

Staphylococcus aureus; Prevalence of this infection in hospitalized patients

Blerta (Kika) Brati¹, Erjona Abazaj¹ Oltiana Petri¹; Andi Koraqi²

1. Institute of Public Health, Tirana, Albania

2. Medicine University of Tirana, Faculty of Medicine, Tirana, Albania

Abstract

Introduction: *Staphylococcus aureus* is a significant pathogen in human medicine. The prevalence of *S. aureus* varies between age, gender, ethnicity, geographic location, and body niche. The study aim is to evaluate the prevalence of *S. aureus* and also to describe observational result of the influence bacterial; host and environmental/modifiable factors might have on the relationship with humans. This study was carried out between October 2016 until to December 2017 across hospitalized patients from different units of Mother Theresa Hospital Center.

Methodology: About 258 Clinical specimens were collected based on infection type such as wound, pus/exudates, blood, urine, sputum and indwelling medical devices. We isolated and identified *S. aureus* using standard tests like catalase, coagulase, and growth on Mannitol salt agar. Also for further accurate microbial identification we have use the VITEK® 2 system.

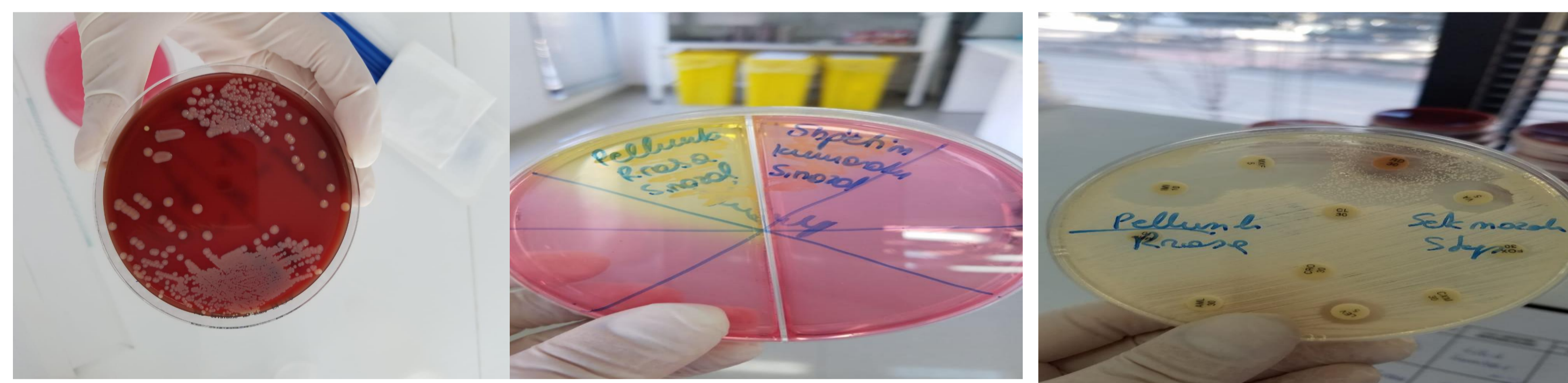
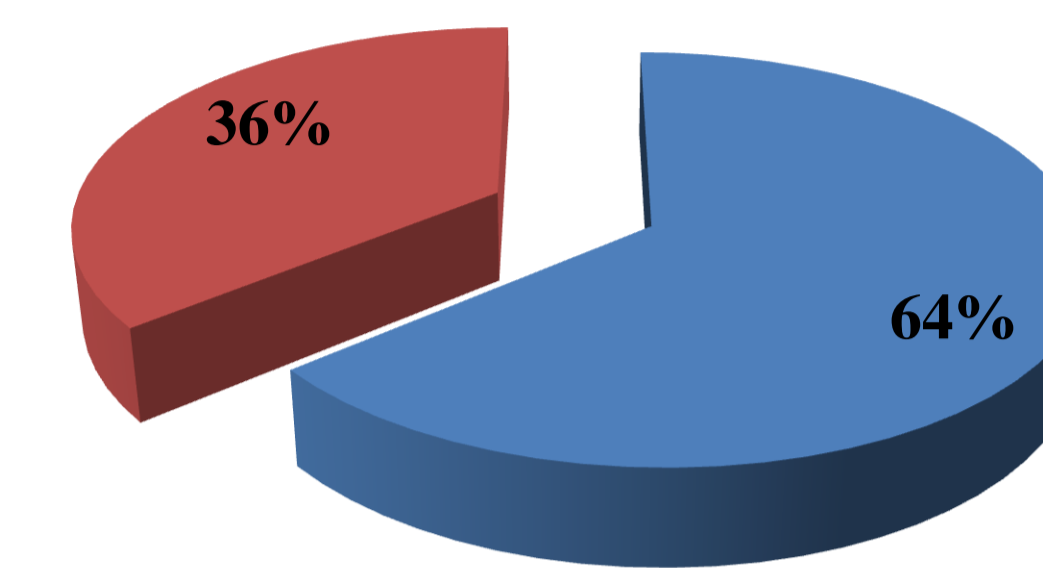


