

Isolation and pathogenicity of *Streptococcus iniae* in cultured red hybrid tilapia in Malaysia

ABSTRACT

This study describes the isolation and pathogenicity of *Streptococcus iniae* in cultured red hybrid tilapia (Nile Tilapia *Oreochromis niloticus* × Mozambique Tilapia *O. mossambicus*) in Malaysia. The isolated gram-positive *S. iniae* appeared punctiform, transparently white, catalase and oxidase negative and produced complete α -hemolysis on blood agar, while a PCR assay resulted in the amplification of the 16 S rRNA gene and lactate oxidase encoded genes. The isolate was sensitive to tetracycline, vancomycin, and bacitracin but was resistant to streptomycin, ampicillin, penicillin, and erythromycin. Pathogenicity trials conducted in local red hybrid tilapia (mean \pm SE = 20.00 \pm 0.45 g) showed 90.0, 96.7, and 100.0% mortality within 14 d postinfection following intraperitoneal exposure to 10⁴, 10⁶, and 10⁸ CFU/mL of the pathogen, respectively. The clinical signs included erratic swimming, lethargy, and inappetance at 6 h postinfection, while mortality was recorded at less than 24 h postinfection in all infected groups. The LD₅₀-336 h of *S. iniae* against the red hybrid tilapia was 10² CFU/mL. The post mortem examinations revealed congested livers, kidneys, and spleens of the infected fish. This is the first report of *S. iniae* experimental infection in cultured red hybrid tilapia in Malaysia.

Keyword: Isolation; Pathogenicity; *Streptococcus iniae*; Cultured red hybrid tilapia