

Title: SUSCEPTIBILITY PROFILE OF *STREPTOCOCCUS PYOGENES* ISOLATED FROM PATIENTS IN TWO HOSPITALS IN PORTO ALEGRE, RIO GRANDE DO SUL, BRAZIL.

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Abstract: *Streptococcus pyogenes*, a Group A streptococci (GAS) representative, is one of the most virulent species of the genus and is involved exclusively in human infections. GAS remain sensitive to β -lactams, which are the drug of choice in the treatment of most streptococcal infections because of their narrow spectrum of action and efficacy in the prevention of post-streptococcal sequelae. Macrolides have been recommended for patients allergic of β -lactams, and clindamycin is the preferred antibiotic in the treatment of patients with serious soft tissue infections, due to its ability to inhibit the production of several streptococcal virulence factors. Currently, resistance to erythromycin and related antibiotics represents a significant cause for concern. In this study, twenty six isolates of *S. pyogenes* collected from patients in two hospitals in Porto Alegre, Brazil had their susceptibility profiles accessed by the disk-diffusion method, according to CLSI protocols. Four antimicrobial agents were used in order to verify the susceptibility profile as follows: penicillin (10 units), erythromycin (15 μ g), tetracycline (30 μ g) and clindamycin (2 μ g). The results identified ten isolates with an intermediate resistance profile to tetracycline and nine with full resistance. One isolate had an intermediate profile to erythromycin and eight were resistant. Regarding clindamycin, two isolates had an intermediate profile and six were fully resistant. From all twenty six strains of *S. pyogenes* only one was non-susceptible to penicillin. Even with a small number of isolates, we were able to find higher rates of resistance to the antimicrobial agents erythromycin and tetracycline, compared to worldwide studies. The clindamycin rate of resistance was similar to previous Brazilian studies, however when compared to European studies it was higher. Despite the high use of penicillin for the treatment of infections caused by *S. pyogenes*, the non-susceptibility profile to this agent is still very rare. In conclusion, the susceptibility profile of *S. pyogenes* isolates from patients in Porto Alegre appears to be different not only from isolates found in other Brazilian regions, but also from isolates from other parts of the world.

Keywords: *Streptococcus pyogenes*, susceptibility profile, resistance.

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