

Enterococcal bacteremia has been associated with high case fatality, but it remains unknown to what extent death is caused by these infections. We, therefore, quantified attributable mortality of intensive care unit (ICU)-acquired bacteremia caused by enterococci” Ong et al (2015).

Reference:

Ong, D.S., Bonten, M.J., Safdari, K., Spitoni, C., Frencken, J.F., Witteveen, E., Horn, J., Klein Klouwenberg, P.M. and Cremer, O.L. (2015) Epidemiology, management and risk-adjusted mortality of ICU-acquired enterococcal bacteremia. *Clinical Infectious Diseases*. July 15th. .

Abstract:

BACKGROUND: Enterococcal bacteremia has been associated with high case fatality, but it remains unknown to what extent death is caused by these infections. We, therefore, quantified attributable mortality of intensive care unit (ICU)-acquired bacteremia caused by enterococci.

METHODS: From 2011 to 2013 we studied consecutive patients who stayed >48 hours in two tertiary ICUs in the Netherlands, using competing risk survival regression and marginal structural modeling to estimate ICU mortality caused by enterococcal bacteremia.

RESULTS: Among 3,080 admissions, 266 events of ICU-acquired bacteremia occurred in 218 (7.1%) patients, of which 76 were caused by enterococci (incidence rate 3.0 per 1000 patient days at risk, 95% CI 2.3-3.7). A catheter related bloodstream infection (CRBSI) was suspected in 44 (58%) of these, prompting removal of 68% of indwelling catheters and initiation of antibiotic treatment for a median duration of 3 (interquartile range 1-7) days. Enterococcal bacteremia (of any type) was independently associated with an increased case fatality rate in the ICU (adjusted subdistribution hazard ratio (SHR) 2.68, 95% CI 1.44-4.98). However, for patients with CRBSI, case fatality was similar for infections caused by enterococci and coagulase-negative staphylococci (CoNS) (adjusted SHR 0.91, 95% CI 0.50-1.67). Population-attributable fraction of mortality was 4.9% (95% CI 2.9%-6.9%) by day 90, reflecting a population-attributable risk of 0.8% (95% CI 0.4-1.1%).

CONCLUSIONS: ICU-acquired enterococcal bacteremia is associated with increased case fatality, but the mortality attributable to these infections is low from a population perspective. The virulence of enterococci and CoNS in a setting of CRBSI seems comparable.



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