INTRAVASCULAR CATHETER COLONIZATION AND RELATED BLOODSTREAM INFECTION IN THE HEART SURGERY INTENSIVE CARE UNIT

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Objective: To study the incidence of catheter tip colonization, catheter-related infections, their risk factors.

Methods: Between May 2001 and July 2008 we have had a through program for the insertion and care of catheters used at cardiac surgical intensive care unit in Cardiovascular Surgery Clinic, Iasi, Romania. We studied prospectively 513 catheters in 429 patients in relation to insertion data and catheter characteristics, catheterization time and microbiological cultures. Risk factors were analyzed by multivariate analysis. Results: The analysis included 308 central venous catheter CVCs, 205 arterial catheters ACs. The median time of catheter placement was 4 days. We detected 7.2% positive tip culture and 21.62% catheter related bloodstream infections. Gram-positive cocci were the most prevalent microorganisms (17 strains), followed by Gram-negative bacilli (16), yeast (2) and Gram-positive bacilli (1). From multivariate analysis, >6 days of catheterization was the variable associated with significantly increased risk of catheter colonization and catheter related bloodstream infections.

Conclusion: Gram-positive cocci and Gram-negative bacilli are the most common microorganisms colonizing CVC and AC from cardiac surgical ICU patients. Duration of catheterization was independent risk factors of catheter related colonization or infection.