LACK OF METHICILLIN-RESISTANT *Staphylococcus aureus* NASAL CARRIAGE AMONG PATIENTS AT A PRIMARY-HEALTHCARE UNIT IN PORTO ALEGRE, BRAZIL

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**SUMMARY**

**Introduction:** Community-associated methicillin-resistant *Staphylococcus aureus* (MRSA) has emerged as a pathogen in individuals without traditional risk factors. **Material and methods:** MRSA nasal carriage was assessed in individuals consulting at a Primary Health Unit in Brazil. **Results:** A total of 336 individuals were included: 136 were tested only for MRSA and 200 for any *S. aureus*. No MRSA was found among the 336 individuals and 23 (11.5%) of 200 were colonized by *S. aureus*. **Discussion:** Low prevalence rates have been found in non-hospitalized individuals, but MRSA surveillance should be encouraged to monitor clinical and molecular epidemiology of CA-MRSA.

**KEYWORDS:** Prevalence; Nasal carriage; Methicillin-resistant *Staphylococcus aureus*.

**INTRODUCTION**

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a major nosocomial pathogen. In recent years, however, community-associated (CA)-MRSA has emerged as a pathogen in adults and children without traditional risk factors for MRSA acquisition\(^1\). These isolates have their mecA gene carried in staphylococcal chromosomal cassettes (SCCmec), usually types IV or V, which are distinct from those classically associated with healthcare-associated MRSA\(^3\). CA-MRSA isolates are also more often susceptible to non-beta-lactams antibiotics and more frequently carry the Panton-Valentine Leukocidin genes\(^7\).

The most common site for *S. aureus* carriage is the nose, and nasal carriage of CA-MRSA strains is associated with a higher incidence of clinical infection\(^9,10,12\). Prevention of staphylococcal infections and reduction of the spread of CA-MRSA are of great importance\(^12\). Thus, the objective of this report was to assess the prevalence of MRSA nasal carriage among individuals consulting at a primary-healthcare unit (PHU) in Porto Alegre, Brazil, where most cases of CA-MRSA from Brazil have been reported so far\(^1\).

**MATERIAL AND METHODS**

Nares culture specimens were obtained from individuals attending Santa Cecília PHU, Porto Alegre, from March 2008 to December 2008. All consecutive individuals ≥ 18 years, enrolled in randomly selected days, were included in the study. Individuals who were not resident in the Porto Alegre city or who were unable to answer the questionnaire were excluded. The individuals were interviewed after their consultation and the variables collected were those presented in Table 1.

The individuals had the distal part of their anterior nares sampled for culture with five circular movements of each side with a swab. The swabs were immediately processed at the Microbiology Laboratory of Hospital de Clínicas de Porto Alegre. In the first period of study, the swabs were plated onto Mannitol agar supplemented with 6 µg/mL oxacillin. Since no MRSA had been found when around one third of the expected sample size had been completed, the swabs were plated onto Mannitol agar without oxacillin. Isolates were identified by Vitek system (bioMérieux, Marcy l’Etoile, France) and free-coagulase test. Oxacillin susceptibility was determined by disk diffusion test as recommended by the Clinical and Laboratory Standards Institute\(^2\).

The study was approved by the local ethics committee. All patients signed information consent. Statistical analyses were carried out at the SPSS for Windows vs 13.0. All tests were two-tailed and a \(p \leq 0.05\) was considered significant.

**RESULTS**

A total of 336 individuals were included in the study. The first 136 were assessed only for MRSA since the nasal swabs were plated onto selective media. The remaining 200 individuals had their swabs plated onto non-selective media. Among all 336 subjects, no MRSA was identified. Among the group of 200 subjects, 23 (11.5%) had *S. aureus* recovered from their nares. There was no significantly different
characteristic between individuals who had their nasal swab plated on selective media and those where the swabs were plated on non-selective media, except for diabetes, which was more frequently among the former ones (21.3% versus 10.5%, respectively, \( p = 0.01 \)). No variable was found to be significantly associated with \( S. aureus \) nasal carriage (Table 1).
CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

REFERENCES


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