



“The use of central venous catheters (CVCs) has greatly improved the quality of care in children receiving chemotherapy, yet these catheters may cause serious infectious complications. The aim of this prospective registry study was to assess the host and CVC-related risk factors for blood stream infections (BSIs).” Yacobovich et al (2014).

Reference:

Yacobovich, J., Ben-Ami, T., Abdalla, T., Tamary, H., Goldstein, G., Weintraub, M., Yaniv, I., Toren, A., Kenet, G. and Revel-Vilk, S. (2014) Patient and central venous catheter related risk factors for blood stream infections in children receiving chemotherapy. *Pediatric Blood & Cancer*. October 18th. .

Central venous catheter related risk factors for blood stream infections in children
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Abstract:

Background: The use of central venous catheters (CVCs) has greatly improved the quality of care in children receiving chemotherapy, yet these catheters may cause serious infectious complications. The aim of this prospective registry study was to assess the host and CVC-related risk factors for blood stream infections (BSIs).

Procedure: Patients undergoing CVC insertion for chemotherapy were followed prospectively for CVC complications. At the time of enrollment demographic-, clinical- and CVC-related data were collected. Survival and Cox-regression analysis were performed.

Results: A total of 423 CVCs were inserted into 262 patients for a total of 76,540 catheter-days. The incidence of BSIs was 1.95 per 1,000 patient-days (95% CI 1.66–2.29). Myeloid leukemia and younger age were associated with higher risk for BSI. At least one BSI occurred in 187 CVCs with an incidence of 2.84 per 1,000 catheter-days (95% CI 2.47–3.24). Externalized CVCs, that is, tunneled externalized catheters and peripheral inserted central catheters, were associated with higher risk for BSI in the group of diseases with relatively lower rate of infection. However, in diseases with high rate of infection no such association was found. The type of BSI was associated with the diagnosis and the CVC type. CVC occlusion was associated with higher risk for recurrent BSI and for coagulase negative staph BSI.

Conclusions: Both patient and CVC-related factors are associated with higher risk of BSI in children receiving chemotherapy. The results of this study could be used in developing studies aiming to reduce the rate of BSIs in children with cancer.

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