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BOOK OF ABSTRACTS

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- ## 14023 | Chlorhexidine has a good activity against multidrug-resistant *Enterococcus faecium* from human, animal and environmental origins

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Chlorexidine-gluconate (CHX) is an antiseptic often used in the hospital, community and animal production settings. Its activity against the major nosocomial pathogen *Enterococcus faecium* (Efm), has been scarcely described, with most available data not addressing strain´s genetic background. Three clades are currently described for Efm: A1-mostly includes infection-derived strains; A2-sporadic human infections and animals; and B-human commensal strains. This study aimed to evaluate CHX activity against antibiotic resistant Efm from diverse sources and clades.

Fifty-three Efm isolates (Portugal, Spain, Angola; 1995-2016) were included. They corresponded to 37 sequence types clustering into clades A1 (n=14 isolates), A2 (n=33) and B (n=6). Multidrug-resistance (MDR) was observed in 87% (n=46/53) of them and resistance to the clinically relevant antibiotics vancomycin (VRE) in 36% (n=19/53) and ampicillin (AmpR) in 81% (n=43/53). CHX minimum inhibitory concentration (MIC) was determined by broth microdilution (adapted from EUCAST guidelines) (CHX range: 2-32mg/L; ECOFF: MIC<=32mg/L-PMID:24466194).

CHX-MIC ranged between <=2-16mg/L. MIC50/MIC90 for isolates from clades A1, A2 and B were 16/16mg/L, 4/16mg/L, 8/8mg/L, respectively. VRE (clades A1/A2) and vancomycin-susceptible (clades A1/A2,/B) isolates presented a MIC50/MIC90=8/16mg/L and 4/16mg/L, respectively. AmpR (A1/A2/B) or ampicillin-susceptible (A1/A2/B) isolates showed the same values of MIC50/MIC90=8/16mg/L. The MIC50/90 of isolates from clinical (n=20, clades A1/A2/B) or community (n=33, clades A2/B) were 8/16mg/L and 4/16mg/L, respectively.

CHX presented good activity against MDR Efm from different origins and clades, with all isolates classified as wild type. Despite its very good activity against Efm, those strains from clade A1 seem to be somewhat less susceptible, stressing the need of evaluating the impact sub-inhibitory concentrations in the selection of such strains in the clinical setting.