This study was performed to provide epidemiological information on microbial colonization in central venous catheters (CVCs)" He et al (2019).

Abstract:

OBJECTIVES: This study was performed to provide epidemiological information on microbial colonization in central venous catheters (CVCs).

METHODS: CVCs submitted to Medical Microbiology Laboratory from January 1, 2013, through October 1, 2017, which met our criteria would be included for analysis. Quantitative culture was used for CVCs. The results of culture and related information on CVCs were collected and recorded in detail. The prevalence was calculated, and related factors were analyzed statistically.

RESULTS: A total of 2020 CVCs were submitted for culture and eligible for analysis. Positive microbial culture occurred in 379 catheters with 18.7% (379 of 2020) prevalence of colonization. There were 23 microbial genera and 45 organisms detected. Among the isolated organisms, there were 39 kinds of isolated bacteria and 6 kinds of isolated fungi. Acinetobacter (19.8%) predominated in total isolated microorganisms, followed by Staphylococcus epidermidis (11.3%) and Candida albicans (10.3%). There were no significant differences in isolated organisms and fungal species between different sexes (X 2 = 2.365, P = 0.50). Conversely, there were significant differences in isolated bacterial and fungal species between different wards and years (X 2 = 124.046, P = 0.000; X 2 = 77.064, P = 0.000). A total of 107 (5.3%, 107/2020) CVCs were associated with a diagnosis of central line-associated bloodstream infection (CLABSI). The most common organisms in causing CLABSI were Acinetobacter (23.4%), S. aureus (13.1%), and Candida albicans (12.1%).

CONCLUSION: The prevalence of microbial colonization in CVCs is still significant and even has gradually changed over time. The study provides a new view of microbial colonization pattern in CVCs and a prevalence of CLABSI, which will facilitate catheter-related infection prevention and control in clinic.

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Reference:

He, Y., Zhao, H., Wei, Y., Gan, X., Ling, Y. and Ying, Y. (2019) Retrospective Analysis of Microbial Colonization Patterns in Central Venous Catheters, 2013-2017. Journal of Healthcare Engineering. September 17th. doi: 10.1155/2019/8632701. eCollection 2019.