Central vascular access device (CVAD)-related sheaths, sometimes described as ‘fibrin sheaths’, may result in minor or significant sequelae, from persistent withdrawal occlusion (PWO) to infective sheaths associated with increased morbidity and mortality” Hill et al (2019).

Abstract:

Central vascular access device (CVAD)-related sheaths, sometimes described as ‘fibrin sheaths’, may result in minor or significant sequelae, from persistent withdrawal occlusion (PWO) to infective sheaths associated with increased morbidity and mortality. The authors studied 179 patients who underwent isotope scans, where isotope was infused via the CVAD. Isotope was found to bind to the sheaths around the catheters of some patients. The amount of uptake was taken to be an extent to which a sheath had developed around the CVAD. The degree of uptake of isotope was categorised into three groups: low uptake, moderate uptake and high uptake. Patients were then followed up from the date the CVAD was inserted to 12 months after the date of the isotope scan, until the device was removed or to the date the patient died, to identify incidence of infection, thrombosis and PWO. PWO incidence in all levels of uptake was around 5–7%. Bloodstream infection (BSI) incidence for low uptake was 7% (9/130), moderate uptake 10% (3/30) and for patients with significant uptake 16% (3/19). Thrombosis for no uptake was less than 1% (1/130), moderate uptake 7% (2/30), and significant uptake had no incidence of thrombosis. Total complications: no uptake 15%,
moderate uptake 23% and significant uptake 21%. This single-centre study showed that patients with isotope-highlighted sheaths experienced higher incidence of infective, thrombotic and total complications.

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