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P0456 Low prevalence of transferable linezolid resistance among clinical isolates of enterococci in Barcelona, Spain

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Background: Linezolid (LZD) is a useful drug for the treatment of serious infections caused by multidrug-resistant (MDR) gram positive bacteria. In regard of transferable, plasmid-borne LZD resistance (*cfr* and/or *optrA* genes), few data exist from countries other than China. The purpose of this work is to study the prevalence and the genetic relatedness of the transferable LZD-resistance among enterococci in a Hospital from Barcelona, Spain.

Materials/methods: Hospital Universitari de Bellvitge is a tertiary care hospital (700 beds) located in the urban area of Barcelona. All enterococci obtained from clinical samples during March-October of 2017 were prospectively screened. Isolates were identified by MALDI-TOF MS (MALDI-Biotyper®) and tested for antimicrobial susceptibility through microdilution (MicroScan®) using the EUCAST criteria. The screening also included the antimicrobial susceptibility testing (AST) of chloramphenicol (CHL) and LZD by disc-diffusion. Isolates showing no inhibition zone to CHL or LZD-resistance were further studied by PCR (*cfr* and *optrA*). *optrA*-positive isolates were genotyped by pulsed-field gel electrophoresis (PFGE, *SmaI*).

Results: During the study period, 993 enterococci isolates from 780 patients were screened. The vast majority were *Enterococcus faecalis* (n=742, 74.7%) or *E.faecium* (n=240, 24.2%), obtained from urine samples (n=627, 63.1%) and showing linezolid MIC≤2 mg/L (n=982, 98.9%). Among them, 125 isolates (n=121 *E.faecalis*, n=2 *E.hirae*, n=1 *E.faecium* and n=1 *E.avium*) showed no inhibition zone to CHL (that included all LZD-resistant isolates). Through PCR, transferable LZD-resistance was detected in six *E. faecalis* (*optrA* n=5, and *optrA* plus *cfr* n=1). Two of them showed LZD MIC=4 mg/L and three LZD inhibition zone >19 mm, being categorised as susceptible under the current breakpoints. Detected isolates belonged to four different PFGE-types and were obtained from six unrelated patients (5 urine samples and one surgical wound). None of the patients had antecedents of linezolid consumption but all had received other antimicrobials. Four patients required antimicrobial therapy and were successfully treated with penicillins.

Conclusions: In our setting, the prevalence of the *optrA* gene among enterococci is low (0.6%) and related to different *E.faecalis* clones. As reported, current LZD breakpoints are not sensitive enough to detect transferable LZD-resistance, being necessary the screening through the AST of CHL.