

**P1051**

**Paper Poster Session**

**Surveillance and control of nosocomial pathogens and infection**

**Surveillance of enterococci in Belgium (January 1, 2009 - September 30, 2015)**

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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. Currently, there are not many data available on the epidemiology of Enterococci and VRE in Belgium. A survey was initiated by Belgian Reference Centre for Enterococci (NRC) to assess the epidemiology of enterococci in Belgium on strains received from hospital laboratories between 01/01/2009 and 30/09/2015.

**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 (till 2012) and EUCAST from January 1, 2012 onwards. The following antibiotics were tested: ampicillin, vancomycin, teicoplanin, linezolid (LZ) and tigecycline. PCR was applied to confirm VRE. Typing was done by PFGE and MLST (from 2014 onwards).

**Results:** Since 2009, the Belgian NRC receives an increased number of enterococcal strains from hospital laboratories: n=32, 27, 81, 131, 178, 300 and 462 in respectively 2009, 2010, 2011, 2012, 2013, 2014 and till September 30 2015. The *E. faecium* % increased from 56.2% to 83.5%. The VRE% increased from 56.3% to 82.5%, in the same period. VanA increased from 27.8% to 91.6%, vanB decreased from 61.1% to 4.7%. All outbreaks were caused by *E. faecium*, with an increase in number from 1-9 between 2009 and 2015; the majority of the outbreak strains were vanA positive. Overall, the most prevalent STs were 80, 117 and 203, each representing more than 1 PFGE-type. A low level of LZ resistance was detected over the last 2.5 years (2.3%, MIC 8-64) in both *E. faecium* and *E. faecalis*. None of the LZ R *E. faecalis* strains were VRE, 9/11 *E. faecium* were VRE. All, except 1 *E. faecium* and 1 *E. faecalis* strain (MIC 4.0), were sensitive to tigecycline. Rare species are also more often submitted for confirmation eg. *E. avium*, *E. gilvus*, *E. mundtii*, *E. raffinosus*.

**Conclusions:** Since Belgian laboratories for clinical microbiology are not legally bound to submit their VRE strains to the NRC, it is difficult to conclude on the exact epidemiology of VRE and on the number of outbreaks. However, based on the strain submissions in the last 6 years, the NRC received an increased number of *E. faecium* isolates. ST80, 117 and 203 are detected in the majority of outbreak, non-outbreak or outbreak-unknown *E. faecium* strains.

Due to the application of newer identification techniques, rare enterococcal species are more frequently submitted to the NRC for confirmation. Linezolid resistance and tigecycline resistance is still low.