

Session: P069 Enterococcal infections: epidemiology and resistance

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Epidemiology of enterococci isolated from an infection in Belgium

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Background: *E. faecalis* and *E. faecium* are common gastrointestinal commensal organisms acquiring resistance through the transfer of plasmids and transposons and recombination or mutation events. Infection with vancomycin-resistant enterococci (VRE) is a growing problem. The Belgian National Reference Centre (NRC) for enterococci received since 2012 an increasing number of enterococcal strains (mainly VRE) from all over Belgium. The aim of this study is to report the epidemiology of enterococci isolated from infections/invasive sites in Belgium on strains received from hospital laboratories between 01/01/2011 and 31/10/2016.

Material/methods: Species identification was confirmed by conventional diagnostics, by MALDI-TOF Mass Spectrometry and by *sod/ddl/16S* rDNA-PCR and sequencing. Antibiotic susceptibility was determined by using disk diffusion and E-test and interpretation according to CLSI (up to 2012) and EUCAST from (from 2012 onwards). The following antibiotics were tested: ampicillin, vancomycin, teicoplanin, linezolid) and tigecycline. PCR targeting *vanA* and *vanB* genes was applied to confirm VRE.

Results: The number of enterococcal strains isolated from infections was steadily increased during the study period: n=59, 102, 152, 192, 275 and 207 in 2011, 2012, 2013, 2014, 2015 and 2016, respectively. The VRE% ranged between 40,8 and 75,5 of which *vanA* increased from 45.5% to 91.4% in the same period. The number of isolates increased from 20 to 79, from 13 to 94, from 5 to 34 and from 3 to 10 for resp. isolates from blood (B), urine (U), wound infections and peritoneal fluids. The table shows the proportions of VSE and VRE per species for blood and urine isolates.

Conclusions: In the last 6 years, the NRC received an ever increasing number enterococci isolated from an infection. The highest increase was found to be caused by *vanA* positive *E. faecium* isolated

from urine. Yet, since Belgian laboratories for clinical microbiology are not legally bound to submit their VRE strains to the NRC one should be cautious about the interpretation.

Year	2011	2012	2013	2014	2015	2016
B E. faecium vanA	2	10	2	12	14	11
B E. faecium vanB	2	3	1	4	2	1
B E. faecium VSE	4	11	12	9	8	13
B. E. faecalis vanA	1	1	1	0	0	0
B E. faecalis vanB	0	0	1	1	2	0
B E. faecalis VSE	9	7	31	21	52	27
U E. faecium vanA	5	26	21	28	69	43
U E. faecium vanB	2	1	2	3	2	0
U E. faecium VSE	0	3	2	4	18	12
U E. faecalis vanA	0	0	0	0	0	2
U E. faecalis vanB	0	1	0	1	0	0
U E. faecalis VSE	4	0	22	20	3	8