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ePoster Viewing

Epidemiology of nosocomial infections

Epidemiological and molecular characterization of the hospital-associated outbreak with vancomycin-resistant enterococci circulated in the Copenhagen area during 2013-2014 for one single hospital

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Objectives: A recent epidemiological survey (M. Pinholt *et al.*, O111, ECCMID 2014) showed an increased outcome of clinical vancomycin-resistant enterococci (VRE) in the Copenhagen area, Denmark. We would like to report epidemiological information concerning the VRE-associated hospital outbreak for one single hospital, and provide the results about correlation between molecular methods such as ribotypning and pulsed-field gel electrophoresis (PFGE) used for identification of molecular relatedness between *E. faecium* isolates.

Methods: Species identification was performed by MALDI-TOF. The *vanA*-gene was identify by PCR-assay. PFGE and ribotypning analysis were used to confirmed relatedness between the isolates.

Results: A total of 102 clinical isolates of the *VanA*-gene positive *Enterococcus faecium* were collected between January 2013 and July 2014 in the 1100-beds hospital (Rigshospitalet).

The majority of the isolates were from urine (36.3%) and gastrointestinal tract cultures (19.6%) recovered from patients hospitalized in two intensive care units (ICUs) (42.6%), followed by the nephrology ward (12.8%). Twelve percent of remaining isolates were associated with previous hospitalization in these three departments. More than a third of all patients were hospitalized in a range between 11 to 30 days. Prior exposure to vancomycin during the last 3 months before finding was described in 87% of all medical journals.

Results of the ribotypning and PFGE showed dissemination of the two predominant clones with 39.2% and 18.6% distribution and with 98% correlation between the methods.

Conclusion: Overall, our results suggest a dissemination of a few VRE-clones in hospital settings. The long hospitalization periods and prior vancomycin exposure increase the risk of health care associated infection. Ribotypning still can be used as a preliminary typing method for characterization of outbreak in hospital settings.