

## The effect of acute and sub-acute pathogenicity Lactococcosis on hematological parameters and some parameters of innate immune response of infected rainbow trout (*Oncorhynchus mykiss*)

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### Abstract

The aim of this study was to evaluate the symptoms, variation of hematological parameters and some parameters of innate immune response of rainbow trout (*Oncorhynchus mykiss*) infected with chronic and acute forms of *Lactococcus garvieae*. The total of 270 Fish were allocated to three groups included *Lactococcus garvieae* acute infection, *Lactococcus garvieae* chronic infection and a control group without infection. Acute group was injected with 80% of LD<sub>50</sub> and chronic group was injected with 40% of LD<sub>50</sub> via intra peritoneal route.. Blood and tissue (brain, head kidney and spleen) samples were collected from each group (n=6 fish) at 0, 1, 3, 14 and 21 days after treatment. In tissues analyzing, lethargy, exophthalmia, ascites and high mortality were seen. The activity of serum lysozyme and myeloperoxidase significantly (P<0.05) induced in treatment groups. Results indicated that hematocrit and hemoglobin levels decreased in treatment groups (P<0.05); white blood cells clearly increased in treatment groups. According to these results, acute infection of rainbow trout with *Lactococcus garvieae* in comparison to chronic infection cause more variations on hematological and immunological parameters; whoever in chronic group the symptoms and change the noted parameters were documented.

**Keyword:** *Oncorhynchus mykiss*, *Lactococcus garvieae*, Clinical sign, Innate immune.