

The effects of levamisole and Enrofloxacin (Baytril) in the control and treatment of clinical symptoms of streptococcosis in *Oncorhynchus mykiss*, Wallbaum, 1792

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Abstract

The research was conducted on *Oncorhynchus mykiss* with *Streptococcosis* symptoms in Siah Mazgi, Shaft, Gilan province during in March 2021 and September 2022. Microbiological examinations of the infected fish showed positive results. Fish infected with *Streptococcosis* were collected in 19 6x2x1/5 m³ cement ponds as control. A sum of, 30 fish with a weight of 100-200 mg were transferred in each pond, all showing different symptoms of streptococcus's infection and kept in identical hydrochemical conditions (i.e. pH, oxygen and temperature). The two administered dosages of, levamisole (2.5 and 5 mg and Enrofloxacin) with three treatments of 2.5, 5 and 10 mg / kg body weight in combination, were added to the fish feed and the disease symptoms were studied for 10 days. The results showed a significant difference between different levels of Enrofloxacin treatments used to control and treat *Streptococcosis* ($P < 0.05$). The increased level of Enrofloxacin (Treatment 3) was associated with the decreased clinical symptoms of the disease and the deaths induced by *Streptococcosis*. In addition, the combined use of the two drugs Enrofloxacin and levamisole showed significant effects in controlling fish blindness ($P < 0.05$). The results of this study showed that the increase of levamisole level from 2.5 to 5 mg and combination with Enrofloxacin in feed had no effect on alleviating the symptoms. However, the gradual increase of Enrofloxacin concentration in both combinations with levamisole proved equally effective in alleviating the disease symptoms.

Keywords: Levamisole, Enrofloxacin, *Streptococcosis*, Treatment, *Oncorhynchus mykiss*.