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Study of (LC50 96 h) and histopathological lesions of nitrate in the liver and kidney of *Acipenser stelltus*

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Rising water nitrite is one of the major problems in aquaculture. This rising always has been raised particularly in fish and shrimp reproduction systems, fish super-dense systems, water re-circulating, aquariums and during fish transferring. However, its amount and impacts haven't been truly determined yet. It is necessary to determine the important role of nitrite in water pollution in different forms and its possible penetration into water sources in different ways. So, the aim of this research is to determine nitrite lethal concentration and its acute effects on three gill, liver and kidney tissues of one types of sturgeon; (*A. stellatus*). For this purpose, first the amount of LC10, LC50 and LC90 in 24, 48, 72 and 96 hours for toxic ammonia has been compared with control group when baby *A. stellatus* (Weight 2 to 3 g) were faced with it and was measured. So that for *A. stellatus* 100, 119, 141, 168 and 200 mg in nitrite liter was obtained. This test was done by 5 cares and one control group which each had 3 repetitions, finally the amount of nitrite LC10 24, 72, 48 and 96 hours in *A. stellatus* type was 118/965, 87/2383, 82/91699 and 72/30166 mg in liter, the amount of nitrite LC50 287/119, 164/233, 134/463 and 115/344 mg in liter and nitrite LC90 693/393, 309/144, 218/0544 and 179/0587 mg in liter respectively. During test hour average temperature for *A. stellatus* was obtained 28/3307±0/03624 centigrade degree, dissolved oxygen in water 6/4743±0/1931 mg in liter and water PH 7/6556±0/01950. Then, after 96 hours microscopic probable waste of gill, liver and kidney tissues that were in the presence of ammonia, were examined. After providing levels, microscopic study was done on them from the view point of histopathology. Results showed that after placing baby *A. stellatus* in the presence of nitrite after 96 hours phenomena such as hyperemia, hyperplasia, adhesion of secondary lamella and inflation of primary lamella, hemorrhage, homosidrin and cell necrosis was seen in the gills of baby *A. stellatus*. In general, injuries were more in care 1 towards care 4. Complications such as hyperemia, bile record, cell necrosis, fatty degeneration, cell atrophy are observed in the liver of baby *A. stellatus*, but their intensity is different in each care and even one of them may not be seen in some cares. In general, kidney of these fish remained almost intact and had fewer complications than gills and the most complications were observed in the gills of these fish such as hyperemia, cell necrosis in cares, were observed in the kidney of baby *A. stellatus*. These complications were different in different strains so that it is increased from care 1 towards care 4.

Biography

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