

Implantation of CVADs seems to be safe and reliable in this large pediatric patient cohort. Even if complications occur in the long-term management of CVADs, they can be treated successfully and long-term catheter survival rates are excellent” Beck et al 92019).

Abstract:

Background: Central venous access devices (CVAD) provide important benefits in the management of oncological pediatric patients. However, these catheters are responsible for severe complications.

Methods: In this context, we aimed to analyze all patients receiving a CVAD in the Department of Pediatric Hematology and Oncology of the University hospital of Mainz over a period of 9 years, focused on CVAD related complications. Data on demographics, as well as intraoperative and postoperative complications were extracted.

Results: A total of 296 patients with a mean age 93.2 ± 62.4 months were analyzed. The majority suffered from leukemia ($n = 91, 30.7\%$), lymphomas ($n = 50, 16.9\%$), and brain tumors ($n = 48, 16.2\%$). In 63 (21.3) patients, complications were observed. No death caused by complications of CVADs was found in our series. Catheter-related blood stream infections (BSI) (7.4%) were most prevalent, followed by dislodgements (5.4%), occlusions (2.7%), thrombosis (2.4%), and catheter leakage (2.4%). Insertion site infections were observed in three patients (1.0%). Fifty-nine percent of all patients with catheter-related BSI suffered from Leukemia. In patients with Catheter-related BSIs we detected the condition leukemia as the underlying disease as a risk factor compared to solid tumors as the underlying disease. Overall, totally implanted devices (ports) have a lower complication rate than tunneled catheter.

Conclusion: Implantation of CVADs seems to be safe and reliable in this large pediatric patient cohort. Even if complications occur in the long-term management of CVADs, they can be treated successfully and long-term catheter survival rates are excellent.

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Reference:

Beck, O., Muensterer, O., Hofmann, S., Rossmann, H., Poplawski, A., Faber, J. and Gödeke, J. (2019) Central Venous Access Devices (CVAD) in Pediatric Oncology Patients-A Single-Center Retrospective Study Over More Than 9 Years. *Frontiers in Pediatrics*. June 25th. doi: 10.3389/fped.2019.00260. eCollection 2019.