

STAPHYLOCOCCUS AUREUS, THE MOST PREVALENT ISOLATE AMONG SURGICALLY TREATED PATIENTS

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Background and Objective: According to available research data, one of the greatest treats for surgical departments is presence of chronical staphylococcal infections in patients admitted for hospital treatment. These infections can be caused by wild-type strains, but also resistant strains of this bacteria gained after frequent hospital treatments. Any of these strains in hospital environment has a plenty possibility for further evolution, which mainly can be modified by proper or inappropriate usage of antibiotics. The goal of our research was to explore the variety of microbes present in wounds after surgical treatment and their susceptibility to antibiotics.

Methods: Our investigation was conducted as a retrospective study in Public Health Institute Novi Pazar from July 2021 to January 2022. The study outlined 183 bacterial isolates from surgical wounds of 94 inpatients and 89 outpatients. Identification of isolated bacteria has been performed using conventional microbiological techniques and susceptibility testing was done according to the EUCAST standards.

Results: The most prevalent isolate was *Staphylococcus aureus* (35%), present in 13.7% of inpatients wounds and 21.3% of outpatients' wounds. It was followed by *Klebsiella* spp. (22.4%), *Escherichia coli* (15.8%) and *Pseudomonas aeruginosa* (8.2%). Among inpatients, *Staphylococcus aureus* dominated infections of wounds after Cesarean section (29.7% of all its isolates). Compared to the outpatients, *Staphylococcus aureus* was predominantly found in wounds of inpatients after genitourinary surgery, including Cesarean section. However, all together, the most frequently it was present in wounds of outpatients after surgical interventions (orthopedic, vascular, general, abdominal, chest and plastic surgery). Meticillin-resistant strains of *Staphylococcus aureus* were generally detected in wounds of inpatients, except orthopedic outpatients, where the wounds have been mostly affected by trauma or chronical infection presence.

Conclusion: Hospital-acquired infections are of great importance, particularly in light of the rapid increase in bacterial resistance. In this regard, it is essential to study roots of their spreading as well as to detect weak points of established antimicrobial therapy protocols in tertiary health care units.

Keywords: *Staphylococcus aureus*, wounds, susceptibility to antibiotics, MRSA