

TITLE: DETECTION OF VIRULENCE FACTORS OF *STAPHYLOCOCCUS EPIDERMIDIS* ISOLATED FROM DRINKING WATER IN URBAN PARKS OF SÃO PAULO CITY, BRAZIL. **AUTHORS:** MONTENEGRO, A; SANTOS, G. A. C.; RIBEIRO, G.; DROPA, M.; ROCHA, M. S.; PERTENELLA, F. A. S.; RAZZOLINI, M. T. P.

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ABSTRACT: The presence of opportunistic pathogens as *Staphylococcus epidermidis* in waters is a concern for public health, especially in spaces that should promote physical, mental and social well-being as urban public parks. Urban parks should provide for their users basic infrastructure such as adequate quality of drinking water. Usually, the drinking water is supplied by the public water network and must meet quality standards. Belonging to the group of coagulase negative *Staphylococcus* (SCN), this microorganism is present on every cutaneous surface most commonly isolated from the human epithelium; can serve as reservoir for genes that confer virulence and microbial resistance characteristics, contributing to the pathogenicity of the species. The objective of this study was to detect virulence characteristics in 37 strains of *S. epidermidis* isolated from drinking water samples in municipal parks in the city of São Paulo. By the conventional PCR method, the presence of three virulence genes was detected: *sea*, *seg* and *luk-PVL*; these related to expression of enterotoxins, and leukotoxin, respectively. The study detected that 40.5% (15/37) of the isolates carry the gene, and 48.6% (18/37) the gene was detected *seg*. The simultaneity of both genotypes was observed in 40.5% (15/37) of the isolates. The presence of *S. epidermidis* with virulence genes in drinking water found in this study is a unique finding, evidencing the need to implement sanitary practices, aiming to avoid the circulation of this agent and the dissemination of these genes. The absence of more comprehensive legislation in the water supply system can become a public health problem, as neglecting this species can be harmful to human health.

Keywords: *Staphylococcus epidermidis*, virulence factors, drinking water, public health

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Obs: não falei de aspersores porque esses genes de virulência foram encontrados apenas nas amostras de água. Também não falei da identificação de *S. epidermidis*, fala fui diretamente para pesquisa desses genes nos isolados identificados.