

**P0229**

**Paper Poster Session**

**MRSA - one health worldwide**

**Staphylococcus aureus – a leading etiological agent of healthcare- and community-acquired bloodstream infections**

Halina Marchel<sup>1</sup>, Grażyna Dulny<sup>2</sup>, Agnieszka Kraśnicka<sup>1</sup>, Marta Wroblewska<sup>\*3</sup>

<sup>1</sup>*Central Clinical Hospital, Department of Microbiology, Warsaw, Poland*

<sup>2</sup>*Central Clinical Hospital, Infection Control, Warsaw, Poland*

<sup>3</sup>*Medical University of Warsaw, Department of Dental Microbiology; Central Clinical Hospital in Warsaw, Department of Microbiology, Warsaw, Poland*

**Background:** Bloodstream infections are characterised by severe clinical course, rising morbidity and high mortality of patients. For many years *Staphylococcus aureus* remains the leading etiological agent of healthcare-acquired (HA) and community-acquired (CA) bloodstream infections (BSIs), independently of geographical location. The aim of the study was to evaluate the frequency and characteristics of *S. aureus* causing bloodstream infections in patients hospitalised in a tertiary care hospital in 2005, 2009 and January - June 2015.

**Material/methods:** Analysis comprised the results of blood cultures done in 2005, 2009 and 2015 in a tertiary care hospital (1200 beds) in Warsaw, Poland. Blood cultures were tested using Bact/Alert (Organon-Technika) and Bactec (Becton-Dickinson) systems. Bacterial isolates were identified with the use of ATB, VITEK (bio-Merieux) analysers and mass spectrometry method – MALDI-TOF MS (Bruker). Susceptibility of the isolates was evaluated according to the current national recommendations. Analysis comprised only nonrepetitive isolates.

**Results:** The study comprised 368 cases of HA bacteraemia and 738 episodes of CA bacteraemia. Frequency of *S. aureus* isolation in the group of patients with HA bacteraemia was the following: 2005 – 56 (20.22%), 2009 – 60 (24.19%) and January - June 2015 – 35 (16.43%). Frequency of *S. aureus* isolation in the group of patients with CA bacteraemia was 18 (16.22%), 17 (13.82%), 18 (13.43%), respectively. In the analysed period *S. aureus* was the most common etiological agent of HA bacteraemia and second most common in CA bacteraemia. Percentage of methicillin-resistant *S. aureus* (MRSA) strains in the HA bacteraemia group was 48.21%, 55.00% and 48.57%, respectively. No MRSA was detected in the CA bacteraemia group. All isolates were susceptible to vancomycin and linezolid.

**Conclusions:** In the analysed group of patients *S. aureus* remained the leading etiological agent of healthcare-acquired (HA) bloodstream infections, with MRSA constituting close to or more than 50% of strains. It is necessary to intensify infection control programme procedures, directed at reduction of MRSA colonisation rate and infections.