

## Introduction

Central venous catheters (CVCs) are widely used in critically ill patients throughout the developed world. They permit hemodynamic monitoring and allow access for the administration of fluids, blood products, medications, total parenteral nutrition (TPN), transvenous pacing wire introduction and pulmonary artery catheterization.

Estimates of their use in the United States alone suggest that over five million CVCs are inserted annually. Although CVCs have significant benefits in many clinical situations, the increase in their use over the last 20 years has been associated with at least a doubling of resultant nosocomial infections. Colonized catheter is defined as: Growth of  $\geq 15$  colony forming units (cfu), Catheter-related bacteremia is defined as: Isolation of the same organism (i.e., identical species, antibiograms) from semiquantitative culture of the catheter and from the blood (drawn from peripheral veins) of a patient with accompanying clinical symptoms of bloodstream infection and no other apparent source of infection. . A number of factors may contribute to the risk of catheter related infections (CRI). These include insertion site, duration of catheterization, type of dressing, type of catheter, frequent manipulations, improper aseptic techniques, number of catheter lumens, type of topical antiseptic solution used and use of the catheter for TPN.

A number of investigators have examined the microbiology of CRIs. *S. epidermidis* were the common organism growing followed by *P. aeruginosa*, yeasts, enterococci, *S. aureus* and enterobacter spp. Prevalence of catheter-related bacteremia in intensive care units is increasing as central venous catheters (CVC) are used more frequently. Once the diagnosis of catheter-related bacteremia is suspected or established, the prescription of antimicrobials and their adequacy come into question and empiric antimicrobial treatment should provide coverage against the most frequent organisms causing this infection. In the most of the published literature, Gram positive cocci are the leading cause of catheter-related bacteremia, as they are responsible for more than 60% of episodes. Antibiotic therapy ranges from empiric therapy to tailoring therapy for Coagulase negative *Staphylococcus*, *S. aureus*, *Enterococcus*, Gram negative rods, *Candida* e.t.c

The glycopeptide antibiotics vancomycin and teicoplanin became the first choice antibiotics to treat severe Gram-positive infections in hospitals, especially as a consequence of the nosocomial pandemic of methicillin-resistant *Staphylococcus aureus* (MRSA). The abundant use of glycopeptides in many hospitals may cause or promote the emergence and spread of resistant pathogens like vancomycin-resistant enterococci (VRE), vancomycin- or teicoplanin-resistant *S. aureus* *S. epidermidis* and *S. haemolyticus*.