

We aimed to compare the effectiveness of 1% chlorhexidine gluconate in 70% alcohol (CH) vs. PI for skin disinfection before CVC insertion in patients receiving intensive chemotherapy” Ohtake et al (2018).

Abstract:

A central venous catheter (CVC) is a catheter placed into a large vein, and is used for chemotherapy administration. However, there is little confirmatory data on which antiseptic-such as chlorhexidine or povidone-iodine (PI) -is more protective against CVC-related infectious complications in patients receiving intensive chemotherapy. We aimed to compare the effectiveness of 1% chlorhexidine gluconate in 70% alcohol (CH) vs. PI for skin disinfection before CVC insertion in patients receiving intensive chemotherapy. Methods We used either CH or 10% PI as skin antiseptics before CVC insertion, and assessed which agent was more protective against CVC-related infection. The participants were 112 patients with haematologic malignancies who underwent chemotherapy; a total of 292 CVCs were inserted over this period. Blood cultures were obtained when febrile neutropenia occurred. The CVC was removed and the catheter-tip qualitatively cultured when catheter-related infection was suspected. The cumulative incidence of febrile neutropenia, microbial growth from blood or catheter-tip culture, and catheter-related blood stream infection (CRBSI) was evaluated retrospectively. A univariate Cox proportional hazards model showed that CH significantly alleviated infectious complications. Notably, no case of CRBSI occurred in the CH group. Multivariate analysis, adjusted for prolonged neutropenia (>15 days) and older age (>52 years), also showed significant reduction in the cumulative incidence of microbial growth from catheter-tips in the CH group (hazard ratio = 0.146, 95% confidence interval: 0.023-0.502, $p = 0.0008$). Disinfection using CH, compared with PI, can potentially decrease catheter-related infection without causing adverse skin reactions in patients with haematologic malignancies.

Reference:

Ohtake, S., Takahashi, H., Nakagawa, M., Uchino, Y., Miura, K., Iriyama, N., Nakayama, T., Hatta, Y. and Takei, M. (2018) One percent chlorhexidine-alcohol for preventing central venous catheter-related infection during intensive chemotherapy for patients with



haematologic malignancies. Journal of Infection and Chemotherapy. April 4th. .

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