

CVC removal complication

Abstract:

Standard treatment of catheter-associated upper extremity deep vein thrombosis (UE-DVT) is anticoagulation, although catheters are often removed for this indication. The optimal time for catheter removal and whether the act and/or timing of catheter removal is associated with pulmonary embolism (PE) remain unknown. A retrospective cohort study was performed at 8 participating institutions through the Venous thromboEmbolism Network US. Patients with hematologic malignancies and central venous catheter (CVC)-associated UE-DVT were included from 1 January 2010 through 31 December 2016. The primary outcome was objectively confirmed PE within 7 days of UE-DVT diagnosis in anticoagulated patients comparing early (≤ 48 hours) vs delayed (> 48 hours) catheter removal. A total of 626 patients were included, among whom 480 were treated with anticoagulation. Among anticoagulated patients, 255 underwent early CVC removal, while 225 had delayed or no CVC removal; 146 patients received no anticoagulation, among whom 116 underwent CVC removal alone. PE within 7 days occurred in 2 patients (0.78%) with early removal compared with 1 patient (0.44%) with delayed or no CVC removal ($P > .9$). PE or any cause of death within 7 days occurred in 3 patients in both the early removal (1.18%) and delayed/no removal (1.33%) groups ($P > .9$). In patients treated with CVC removal only (no anticoagulation), there were no PEs but 3 deaths within 7 days. In patients with hematological malignancy and CVC-associated UE-DVT, early removal of CVCs was not associated with an increased risk of PE compared with delayed or no removal.

Reference:

Houghton DE, Billett HH, Gaddh M, Onadeko O, George G, Wang TF, Oo TH, Feng M, Dasgupta M, Jaglal M, Streiff MB, Simpson P, Gali R, Baumann Kreuziger L. Risk of pulmonary emboli after removal of an upper extremity central catheter associated with a deep vein thrombosis. *Blood Adv.* 2021 Jul 27;5(14):2807-2812. doi: 10.1182/bloodadvances.2021004698. PMID: 34264267.

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