sample of drain effluents after acclimatization. After acclimatization fish were divided into 2 groups one as experimental and other as control group. Three sub lethal dilutions of the textile effluents were tested for three months. The fish were fed commercial diet 3-4 % of wet body weight. The histopathological changes were observed and compared with control. Histopathological changes in the gill, kidney and liver were observed. The glomerular shrinkage, increased spaces between glomerulus and Bowman's capsule, increased tubular lumen in the kidney were observed. In liver were intravascular hemorrhage, vacuolar degeneration, severe hemorrhage, hepatocytes degeneration, hemolysis, erythrocyte infiltration in blood sinusoid, eccentric nuclei, cytoplasmic vacuolation and dilation of vein. The severe degeneration of the primary and secondary gill filaments, short fusion of secondary lamellae and severe hemorrhage were seen in the gills. Drain water treated fish species showing damaged kidney tissue. (Degeneration of glomerulus (DG); Vacuolization (V): Jointed glomerulus (JG): Clubbing of cells (CC): Shrinkage of tubules (ST). Hematoxilin & Eosin stain, 400 x)



Catla catla



Labeo rohita



Cirrhinus mrigala

Recent Publications

1. Aghoghovwia O A, Oyelese O A, and Ohimain E (2015) Impacts of Industrialization on fish Species composition and diversity in Warri river, Niger delta, Nigeria. Journal of Geography Environment and Earth Science International. 3(3): 1-10.
2. Ambreen F, Javed M and Batool U (2015) Tissue specific heavy metals uptake in economically important fish, Cyprinus carpio at acute exposure of metals mixtures. Pakistan Journal of Zoology. 47(2):399-407.
3. Authman M N, Zaki M S, Khallaf E A and Abbas H H (2015) Use of Fish as Bio-indicator of the Effects of heavy metals pollution. Journal of Aquatic Research & Development. 6: 4.1-13.
4. Chavan V R and Muley D V (2014) Effect of heavy metals on liver and gill of fish Cirrhinus mrigala. International Journal of Current Microbiology Applied Sciences. 3(5): 277-288.
5. Ibemenuga, and Nwamaka K (2015). Bioaccumulation and toxic effects of some heavy metals in fresh water fishes. Animal Research International. 10(3):1792-1798.

Biography

Tayyaba Sultana, working as Professor in the Department of Zoology, Government College University, Pakistan and an approved PhD Supervisor. I was among the approved scientists/engineers for Research Productivity Awards for the three consecutive years i.e., 2010, 2011 and 2012 by the Ministry of Science and Technology, Pakistan. My core expertise is in the field of Biological Sciences and my focused areas of research are in Fisheries, Aquatic/Environmental/Genetic Toxicology; Pollution, Cell; Molecular Biology, Genetics, Genetic Epidemiology and biomedical sciences.I have more than 20 years teaching experience and more than 12 year post-doctoral teaching and research experience. I have worked in the capacity of Associate Director (Central Hi-Tech Lab), Deputy Director (PARF), Convener Central Purchase Committee, Incharge Bioinformatics Department, Incharge Student Consulting Center, Focal Person for HEC 5000 indigenous Mphil leading to PhD

arif143@yahoo.com