THE EFFECT OF INFERIOR VENA CAVA FILTER PLACEMENT ON IN-HOSPITAL OUTCOMES IN PATIENTS WITH LOWER EXTREMITY DEEP VEIN THROMBOSIS

Oral Contributions
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Background: The use of inferior vena cava (IVC) filter placement in the management of patients with acute proximal deep vein thrombosis (DVT) is controversial and their impact on outcomes are unknown.

Methods: We used the Nationwide Inpatient Sample (NIS) database from 2005 to 2010 to identify patients admitted with a principal discharge diagnosis of caval or proximal lower extremity DVT. Patients who underwent IVC filter placement (group A) were compared to those who did not (group B). We used propensity score matching with 52 variables including the Elixhauser comorbidities, patient demographics, and hospital characteristics for matched comparisons between the two groups.

Results: Among a total of 90,405 patients with lower extremity proximal or caval DVT, 17.3% (15,638) received an IVC filter. After matching, a cohort of 30,050 patients was identified for comparison of which 15,027 underwent IVC filter placement and 15,023 did not. The in-hospital mortality was not significantly different between the two groups (group A 1.5% vs. group B 1.4%; p = 0.25). The rates of blood transfusion (group A 14.3% vs. group B 7.5%; p < 0.001), procedure related hemorrhage (group A 0.2% vs. group B 0.6%; p < 0.001), and procedure related hematoma (group A 1.2% vs. group B 0.4%; p < 0.001) were significantly higher in the IVC filter group. Those who received an IVC filter had significantly higher hospital charges ($48,143 ± 49,742 vs. $28,241 ± 41,244; p < 0.001) and length of stay (6.6 ± 5.9 vs. 5.4 ± 4.6; p < 0.001) compared to those who did not undergo IVC filter placement. The in-hospital mortality was similar in the two groups if they received catheter-directed thrombolysis (group A 0.9% vs. group B 0.8%; p = 0.83) however it was significantly higher in the IVC filter group amongst those patients receiving anticoagulation alone (group B 1.6% vs. group B 1.2%; p = 0.005).

Conclusions: In this observational study, we found that IVC filter placement was associated with higher morbidity and resource utilization in patients with lower extremity DVT. In those patients treated with anticoagulation alone, IVC filter placement was associated with higher in-hospital mortality.