Trading Sutures for Subcutaneous Anchored Securement System for Securement of Tunneled CVCs

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Care & Maintenance of Vascular Access Devices

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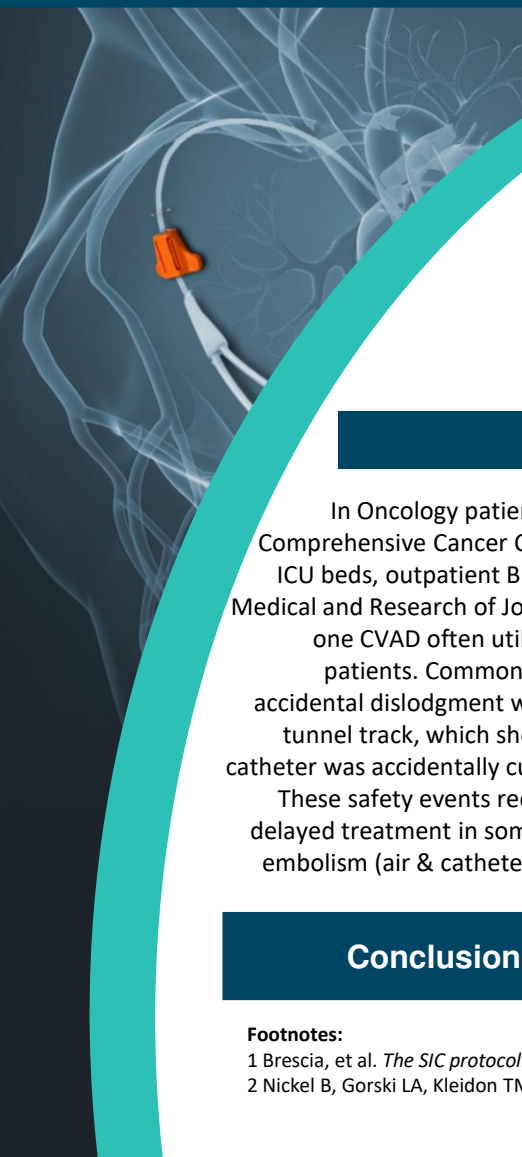


Purpose

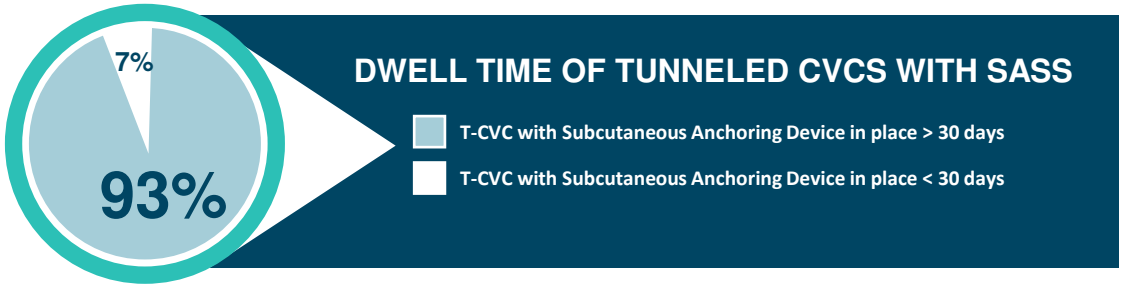
The primary purpose was appropriateness of Subcutaneous Anchored Securement System (SASS) for preventing unnecessary catheter damage, which can occur during suture removal. Commonly, sutures are removed approximately 30 days from insertion assuming the catheter cuff has healed in to prevent catheter dislodgment. Any dislodgment would necessitate an emergency catheter replacement. A secondary goal was to assess the potential to eliminate sutures from all Central Venous Access Device placements, to align with the CLABSI prevention goal of the organization and published guidelines.[1,2]

Background

In Oncology patients, CVADs are essential for successful treatment. In the Sidney Kimmel Comprehensive Cancer Center, we have 56 medical oncology/hematologic malignancy beds, 10 ICU beds, outpatient BMT clinic and an array of other outpatient services under the Academic Medical and Research of Johns Hopkins Medicine. Tunneled central venous catheters (T-CVCs) are one CVAD often utilized for long-term venous access to support the needs of our oncology patients. Commonly, sutures are initially placed by inserters to prevent the catheter from accidental dislodgment while waiting for subcutaneous tissue to grow around the cuff along the tunnel track, which should occur in 30 days. Following two reported safety events, where the catheter was accidentally cut while removing the sutures we assessed our options for alternatives. These safety events required urgent catheter replacement with Interventional Radiology, and delayed treatment in some cases. This places these patients at additional high risks for bleeding, embolism (air & catheter), and infection. Delays of treatment can have clinical implications and cause unnecessary stress to the patients.

Results

During the first month 28 oncology patients received a subcutaneous anchoring device at the time of insertion of a T-CVC instead of sutures. Initial plan was to remove these SASS after 30 days but was decided to be kept until line removal due to the immunosuppressed conditions of these patients. Education with inserters on application of the device and correct dressing application with RNs was done to prior to roll out. Amongst the 28 T-CVCs, 93% were in place for > 30 days and 100% of these T-CVCs did not have reported catheter complications, including accidental catheter damage, dislodgment or CLABSI associated with SASS.



Conclusion

After 3 months of monitoring the 28 T-CVCs, SASS has shown to eliminate accidental damage to the catheter and reduce all primary complications. SASS has been recommended to expand to all departments placing CVADs using sutures for securement.

Footnotes:

1 Brescia, et al. *The SIC protocol: A seven-step strategy to minimize complications potentially related to the insertion of centrally inserted central catheters* Journal of Vascular Access, July 2022 https://doi.org/10.1177/11297298211036002

2 Nickel B, Gorski LA, Kleidon TM, et al. Infusion therapy standards of practice. J Infus Nurs. 2024;47(suppl1):S1-S285. doi:10.1097/NAN.0000000000000532