

## **DETECTION OF CLUSTER OF *Staphylococcus aureus* IN ISOLATES FROM OF HOSPITALIZED HUMANS, DOGS AND THEIR OWNERS.**

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*Staphylococcus aureus* is a microorganism that can be found on skin and nasal mucosa of healthy humans and dogs. However, this bacterial species is also often associated with infections in humans and in animals and recently, with strains exhibiting resistance to oxacillin. Hence, given the close relationship between humans and dogs and the possibility of these pets shelter and disseminate this important pathogen, this study aimed to evaluate the relationship between clonal strains of *S. aureus* and resistance to oxacillin of hospitalized human isolates (HH), dogs (D) and their owners (O). A total of 223 *S. aureus* isolates were identified by Polymerase Chain Reaction (PCR) were analyzed, 130 (58.3%) from HH, 38 (17%) of D and 55 samples (24.7%) of O. The isolates were molecularly characterized by the Repetitive Extragenic Palindromic PCR (REP-PCR) technique in clonal groups (coefficient of Dice  $\geq 0.8$  BioNumerics v-6.5 software). Resistance to oxacillin was determined by agar dilution method, being considered resistant samples that showed minimum inhibitory concentration (MIC)  $\geq 4$  mg/ml. Molecular typing revealed a large genetic variability among isolates with 174 distinct clusters, where 65 clusters had only one representative and two major clusters with more than 11 representatives exclusively isolated from hospital samples. Disseminations were observed between clonal HH/HH (19); HH/O (3); HH/D (1); O/O (4); O/D (12) and D/D (2). In two clusters was observed to spread HH/O/D being at least one strain resistant to methicillin. Isolates resistant to oxacillin represented 28.7% of the samples and it was observed in 42/174 (24.1%) of the clusters in both HH and O and D. Given the importance of this species observed in human and animal infections, there is a real need to increase the number of studies with molecular characterization of strains of *S. aureus* for a better understanding of the importance of dogs as reservoirs, thereby allowing the adoption of measures of infection control caused by this important pathogen not only in the hospital but also in the community.

**Keywords:** *Staphylococcus aureus*; dogs, humans, antibiotic resistance, oxacillin.