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Abstract (eposter session)

The risk of catheter-related bloodstream infection after withdrawal of colonised catheters is low

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Most episodes of catheter-related bloodstream infection (C-RBSI) are documented before or at the time of catheter withdrawal. The risk of C-RBSI after removing a colonized catheter in patients without bacteremia (late C-RBSI) is under discussion. Partial data obtained in specific microorganisms and in specific populations (ICU patients) suggest that this risk is high (Ekkelenkamp MB. CID 2008, Van Eck van der Sluijs A. EJCMIID 2012). Objectives. To assess the risk of developing a late CR-BSI in an overall population with positive catheter tip cultures, and to analyze the risk factors associated with late C-RBSI. Methods. We retrospectively analyzed all colonized catheter tips (≥ 15 cfu/plate by roll-plate technique) between 2003 and 2010 in a general teaching hospital and classified them as follows: Early C-RBSI (positive blood cultures were obtained before or at the time of catheter withdrawal), and late C-RBSI (positive blood cultures were obtained at least 24 hours after catheter withdrawal). For the analysis of risk factors associated with late C-RBSI episodes, we compared them to early C-RBSI episodes. Results. During the study period, we collected a total of 17,981 catheter tips, 4,533 of which were colonized. Of them, 1,063 corresponded to patients with early C-RBSI. In the remaining 3,470 catheters, which corresponded to patients without bacteremia before or at the time of catheter withdrawal, only 145/3,470 (4.2%) were finally associated to late C-RBSI. Late episodes occurred as follows: day 1 (27.6%), day 2 (13.1%), day 3 (15.9%), and the remaining 43.4% after day 4. The risk of late C-RBSI according to the etiology of the colonized catheter was as follows: *Staphylococcus epidermidis*, 47/2,474 (1.9%); methicillin-resistant *S. aureus* (MRSA), 23/321 (7.2%); methicillin-susceptible *S. aureus*, 11/177 (6.2%); other Gram positive, 6/1,369 (0.4%); Gram negative, 29/764 (3.8%); and yeasts, 29/556 (5.2%). After comparing early and late C-RBSI episodes, we found that late C-RBSI was significantly associated with the presence of MRSA ($p=0.028$) and with higher mortality ($p=0.030$). Conclusion. According to our data, patients with colonized catheter tips had a 4.2% risk of developing late C-RBSI, which was associated with higher mortality. Patients with catheter tips colonized by MRSA should be given antimicrobial therapy in order to prevent C-RBSI.