

POSTER PRESENTATION

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Prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) in nasal swab specimens obtained from hospitalized patients and healthcare workers in a Belgrade hospital

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Introduction / objectives

The aim of the present study was to provide the analysis of carriage of MRSA in hospitalized patients and HCWs in the largest healthcare facility in Serbia.

Methods

Nasal swab were taken from 195 hospitalized and 105 HCWs at the Clinical Center of Serbia in Belgrade. Each swab was inoculated directly onto MRSA-ID agar (bio-Mérieux, France). All inoculated solid media were incubated at 35°C and read after 24 h and 48 h of incubation. Identification of isolates was confirmed by PCR for *nuc* and *mecA* gene. Susceptibility to antibiotics was performed by disk diffusion method in accordance to the CLSI recommendations. Determination of *SCCmec* types was done by previously described PCR protocol.

Results

Among 195 hospitalized patients and 105 HCWs, 23 (11.8%) and 8 (7.6%) respectively were colonized MRSA. All tested MRSA strains were susceptible to fusidic acid, trimethoprim/sulfamethoxazole, vancomycin, linezolid, pristinamycin and mupirocin, while 27 (87.1%) were resistant to gentamicin, 28 (90.3%) to kanamycin, 27 (87.1%) to tobramycin, 17 (54.8%) to erythromycin, 17 (54.8%) to clindamycin, 25 (80.6%) to ciprofloxacin, 3 (9.7%) to rifampin, 4 (12.9%) to tetracycline and 5 (16.1%) to chloramphenicol. Among MRSA strains isolated in this study, 6 (19.4%) strains could be classified as CA-MRSA, because they were *SCCmec* type IV or V

and most of them were susceptible to all tested antibiotics except beta-lactams. The remaining 25 (80.6%) MRSA strains had characteristics of HA-MRSA, they were *SCCmec* I or III, and all were resistant to different antibiotics beside beta-lactams.

Conclusion

Carriage of MRSA among hospitalized patients and HCWs was determined to be high, 10.3%. Carriage was higher in hospitalized patients than in HCWs. Most of the isolated strains were HA-MRSA.

Disclosure of interest

None declared.

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