Enterococci — pathogens of XXI Century

Abstract: Enterococci are natural components of human and animal intestinal microflora. Prior to identification of multiple-antibiotic-resistant strains in the late 1970s, enterococci were considered relatively innocuous organisms. Over the past two decades, enterococci have been identified as the agents of nosocomial infections with increasing frequency, since they acquired resistance to most currently available agents. As a result, enterococci have emerged as one of the leading clinical challenges for physicians when identified as the cause of serious life-threatening infections. Since their initial recovery in 1988 in England and France, vancomycin-resistant enterococci (vRE) were found in many other countries. In Poland, they caused epidemic infections in Haematology Clinic in Gdańsk in 1997—99. In Europe, primary source of VRE was animal farms, where the use of avoparcin as a growth promoter in animal food seemed to be the major contributor to vancomycin resistance. In the USA, VRE reservoirs include hospital staff and patients; and organisms are transmitted by vectors such as medical equipment and health care workers’ hands. Due to ease with which enterococci acquire and transfer antibiotic resistance genes, they are particularly dangerous. Most frequently, enterococci are responsible for nosocomial urinary tract infections, bacteraemias, and bacterial endocarditis. Apart from subacute endocarditis, which typically occurs in older male patients with genitourinary tract infection, most other enterococcal disease occur in patients with underlying conditions representing a wide spectrum of diseases and immune dysfunction. Potential virulence factors, which facilitate enterococcal colonization and infection, are investigated recently; the role of some factors is discussed.
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