

POSTER PRESENTATION

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Epidemiological aspects of healthcare-associated enterococcal infections

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Introduction / objectives

Enterococci (*E.*) have become a significant nosocomial pathogen, and their epidemiology is largely obscured.

Methods

Data were obtained by monitoring of 1946 cases of *E.* infections in 1983-2010 including 17 outbreaks with 172 patients. Isolates (1728) were tested for susceptibility to ampicillin, gentamycin and vancomycin, 31 epidemic isolates of *E.faecium* were investigated by MLST (Gdh, PstS, PurK and AtpA loci).

Results

Before 2000 maximal incidence of *E.* infections in Kemerovo Region hospitals was 0,8/1000 patients and share of *E.spp.* among all pathogens of HAIs was <2%. During the past decade the incidence of *E.* infections increased 20-fold and mortality rate increased 5-fold. The *E.faecalis/E.faecium* ratio was 9:1, but in bacteremia cases *E.faecium* was predominant. Hospitalized patients had 63% isolation rate of *E.faecalis*, depending on duration of hospital stay. Primary selection of epidemic *E.spp.* clones occurred in ICU, further spreading to other units. The *E.spp* epidemic potential was as high as of *S.typhimurium* and *P.aeruginosa*. The level of epidemic hazard was higher for *E.faecium* compare to *E.faecalis*. The minimal selection time for epidemic clones of *E.spp.* was 7 days (maximal circulation-4 months). Specific allelotype of the purK1 gene was related to hospital outbreaks. Infections mainly arised from endogenous sources, mainly after colonization of the gastrointestinal tract by epidemic *E.spp.* clones, but infection has also spread from patient to patient or by hands of healthcare staff, uniform or indirectly by contaminated surfaces and equipment. About 40% of *E.faecalis* isolates and

72% of *E.faecium* isolates were resistant to ampicillin, 79% and 82% - to gentamycin, respectively. The VRE share was 31%. Epidemic clones of *E.* survived on surfaces in hospital environment for 37 days.

Conclusion

Our findings can be taken into account for prevention of HAIs.

Disclosure of interest

None declared.

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