

O119

Abstract (oral session)

**Colonisation by multidrug-resistant Gram-negative bacteria surpasses methicillin-resistant *Staphylococcus aureus* at hospital admission. Is it time to rethink infection control measures in non-ICU patients?**

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**Objectives:** Recent studies showed that, in the last years, a slight decrease in bacteraemia due to methicillin-resistant *Staphylococcus aureus* (MRSA) as well as significant increase in those due to Multidrug resistant gram-negative (MDR-Gn) occurred in Europe. Main objective of the study was to verify if rates of colonisation were influenced by infection rates. We therefore compared rates of MRSA, extended spectrum beta-lactamase-producing and carbapenemase-resistant Enterobacteriaceae (ESBL+Ent; CRE) in non ICU-patients at hospital admission (HA). **Methods:** A prospective cohort study funded from the EU FP7 within the project 'Impact of Specific Antibiotic Therapies on the prevalence of hUman host ResistaNt bacteria' (SATURN) was performed in 2 medical and surgery wards. Nasal and rectal screening for MRSA, ESBL+Ent and CRE were obtained at HA. Epidemiological, clinical and microbiological data were collected. Standard infection control measures, including contact precaution and isolation room, when available, were applied to colonised patients. Isolation of *S. aureus* was confirmed through VITEK2 (bioMérieux, Marcy l'Étoile, France). The ESBL phenotype of *Klebsiella* spp, *Escherichia coli* and *Proteus* spp were detected by confirmatory double disk diffusion test. **Results:** In a 12-month period, 2065 patients had nasal and rectal screening performed at HA. The majority of patients were males (58%) with a mean age of 60±17 (range, 18-100). MRSA rate was 2.3%, ESBL+Ent 12.7%, and CRE 1.5%. MRSA colonised patients were more likely to suffer from diseases of central nervous system (OR 3.1 95%CI 1.4-6.4 p<.01) and digestive system (OR 2.5 95%CI 1.1-5.8 p<.01), chronic renal failure (OR 3.1 95%CI 2.1-4.8 p<.01) and peripheral vascular disease (OR 2.3 95%CI 1.1-5 p<.01) compared to ESBL+Ent and CRE colonised ones. Antibiotic use within 30 days was observed 2-time (95%CI 1.1-3.9 p<.01) more frequently among MRSA patients and 3-time (95%CI 1.1-6.1 p<.01) among those colonised by CRE. Most patients had hospitalisation (69.5%) and ambulatory care (40%) within one year, with no difference after stratifying by etiology. During the study period, the rate of bacteraemia was 1.8 for MRSA vs 3.1 for ESBL+Ent on 1,000 hospital admission. **Conclusions:** Colonisation with MDR-Gn bacteria surpassed MRSA at HA in non ICU-patients. This change in epidemiology needs urgent further investigation in order to implement appropriate infection control measures to reduce the spread of MDR-Gn colonisation and severe infections in hospitalised patients.