

## **This retrospective epidemiological study reviewed 91 children with malignancies over a 5-year period between 2011 and 2015 and analyzed potential risk factors for developing a CLABSI” Miliaraki et al (2017).**

### Abstract:

**BACKGROUND:** A central line-associated bloodstream infection (CLABSI) is a common complication in children with malignancies, often leading to prolonged hospitalization, delay in chemotherapy or catheter removals. This retrospective epidemiological study reviewed 91 children with malignancies over a 5-year period between 2011 and 2015 and analyzed potential risk factors for developing a CLABSI.

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**METHODS:** Children’s symptoms, laboratory and microbiology characteristics, subsequent treatment and outcome were recorded and analyzed. All the collected data were processed through SPSS for the application of computational statistical analysis.

**RESULTS:** Among 40 cases of CLABSIs recorded, the rate of CLABSIs was estimated as 2.62 episodes per 1000 days of CVC carriage. Most of the bacterial pathogens isolated from CLABSIs were Gram(+), including different strains of staphylococci, while Gram(-) bacteria were involved in 30% of cases. Invasive mycoses were isolated in 7.5% of cases, accounting for the highest catheter removal rate. Intensive chemotherapy and prolonged hospitalization proved to be independent risk factors for a CVC infection. The relative risk for children with neutropenia was also 4-times greater for a CLABSI ( $p=0.001$ ). Children with leukemia had 5-times greater risk for CLABSIs ( $p=0.005$ ). Finally, although 36% of patients received antibiotic lock therapy, in 15% of these cases catheter replacement could not be avoided due to persistent serious infection.

**CONCLUSIONS:** Younger age, neutropenia, hematologic malignancies and longer catheterizations were found to be important risk factors for CLABSIs, but further research is required for the prevention of catheter related infections in children with malignancies.

Reference:

Miliaraki, M., Katzilakis, N., Chranioti, I., Stratigaki, M., Koutsaki, M., Psarrou, M., Athanasopoulos, E. and Stiakaki, E. (2017) Central Line-Associated Bloodstream Infections in Childhood Malignancies. Single-Center Experience. *Pediatrics International*. April 4th. .

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