

To examine clinical characteristics associated with bacteremia in febrile non-neutropenic pediatric oncology patients with central venous catheters (CVC) in the Emergency Department (ED)” Moskalewicz et al (2016).

Abstract:

Objective: To examine clinical characteristics associated with bacteremia in febrile non-neutropenic pediatric oncology patients with central venous catheters (CVC) in the Emergency Department (ED).

ReTweet if useful... Dealing with pediatric oncology patients with CVC in the ED
[@ivteam #ivteam](http://ctt.ec/m17bc+)

Click To Tweet

Background: Fever is the primary reason pediatric oncology patients present to the ED. The literature states that 0.9% - 39% of febrile non-neutropenic oncology patients are bacteremic, yet few studies have investigated infectious risk factors in this population.

Methods: This was a retrospective cohort study in a pediatric ED, reviewing charts from 2002-2014. Inclusion criteria were patients with cancer, temperature ≥ 38 °C, presence of a CVC, absolute neutrophil count (ANC) > 500 cells/ μ l, and age < 22 years. Exclusion criteria were repeat ED visits within 72 hours, bloodwork results not reported by the laboratory, and patients without previous oncologic history documented at the study hospital. The primary outcome measure is a positive blood culture (+BC). Other variables include age, gender, CVC type, cancer diagnosis, ANC, vital signs, upper respiratory infection (URI) symptoms, and amount of IV normal saline (NS) administered in the ED. Data were analyzed using descriptive statistics and a multiple logistic regression model.

Results: 1322 ED visits were sampled, with 534 enrolled, and 39 visits had +BC (7.3%). Variables associated with an increased risk of +BC included: absence of URI symptoms (OR = 2.30, 95%CI = 1.13-4.69), neuroblastoma (OR = 3.65, 95%CI = 1.47-9.09), “other” cancer diagnosis (OR = 4.56, 95%CI = 1.93-10.76), tunneled externalized CVC (OR = 5.04, 95%CI = 2.25-11.28), and receiving ≥ 20 ml/kg IV NS (OR = 2.34, 95%CI = 1.2-4.55). The

results of a multiple logistic regression model also showed these variables to be associated with +BC.

Conclusion: The absence of URI symptoms, presence of an externalized CVC, neuroblastoma or “other” cancer diagnosis, and receiving ≥ 20 ml/kg IV NS in the ED are associated with increased risk of bacteremia in non-neutropenic pediatric oncology patients with a CVC.

Reference:

Moskalewicz, R.L., Isenalumhe, L.L., Luu, C., Wee, C.P. and Nager, A.L. (2016) Bacteremia in Non-Neutropenic Pediatric Oncology Patients with Central Venous Catheters in the Emergency Department. September 17th.