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Disinfection made easy: evaluation on the use of disinfecting port protectors on central venous catheter in hematology ward in Hong Kong

Maryanne WN Kwok, Lady SH Ng, Lindy MT Wong, Lenina SL Poon, Mary KL Lai, Holly HS Cheng, Fong SK, Cindy FY Leung, Saliangi Wu and June SM Lau
Queen Elizabeth Hospital, Hong Kong

Intraluminal contamination on the hubs of needleless connector (NC) can colonize and migrate along the Central venous catheters (CVCs) and further lead to Catheter-related bloodstream infection (CRBSI), one of the most deadly and costly healthcare-associated complication. Current practice is to rub the connectors with 2% CHG for 15 seconds before and after handling the NC. Unfortunately the compliance rate is 60% for nurse and 40% for intern. This trial is to compare the efficacy, safety and the compliance of using a new sterile 70% isopropyl alcohol impregnated disinfecting port protector (Curos, 3 M) in controlling CRBSI rate. From 1st June - 31st Aug 2016 (3-month period), all hematology patients with Peripherally Inserted Central Catheter (PICC), Hickman catheter and Hemostar catheter were using Disinfecting Port Protector on NC, following manufacturer's instruction without 15 seconds 2% CHG rubbing. No significant difference in CRBSI rate comparing to the existing practice (rub). With the use of disinfecting port protectors, it is effective in saving nursing time and yet with a lower cost. Protocol compliance rate for nurses and intern increased from 60% (rub) to 90% (protector) and 40% to 85% respectively during the first week and maintained > 95% thereafter. Most nurses responded that the new protocol is preferred which can ensure "always-cleaned & protected" hub reduce contamination risk of CVC blood cultures and time saving. It is generally believed that the friction induced by scrubbing and the duration of scrubbing are the two main determinant factors in decontaminating the NC to prevent CRBSI. However, with the new disinfecting port protectors, it was shown that there is actually no increase in the CRBSI rate despite without any scrubbing in the NC. Based on the evidence shown, we implemented change in our practice using disinfecting port protectors.