

Diagnosis of lactococcosis in one of the rainbow trout (*Oncorhynchus mykiss*) farms in Khuzestan province

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Abstract

Lactococcus garviea is a gram positive, facultative anaerobic, oxidase and catalase negative that belong to the lactic acid group bacteria. This bacterium is the cause of Lactococcosis, an acute disease with hemorrhagic septicemia in rainbow trout and causes a lot of economic damage to the aquaculture industry. In this study, 10 diseased rainbow trout were bacteriologically sampled from head kidney and brain in one of fish farms of Khuzestan province, Located in Masjed Soleyman. The obtained isolates were further evaluated by biochemical tests and molecular method (with 16S rRNA specific primers). Samples were also taken from different organs and fixed in formalin 10% for pathological examination. To investigate the lesions, sections were prepared from 5 µm and stained with Hematoxylin-Eosin. The results of bacterial culture, biochemical tests and PCR confirmed the presence of Lactococcosis in the studied farms. Macroscopic examination revealed lesions in the liver, kidneys and intestine of affected fish. The liver was pale and the kidneys were relatively swollen. No other complications or lesions, including abdominal discharge, were observed in affected fish. In histopathologic examination of liver, degeneration, and focal necrosis were seen. In kidneys, tubules degeneration and melanomacrophage cells accumulation were seen. In intestines, moderate inflammation and inflammatory cells aggregation was seen. According to the confirmation of the presence of lactococcosis, it is necessary to take measures to prevent lactococcosis (especially vaccination).

Keywords: *Lactococcus garvieae*, Rainbow trout, Biochemical tests, PCR, Histopathology

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