Abstract:

Background: Central venous catheter-related bloodstream infection is an important adverse event in health care. Molecular methods are not yet substitutive of microbiological in the detection of the pathogens responsible for the infection, but they can help in the epidemiological characterization.

Aim: To detect bacteria by polymerase chain reaction, from material extracted from the tip of central catheters of patients suspected of infection at the intensive care unit.

Methods: Catheters (n = 34) of patients suspected of central venous catheter-related infection were analyzed by polymerase chain reaction. The findings were compared with culture of catheter tip and blood cultures performed by the hospital.

Findings: The prevalence of bacteria was Staphylococcus aureus (50%), Enterococcus faecalis (41.2%), Klebsiella pneumoniae (32.4), Pseudomonas aeruginosa (20.6%), Acinetobacter baumannii (38.2%), Escherichia coli (2.9%), and Enterobacter cloacae (0%). No blood culture showed bacterial growth, the culture of catheter tip revealed bacteria in 21 (61.8%) and the polymerase chain reaction had positivity in 31 (91.2%) of the catheters. The mean central venous catheter time was 11 days, and the jugular vein was the site of insertion.

Conclusion: The molecular method identified more bacteria than microbiological methods and revealed colonization of the catheters. The most commonly found bacteria are in the environment and in the microbiota of the skin, which suggests contamination by the hands of health professionals and points out the need for more efforts in preventive strategies.

Reference: