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P2747 Nasal and pharyngeal screening for the identification of the carrier status of *Staphylococcus aureus* at admission to intensive care: risk factors and clinical impact

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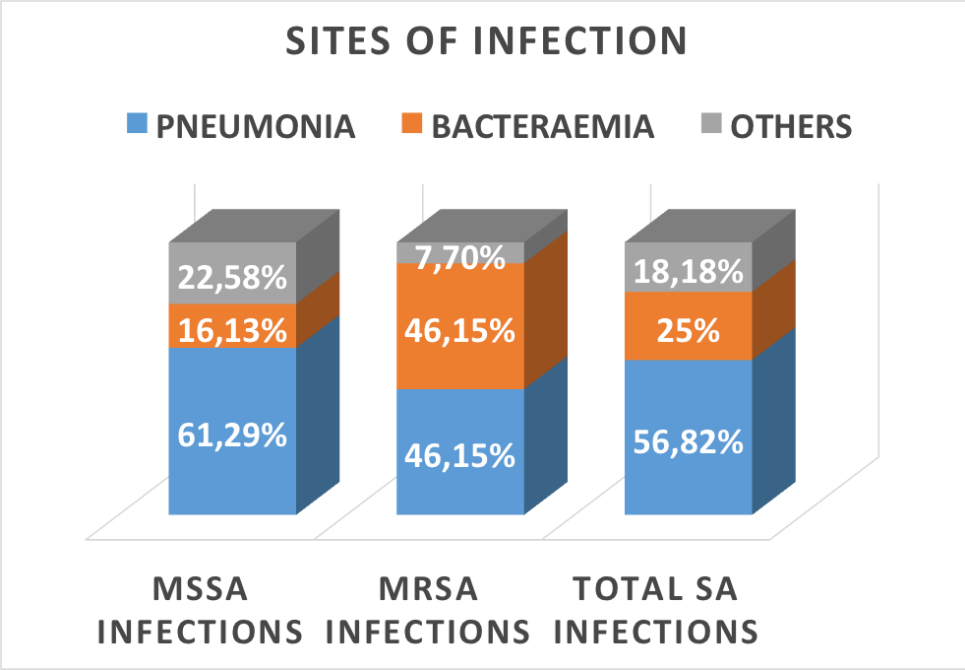
Background: In intensive care unit (ICU) the risk of infections in patients colonized with Methicillin-Resistant *S.aureus* (MRSA) is already well established. Conversely, there is still uncertainty on the role of Methicillin-Sensitive *S.aureus* (MSSA). The purpose of this study was to compare clinical outcomes and risk factors of two distinct patient populations: MRSA and MSSA carriers.

Materials/methods: We conducted a prospective study at the ICU of the University Hospital of Modena from May 2017 to April 2018. Each patient admitted underwent nasal and pharyngeal swabs for *S.aureus* detection. The association of MSSA/MRSA carrier status and MSSA/MRSA infections were examined. A multivariable logistic regression was used to identify risk factors for the development of MSSA infection among carriers.

Results: 238 (24.3%) out of 977 patients resulted colonized: 205 (20.9%) by MSSA and 33 (3.37%) by MRSA. Both nasal and pharyngeal swabs were positive in 21/33 (63.3%) for MRSA and in 80/205 (39,0%) for MSSA. Concerning MSSA, 75 (36.5%) patients had positive only the nasal swab, 50 (24,3%) only the pharyngeal one. The vast majority of MRSA was positive only in the nasal swab. Admission from internal medicine department or nursing home stay and previous antibiotic therapy were associated with MRSA colonization ($p<0.05$). Coming from surgical department and hospitalization in the previous six months were risk factor for MSSA carrier ($p<0.05$).We observed 44 infections (27 pneumonia), among which 31 (81.8%) due to MSSA. The sites of infection are described in *Figure 1*. All MSSA infections occurred in MSSA colonized. Among the 13 MRSA infections, 5 (38.4%) occurred in patients colonized by MSSA. At multivariable analysis, risk factors associated with development of MSSA infection among carriers were mechanical ventilation, stroke, myocardial infarction, previous hospitalization in a surgical ward or in other ICUs ($p<0.05$).

Conclusions: Pharyngeal swab allowed identifying about 25% MSSA more colonization compared to nasal screening alone. Finally, further efforts should be made to better define the role of MSSA screening in ICUs, particularly for prevention of nosocomial pneumonia.



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