A336 - Positive pocket cultures and infection risk after cardiac electronic device implantation—a retrospective observational single-center cohort study

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Introduction:
Positive pocket cultures after implantation of cardiac implantable electronic devices (CIEDs) are often found without clinically apparent infection. Infections related to CIEDs are a serious complication requiring complete device removal, prolonged antimicrobial therapy and can have an adverse patient outcome.

Methods:
We performed a retrospective observational single-center cohort study on 251 patients who received de novo implantation of pacemaker, cardioverter-defibrillator or cardiac resynchronization therapy device in a two-year period. Each patient was implanted using standard aseptic procedure according to local protocol and antibiotic (cefazolin) prophylaxis before the procedure. Pocket aspirate was taken after irrigating the wound with normal saline just before device placement.

Results:
We analyzed 251 patients (58.6% male, 41.4% female). The most often implanted device was a DDD pacemaker followed by a VVI pacemaker. Mean length of hospital stay was 12.02±8.34 days. There were 54 (21.5%) positive cultures with overall 3 (1.19%) clinically apparent infections which required prolonged iv antibiotics, removal of device and reimplantation after infection resolution. In regard to microbiology, S. epidermidis (48.2%) and coagulase negative Staphylococcus (29.6%) were the most often finding which is in contrast to the cultures described in the literature. The only statistically significant risk factor for positive pocket culture was male sex and presence of a urinary catheter. Invasive vascular devices, previous intrahospital infection, and diabetes were not found to increase the likelihood of positive pocket culture.

Conclusion:
Positive pocket cultures after CIED implant are a frequent finding mostly due to contamination and colonisation. The risk factors for such a finding differ from the usual and expected clinical circumstances. Our results are consistent with those in the literature. It turns out that the most important preventive measure in CIED implantation is strict aseptic procedure.