P1176
Poster Session IV
Molecular detection of bacterial resistance

VALIDATION OF A RAPID MOLECULAR ASSAY (EAZYPLEX SUPERBUG) FOR FREQUENTLY OCCURING CARBAPENEMASE GENES IN ENTEROBACTERIACEAE

M. Kaase[1], A. Kaminski[1], N. Pfennigwerth[1], A. Anders[1], L. Wassill[2], S.G. Gatermann[1]

[1]Department of Medical Microbiology, Ruhr-University Bochum, Bochum, Germany ; [2]Gesellschaft für molekularbiologische Diagnostik, AmplexDiagnostics GmbH, Gars-Bahnhof, Germany

Objectives
Detection of carbapenemase-producing *Enterobacteriaceae* (CPE) is important for treatment decisions and infection control. Aim of this study was to validate a commercial molecular assay (eazyplex® SuperBug) which is based on isothermal amplification and real-time detection in a small, portable and closed system. The assay targets the genes coding for KPC, VIM, NDM and OXA-48.

Methods
A collection of carbapenem-non-susceptible *Enterobacteriaceae* (n = 138) comprising *K. pneumoniae* (47.1%), *E. cloacae* (18.8%), *E. coli* (14.5%) and other species was used in the study. A carbapenemase was present in 73.2% and had been previously detected by phenotypic tests and sequencing of the carbapenemase gene. Testing of the strains by the eazyplex® SuperBug was performed according to manufacturer's instructions.

Results
A sensitivity and specifity of 100% was determined for *bla*$_{KPC}$ (n = 26), *bla*$_{VIM}$ (n = 25) and *bla*$_{OXA-48}$ (n = 32). For *bla*$_{NDM}$ (n = 9), the sensitivity was 100% whereas the specifity was 97.7%.

Conclusion
The eazyplex® SuperBug was a rapid and reliable method for detection of the most prevalent carbapenemase genes in our study. It should be noted, however, that certain carbapenemase allels like *bla*$_{OXA-181}$ belonging to the *bla*$_{OXA-48}$ group are not targeted by the assay.