Key elements of prevention of CR-BSI are hand hygiene, avoidance of insertion of unnecessary catheters, full sterile barrier precautions at insertion, preferential use of subclavian venous insertion site, cutaneous antisepsis with 2% chlorhexidine alcoholic preparation, use of chlorhexidine-impregnated dressings, immediate replacement of moistened or detached catheter dressings, and removal of catheters as soon as possible” Buetti et al (2019).

Abstract:

Central venous catheter-related bloodstream infections (CR-BSI) are a frequent event in the intensive care unit (ICU) setting. In contrast to other nosocomial infections, most risk factors for CR-BSI are linked to the device and can be prevented efficiently. Rates of CR-BSI higher than 1 per 1,000 catheter days are no longer acceptable. A continuous quality improvement program is effective to reduce them. Key elements of prevention of CR-BSI are hand hygiene, avoidance of insertion of unnecessary catheters, full sterile barrier precautions at insertion, preferential use of subclavian venous insertion site, cutaneous antisepsis with 2% chlorhexidine alcoholic preparation, use of chlorhexidine-impregnated dressings, immediate replacement of moistened or detached catheter dressings, and removal of catheters as soon as possible. Audit and feedback of the process of care, infection rates, and periodic re-education of health care providers are other instrumental tools in the prevention of CR-BSI. Catheter removal is the main therapeutic intervention, especially recommended in the case
of sepsis or shock. While awaiting culture results, an empiric antimicrobial treatment of CR-BSI should target gram-positive microorganism (i.e., Staphylococcus aureus) and gram-negative coverage should be based on clinical variables, patients’ risk factors, and previous colonization status. While a short course of antimicrobials (7 days) is sufficient for noncomplicated CR-BSI, a longer course of 14 days should be preferred for uncomplicated S. aureus and Candida CR-BSI. In case of persisting fever or positive blood culture after 3 days despite adequate antimicrobial therapy and catheter removal, catheter-related complications (e.g., endocarditis, thrombophlebitis, septic metastasis) should be ruled out.

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