



We hypothesized that, despite the significantly different disease courses typical of acute lymphoblastic leukemia and acute myelogenous leukemia, there would be identifiable risk factors for premature CVAD removal” Fu et al (2016).

Abstract:

BACKGROUND: Central venous access devices (CVADs) play an important role in the management of pediatric oncology patients; unfortunately, they are also associated with potentially serious complication rates. We hypothesized that, despite the significantly different disease courses typical of acute lymphoblastic leukemia and acute myelogenous leukemia, there would be identifiable risk factors for premature CVAD removal.

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METHODS: We retrospectively studied clinical characteristics and procedure records for all patients admitted with a leukemia diagnosis at our institution from May 2009 to July 2014.

RESULTS: Our observed perioperative complication rate was 6%; over 70% of lines had at least one long-term complication (thrombosis, catheter-related bloodstream infection, or unexplained line malfunction). Obesity (odds ratio [OR], 6.9; 95% CI, 1.62-29.43),

preoperative dosage of packed red blood cells (in mL/kg; OR, 3.13; 1.07-9.21), bloodstream infection (OR, 5.75; 1.69-19.56) were associated with increased risk of premature catheter removal; unexplained malfunction was associated with a lower risk (OR, 0.28; 0.09-0.93).

CONCLUSIONS: Obesity, the preoperative dosage of packed red blood cells, the presence of a bloodstream infection, and unexplained line malfunction are significant predictors of premature CVAD removal in a pediatric leukemia population.

Reference:

Fu, A.B., Hodgman, E.I., Burkhalter, L.S., Renkes, R., Slone, T. and Alder, A.C. (2016) Long-term central venous access in a pediatric leukemia population. *The Journal of Surgical Research*. 205(2), p.419-25.

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