

TITLE: ISOLATED BACTERIA FROM THE CATHETER EXIT SITE OF HEMODIALYSIS PATIENTS

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ABSTRACT:

Patients submitted to hemodialysis may present several complications including catheter infections that can enhance mortality, morbidity and medical costs during treatment. In the present study, we evaluated infections related to the hemodialysis catheter exit site of patients from the Hospital of Botucatu Medical School, São Paulo State University (UNESP), Brazil, from January 2013 to May 2016. The dialysis fluids were collected by AMIES transport medium, and then, taken to the laboratory of microbiology for bacteria identification using the VITEKII. Results were confirmed using traditional bacterial identification schemes. The resistance profile and the minimum inhibitory concentration (MIC) were determined using E-test with the following antimicrobial drugs: 1) Gram positive: penicillin G (PENG), oxacillin (OX), cephalothin (CEF), gentamicin (G), levofloxacin (LE), vancomycin (V), and linezolid (LZ). 2) Gram negative: gentamicin (G), ceftazidime (TZ), cefepime (PM), ciprofloxacin (CI), imipenem (IM), polymyxin B (PO). Additionally, *Pseudomonas* and non fermenting Gram negative bacilli were tested for tigecycline (TGC). A total of 251 bacteria isolates were obtained: A) 121 isolates G+: 73 *S. epidermidis* (60.4%), 24 *S. aureus* (19.9%), 19 ECN (15.6%) and 5 *E. faecalis* (4.1%); B) 130 isolates G-: 40 *S. marcescens* (30.8%), 22 *P. aeruginosa* (16.9%), 20 *E. coli* (15.4%), 14 *K. pneumoniae* (10.8%), 7 *A. baumannii* (5.4%) and 27 isolates belonging to other bacterial species of Gram negative bacilli (20.7%). The MICs 50%, 90% (mcg/mL) and the percentage of isolates resistance were, respectively: a) Gram+: CEF: 0.75- 64- 19%; G: 8.0-96-65%; LE: 4.0- 32- 37%; OX: 4- 256- 68%; PENG: 4- 64- 97%; LZ: 1- 2- 0%; V: 1.5- 2 .0- 1.7%; b) Gram-: G:1.0- 64- 25%; TZ: 0.25- 16- 12%; PM: 0.5- 48- 13%; IM: 0.5- 2- 7%; CI: 0.125- 32- 32%; TCG: 2.0- 6- 13%; PO: 1.5- 2.0- 0%. Multidrug resistance was observed to be more prevalent in *S. epidermidis*, *E. faecalis*, *P. aeruginosa*, and *A. baumannii*. The data presented here could be considered of importance in order to guide the rational antimicrobial therapeutic conduct against infections in the catheter exit site from patients undergoing dialysis.

Keywords: Hemodialysis, tunneled central catheter, catheter-related bacteremia, antibiotic lock therapy.