

EV0401

ePoster Viewing

Clinical ID: community-acquired infections including CAP, sepsis, STD, ...

Infective endocarditis after implantation of a pacemaker

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Objectives: Infective endocarditis is an important complication relating to presence of an implanted pacemaker. The essential diagnostic element enabling its recognition is finding vegetation in echocardiography. Microbiological examination may be decisive in diagnostics, especially in absence of compliance of clinical signs with the echocardiographic image that does not show bacterial vegetation. The aim of this study was to analyze cases of infective endocarditis in patients after implantation of a pacemaker as infective endocarditis with and without vegetation in terms of the analysis of bacteria cultured from the sampled materials.

Methods: The analyzed group with an implanted pacemaker and diagnosed infective endocarditis included 430 people, divided into two groups: I - 279 with, and II - 151 without vegetation. Respondents were described in terms of factors predisposing them to infection, which could be related to period of its occurrence and course. The material for microbiological examination included blood for cultures, and swabs from pacemaker box and electrodes. The research was carried out in accordance with the applicable procedures of microbiological diagnostics. An analysis of the obtained results was performed with special emphasis on types of the isolated bacteria and their correlation with risk factors for infective endocarditis.

Results: In group I – the most frequently isolated bacteria are species Staphylococci, such as *S. epidermidis*, *S. aureus*, *S. wernerii*, *S. capitis* and *S. auricularis*, which rarely cause infections. There are noteworthy cases in which Gram-negative bacilli were cultured only from blood (*P. aeruginosa*, *K. pneumoniae*, *A. baumannii*, *E. coli*), and simultaneous isolation of two species *K. oxytoca* from *C. albicans* or *C. amycolatum* – i.e. mixed infections. Whereas in group II without vegetation the cause of infections are dominant coagulase-negative Staphylococci (mainly *S. epidermidis*, *S. hominis*) and *S. aureus*. There are isolated cases of infections caused by Gram-negative bacilli (*P. mirabilis*, *S. maltophilia*) and one case of candidemia. Isolation of bacteria from the pacemaker and electrodes must be emphasized, with negative blood cultures.

Conclusion: In both groups the cause of infective endocarditis were species Staphylococci, while an important difference is presence of infections caused by Gram-negative bacilli and mixed infections involving those bacteria and yeast in group I. It may suggest a different source of infection non-related to implanting of a pacemaker and poses a risk of its more dangerous course. Whereas in group II isolation of low virulent coagulase-negative staphylococci may suggest a link between more frequent colonization of the pacemaker by this group of bacteria. Production of biofilm, its presence on the electrodes and pacemaker box may not show a visible image of vegetation in echocardiography. Accurate microbiological tests should be the base for diagnostics of infective endocarditis cases after implantation of a pacemaker, which guarantees an effective, targeted antibiotic therapy.