

The Disruptive Effect Mercurychloride (HgCl) on Gene Expression of cGnRH-II, sGnRH, and Estradiol Level in Silver Sharkminnow (*Osteochillus hasseltii* CV)

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Title	The Disruptive Effect Mercurychloride (HgCl) on Gene Expression of cGnRH-II, sGnRH, and Estradiol Level in Silver Sharkminnow (<i>Osteochillus hasseltii</i> CV)
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Abstract	<p>Reproductive activities in fish are regulated by several environmental and physiological factors. In many aquatic ecosystems, metal concentrations are higher than natural levels, because of constant metallic releases from agricultural sources, industries, and mining operations. Mercury is a toxic and persistent pollutant, which bioaccumulates in the food chain. To investigate the effect of mercury chloride (HgCl) on fish reproduction, animals were keep with four aquaria containing increasing levels of HgCL (0 mg/L [control]; 0.025 mg/L [low]; 0.05 mg/L [medium]; 0.1 mg/L [high]) for 60 days. The effects of HgCl on reproduction performance on silver sharkminnow were evaluated by cGnRH-II and sGnRH gene expression, estradiol levels, GSI levels and proportion of oocyt. A significant decrease in by cGnRH-II and sGnRH gene expression, estradiol levels, GSI levels and proportion of oocyt were detected in fish receiving high mercury dose compared to controls on weeks 2,4,6, and 8 (P < 0.05). On weeks 4, 6 and 8, all treatment groups had significantly lower cGnRH-II and sGnRH gene expression, estradiol levels, GSI levels and proportion of oocyt compared to the control group (P < 0.05). These findings demonstrate a disruptive role of Mercury on the reproduction performance in Silver sharkminnow.</p>
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