Figure 1. Image for *S. aureus* identofication in our samples

Results: Over all 258 speciemen tested the prevalence of *S. aureus* was found in 36% patients. Out of all 93 cases isolated with *S. aureus*, 25% were from urine infections; 24.6 % from skin and soft-tissue infections cases; 20.4 from vaginal and urethral swab; 15% from nasal and ear swab cases and 15% from blood stream, indwelling medical devices and catheter-associated infections. We did found statistically significant differences between Infection and sex, residence area, wards and place where the samples were collected. In all cases the p value was < 0.05.



■ Number of cases ■ S. aureus positive cases

Figure 2. Prevalence of *S. aureus*

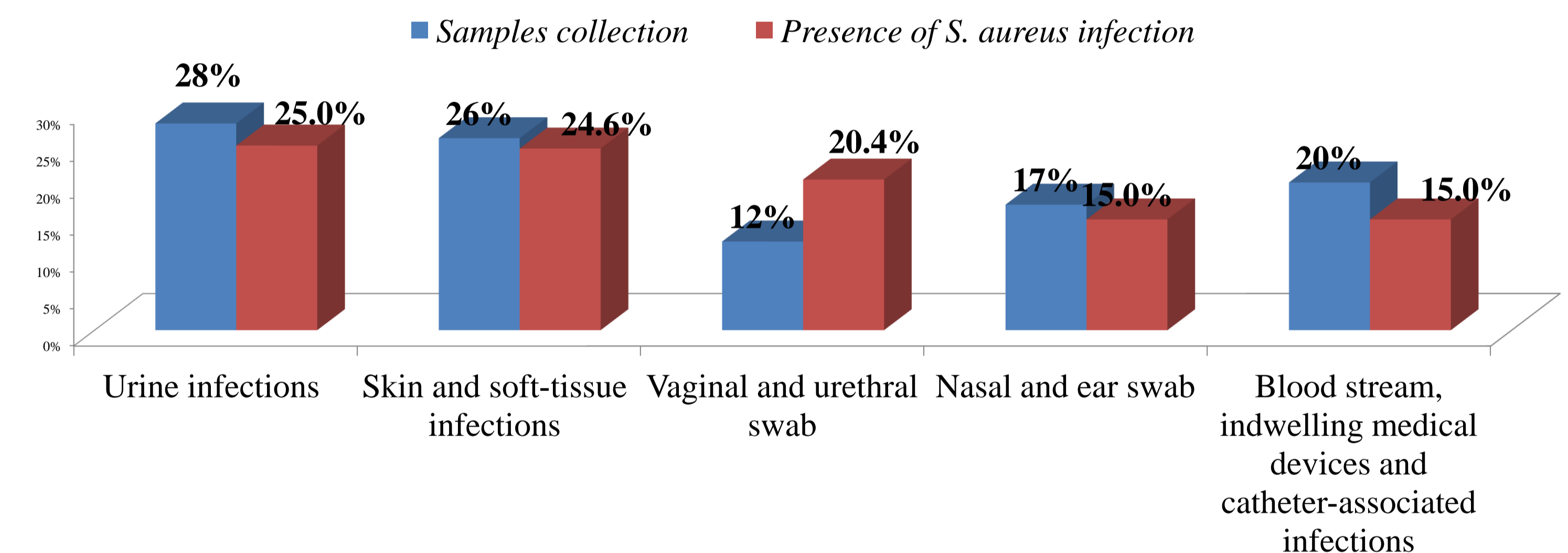


Figure 3. Sample collection and prevalence of *S. aureus*

Conclusion: The rate of *S. aureus* in hospitalized patients on this study was high. These results indicated that this type of infection is a significant concern for health services and patients included. The highest percentage of *S. aureus* found in surgical and non surgical wound suggest that further investigation should be implemented. A screening of all hospitalized cases can lead to reduce the incidence of this infection in the hospital environment and also to control the risk factors.

Key words: *S. aureus*; risk factor; significant infection, prevalence

Reference

1. Staphylococcus aureus Infection: Epidemiology, Pathophysiology, Clinical Manifestations and Management. Steven Y. C. Tong, Joshua S. Davis, Emily Eichenberger, Thomas L. Holland, Vance G. Fowler, Jr. Clin Microbiol Rev. 2015 Jul; 28(3): 603–661. Published online 2015 May 27. doi: 10.1128/CMR.00134-14
2. Staphylococcus aureus: Determinants of human carriage. J.U.E. Solid; A.S. Furberg; A.M. Hansen; M. Johannessen. Infection, Genetics and Evolution. Volume 21, January 2014, Pages 531-541. doi.org/10.1016/j.meegid.2013.03.020.