Reducing Central Line–Associated Bloodstream Infections in the Blood and Marrow Transplantation Population: A Review of the Literature

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Healthcare-associated infections are a significant cause of patient morbidity and mortality. Most healthcare-associated bloodstream infections are related to the presence of central venous catheters and are called central line–associated bloodstream infections (CLABSIs). A review of the literature showed a decrease in CLABSIs in intensive care units (ICUs) since the implementation of guidelines from the Centers for Disease Control and Prevention. This review demonstrated the effectiveness of daily chlorhexidine gluconate (CHG) bathing toward reducing CLABSIs as well as infections from methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant *Enterococci* in this setting. A need exists for implementation of a similar intervention for patients undergoing blood and marrow transplantation, and CHG bathing would be a logical choice because of its proven efficacy in the ICU, its safety, and its cost affordability.

Most healthcare-associated bloodstream infections are related to the presence of central venous catheters (Kallen, Patel, & O’Grady, 2010). According to O’Grady et al. (2011), a 58% decrease in CLABSIs was noted in ICUs from 2001–2009 because of the efforts of healthcare professionals and state and federal agencies in developing, implementing, and adhering to CDC (2011a) guidelines. The guidelines are summarized as follows.

- Educate and train healthcare personnel who insert and maintain catheters.
- Use maximal sterile barrier precautions during central venous catheter insertion.
- Use a more than 0.5% chlorhexidine gluconate (CHG) skin preparation with alcohol for antisepsis.
- Avoid routine replacement of central venous catheters.
- Use antibiotic or antibiotic-impregnated short-term central venous catheters and CHG-impregnated sponge dressings if the rate of infection is not decreasing despite adherence to these strategies.

More effort is needed in non-ICU areas, such as with patients undergoing BMT, as well as for those in hematologic/oncology, to reduce the incidence of CLABSIs. Healthcare providers are