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Ammonia-Associated Histoarchitectural Changes in Fish

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The toxicity of particular pollutant depends upon many factors such as animal mass, developmental stages, period of exposure and temperature, pH, hardness of water and dissolved content of the medium. The toxic ammonia is concentrated in different tissues of fish and its concentration in plasma normally remains upto 2 mM in most teleost fishes. The degenerative changes and massive hypertrophic lesions have been observed in catfish response to ammonia exposure. Ammonium sulphate affects histopathological changes in the opercular lining of the catfish. Ammonia causes stress and damages gills and other tissues, even in small amounts. The increase in serum enzymes (LDH, GDH) is an indicative of some degree of tissue necrosis or of liver and kidney dysfunction and leakage of enzymes from wounded tissue into the blood. At high-dose of ammonia treated fish suffer from neurological dysfunction. Symptoms of ammonia intoxication include tremor, blurring of vision and in severe cases coma and death. Ammonia intoxication is assumed to be a factor in the etiology of hepatic coma.

Keywords: Ammonia, LDH, GDH, pH, Temperature, Catfish