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Abstract (oral session)

A cross-sectional study on surveillance of surgical site infections after vascular surgery

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Objectives: Surgical site infection (SSI) is a serious complication after vascular surgery, with a frequency of SSI ranging from 1% to 43%. Many interventions and guidelines are developed to reduce SSIs. Since a shorter postoperative hospital stay has become common practice, an increased number of SSI is diagnosed after discharge. To support an optimal choice for antibiotic prophylaxis and to investigate the organisms involved in SSI, bacteriological cultures are important. The objective was to assess the incidence of SSI after vascular surgery during and after hospitalization, to evaluate the effect of a Dutch safety programme (VMS) on SSIs and to investigate the microbiology of SSIs. **Methods:** We assessed the incidence of SSI from July 2008 until December 2011, according to the Center for Disease Control and Prevention criteria, before (pre-test) and after (post-test) implementation of VMS. Data was obtained during a thirty-day follow-up period after vascular surgery. SSI in relation to the wound class was assessed, as well as the microbiology of the wound swabs and the antibiotic susceptibility of the isolated microorganisms. SSI rates were compared between the pre- and post-test, using the Pearson chi-square test. **Results:** The study cohort comprised of 1719 surgeries. Of all 140 SSIs (8%) 39% was diagnosed after discharge. Most surgeries were classified as clean (82%). Risk factors for SSI during the whole study period were an emergent procedure and contaminated or dirty wound class. Overtime only a slight decrease in prevalence of SSI was observed. Of 38 wound swabs during hospitalization 66% yielded a positive bacteriological result. *Pseudomonas aeruginosa* (38%) was most frequently found, followed by *Staphylococcus aureus* (21%). The susceptibility of *P. aeruginosa* ranged from 73.5% for ciprofloxacin to 88% and 97% for ceftazidime and gentamicin, respectively. All *S. aureus* were susceptible for flucloxacillin, the same for macrolides, tetracycline, gentamicin and cefazolin. **Conclusion:** Postdischarge surveillance is essential for a reliable assessment of the SSI rate. Implementation of the safety programme was only modestly successful so far; a larger period of time for implementation is necessary. Despite this, infection rates slightly decreased over time. Microbiological culture of wounds is essential to know the causative microorganisms including the antibiotic susceptibility, especially since antimicrobial resistance is increasing.