

# Risk factors for complications of implantable venous access port usage among young pediatric patients with a solid tumor in China: a single-center retrospective study

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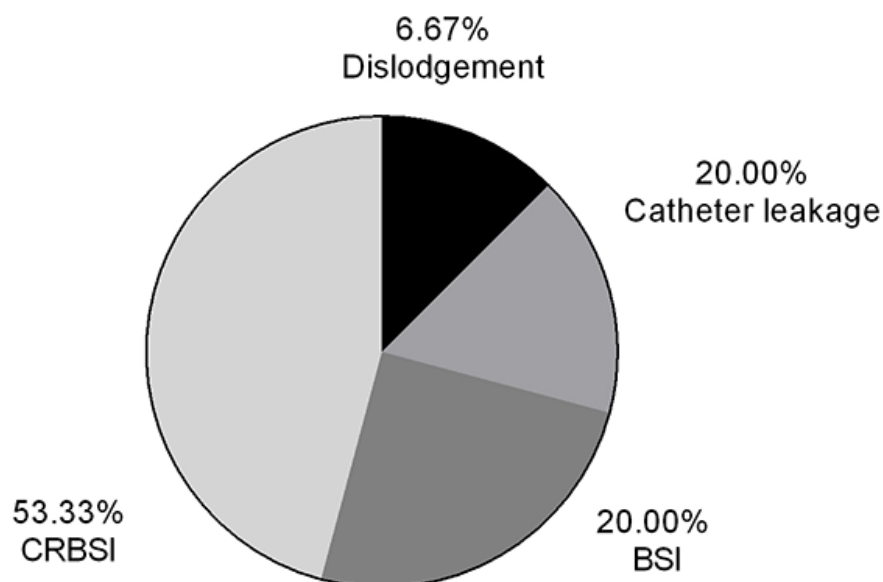
## Abstract

**Background and Objectives:** This study aimed to evaluate the utilization of totally implantable venous access ports (TIVAPs) and identify risk factors for complications associated with their usage in young pediatric patients with a solid tumor. **Methods:** We retrospectively investigated the clinical characteristics and procedure records of all patients admitted with a solid tumor who underwent TIVAP implantation and removal as well as line patency maintenance in our clinic from 2016 to 2019 at the Shanghai Children's Medical Center. **Results:** Overall, 144 patients were evaluated over 28,444 catheter days. There was a greater risk of central line-associated bloodstream infection (CLABSI) in patients with neuroblastoma who were older in age and whose body mass index was lower. The rate of CLABSI was relatively increased in high-risk than low-risk and intermediate-risk neuroblastoma according to the Children's Oncology Group (COG) classification system. There were no significant differences in complications between the TIVAP implantation group and the combined surgery group. **Conclusions:** Older age, lower BMI, and high COG risk are great risk factors of CLABSI in patients with neuroblastoma, thus requiring vigilant surveillance. Combining TIVAP insertion with biopsy and/or resection surgery should be given due consideration.

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## Complication rates



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