Physicians should promote frequent assessment of the access site(s) during routine physical examinations and potentially use point of care vascular ultrasound in high-risk cases to rule out a catheter-associated thrombus before catheter removal" Wang et al (2018).

Abstract:

Fifty-four year-old man with recent history of myocardial infarction and a percutaneous coronary intervention who suffered a ventricular fibrillation arrest at home. He was resuscitated in the field. His heart rhythm was in atrial fibrillation. The cardiac catheterization showed a patent stent from his previous myocardial infarction and no new occlusions. He subsequently underwent hypothermia protocol using the Alsius CoolGard 3000 Temperature Control System and Icy Catheter. Heparin drip was started for atrial fibrillation 36 hours after catheter insertion and became therapeutic 2 hours before the end of cooling maintenance phase. Heparin drip was stopped 4 hours into the rewarming phase because of spontaneous conversion to sinus rhythm. Subcutaneous heparin was resumed for deep venous thrombosis prophylaxis. He was extubated to room air after hypothermia protocol. The cooling catheter was removed 88 hours after insertion. Within 1 minute of catheter removal, his oxygen saturation dropped to 80%. Transthoracic echocardiogram showed a mobile thrombus in the right atrium prolapsing into the right ventricle. Computer tomography angiography of the chest confirmed a large saddle embolus. Ninety minutes later, patient went into cardiac arrest with pulseless electrical activity while he was being considered for surgical

embolectomy, but he could not be resuscitated. The temporal relationship of the catheter removal and his acute clinical decompensation led to believe that this was an intravascular cooling catheter (ICC)-related event. Providers should be cognizant of the complications of central venous catheters such as thrombosis formation, as it could lead to fatal pulmonary embolism. Physicians should promote frequent assessment of the access site(s) during routine physical examinations and potentially use point of care vascular ultrasound in high-risk cases to rule out a catheter-associated thrombus before catheter removal.

Reference:

Wang, X., Moy, B.T., Hiendlmayr, B.J., Krainski, F., Duvall, W.L. and Fernandez, A.B. (2018) Intravascular Cooling Catheter-Related Venous Thromboembolism After Hypothermia: A Case Report and Review of the Literature. Therapeutic Hypothermia and Temperature Management. March 23rd. .

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