

TITLE: ANTIMICROBIAL EVALUATION OF STRAINS OF *STREPTOCOCCUS* SPP. FROM TILAPIA CULTIVATED IN SOBRADINHO LAKE, BAHIA, BRAZIL

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ABSTRACT:

Tilapia is the second most cultivated fish in the world, the most cultivated in Brazil and is produced mostly in intensive high density systems, which make them susceptible to infectious diseases. In this context, streptococcosis is one of the diseases that causes great economic losses for tilapia farming, reported in cultured and wild fish, in marine or freshwater environments. The strains of *Streptococcus* spp. used in this study were isolated from sick fish collected in fish farms from the lake of Sobradinho, Bahia, Brazil, between December 2018 and February 2019. Fish had skin lesions, exophthalmos, lethargy and erratic swimming. For collection, swabs were performed on 77 fish on samples of brain, kidneys, eyes and skin, and from these samples, seven strains of *Streptococcus* spp. were isolated and identified biochemically. Subsequently, the strains were grown on Mueller-Hinton agar supplemented with 5% sheep blood by using suspensions adjusted to a 0.5 McFarland standard from fresh bacterial cultures and submitted to antimicrobial analysis using the disc diffusion method. Fourteen antibiotic discs were tested: amikacin (30µg), amoxicillin + clavulanate (30µg), ampicillin (10µg), cephalixin (30µg), ceftriaxone (30µg), ciprofloxacin (05µg), chloramphenicol (30µg), streptomycin (10µg), gentamycin (10µg), imipenem (10µg), neomycin (30µg), norfloxacin (30µg), tetracycline (30µg) and tobramycin (30µg). The isolates were recorded and classified as resistant, intermediate and sensitive after gauging the diameter of growth inhibition were measured following the point of clinical cuts provided by the disc manufacturers. All isolates were sensitive to amoxicillin + clavulanate (30µg), ceftriaxone (30µg) and imipenem (10µg). In contrast, all isolates were resistant to ciprofloxacin (05µg), neomycin (30µg) and streptomycin (10µg), also demonstrating a greater tendency for resistance to amikacin (30µg) e norfloxacin (30µg). Even though, there is no quality standard for the diffusion of antibiotics into discs for *Streptococcus* spp., several authors report the resistance of this infectious agent to streptomycin. However, studies show that human strains are resistant to tetracycline, despite that, in this study the strains tended to be intermediates and sensitive to this antibiotic. This study points out that the most appropriate antibiotics against streptococcosi are known, however, new researchs on this microorganism in the aquatic environment are recommended.

Keywords: Disease Diagnosis; Fish Farm; Microbiology; Streptococcosis

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