Aeromonas spp. DETECTION AND ANTIMICROBIAL SUSCEPTIBILITY PROFILE FROM SEWAGE WATER IN RIO DE JANEIRO, BRAZIL.

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Aeromonas spp. are ubiquitous especially in all kind of aquatic environments, such as lakes, rivers, sea water, estuaries, pristine water, aquacultures, drinking water, or wastewater. According to a public health viewpoint *Aeromonas* spp. are taken into consideration as important vectors of antimicrobial resistance genes on environment. These bacteria could be indicators of antibiotic resistance from non-clinical sources. The aim of the study was seek Aeromonads at sewage water in Rio de Janeiro and found out their resistance features. During 7 months (May, 2016 to November, 2016) samples of wastewater was collected with Moore's swab every 15 days from 5 sewage treatment stations and drainage system. The pre-enrichment was performed with alkaline peptone water (APW) 0,5% NaCl for 37ºC/18-24h, followed by enrichment in APW 1% NaCl and spread in Glutamate Starch Phenol-red agar (GSP). The suspect colonies were yield to biochemical characterization. Those characterized as *Aeromonas* was submitted to antimicrobial susceptibility test according the CLSI. We've found 136 *Aeromonas* strains within 9 species, in which *A. caviae* was the most prevalent (44,8%), followed by *A. veronii* (17,6%) and *A. hydrophila* (14,7%). The antimicrobial susceptibility test showed more than 90% of resistant strains. With emphasis on resistance to imipenem (22%), ciprofloxacin (28%) and nalidixic acid (78,6%). Multidrug resistance was observed in 9 strains: 3 *A. dhakensis*, 2 *A. caviae*, 2 *A. hydrophila* and 2 *A. veronii* bv *sobria*. The diversity of *Aeromonas* species found corroborates their ability to survive in treated wastewater and suggests possible source of human contamination through this microorganism. Increased resistance in quinolones and carbapenems in Aeromonas from environmental sources reinforces the need for monitoring actions.

Key words: Aeromonas, Antimicrobial resistance, Multidrug resistance, Sewage water, Public health