EFFECT OF ROUTE OF INFECTION ON DEVELOPMENT OF STREPTOCOCCOSIS IN RED TILAPIA

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Abstract

The effect of route of infection on the development of streptococcosis in the red tilapia was assessed using histopathological, PCR, microbiological and immunohistochemical methods. Three hundred healthy, adult Red tilapias (*Oreochromis* spp.) were obtained from a commercial hatchery. Forty-eight fish were randomly taken from the same age and weight (150 g) per group. Fish were clinically examined and screened one week prior to the experiment. The experiment was divided into three groups with duplicates. Group 1 was exposed to *Streptococcus agalactiae* intraperitoneally (IP), Group 2 was exposed to *S. agalactiae* through an immersion broth, and Group 3 was exposed through a skin cut immersion. The fish were necropsied at the end of 24 hours exposure, and the brain, eye and kidney samples were taken for microbiological, histopathological examinations and indirect immunoperoxidase test. Statistical analysis (ANOVA) from the histopathological lesions revealed that there was significant ($p<0.05$) difference between the route of infection in the brain but not in the eye and kidney, while IP route showed severe lesions at 8 hours post-inoculation. In conclusion, *S. agalactiae* was pathogenic to Red tilapia causing septicaemia and severe pathological changes through different routes of infection.

Keywords: *Streptococccus agalactiae*, immunoperoxidase, histopathology, *Oreochromis* sp.