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COMPARATIVE OUTCOMES OF CATHETER-DIRECTED THROMBOLYSIS IN LOW VOLUME CENTERS VERSUS HIGH VOLUME CENTERS IN THE TREATMENT OF LOWER EXTREMITY PROXIMAL DEEP VEIN THROMBOSIS

Oral Contributions

West, Room 3010

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Session Title: Vascular Medicine: The Future of Vascular Medicine and Venous Thromboembolism - 2013 Update

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Authors: *Riyaz Bashir, John Gaughan, Chad Zack, Anthony Comerota, Alfred Bove, Temple University Hospital, Philadelphia, PA, USA*

Background: The utilization rates of catheter-directed thrombolysis (CDT) in treatment of acute proximal deep vein thrombosis (DVT) is increasing in United States and comparative safety outcomes of in-hospital mortality and morbidity between the low volume centers and high volume centers are unknown.

Methods: We used the Nationwide Inpatient Sample (NIS) database from 2005 to 2010 to identify all patients admitted with a principal discharge diagnosis of proximal or caval DVT and were treated with CDT. We performed a matched comparison of in-hospital outcomes between the patients treated at high volume centers (Group A - centers doing five or more CDT cases a year) with the patients treated at low volume centers (Group B - centers doing less than five CDT cases a year). After matching the two groups using propensity scores and Elixhauser comorbidity risk index we were able to identify 1552 matched patients in each group.

Results: Among a total of 90,405 patients with lower extremity proximal or caval DVT, 4.1% (3,696) underwent CDT. The CDT utilization rates gradually increased from 2.3% in 2005 to 5.9% in 2010. Based on the propensity-matched comparison the in-hospital mortality was not significantly different between the high volume centers and the low volume centers. (0.9% versus 1.4%: $p=0.18$). However a trend was noted in favor of high volume centers. The rates of blood transfusion (10.2% versus 10.8% $p=0.55$), pulmonary embolism (16.5% versus 17%: $p=0.7$), and vena cava filter placement rates (36% versus 32.9%: $p=0.07$) were similar between the two groups. The intracranial hemorrhage rates (0.5% versus 1.2%: $p=0.04$) were lower in the high volume centers as compared to low volume centers. The high volume group had significantly shorter length of stay (6.7 ± 5.0 versus 7.6 ± 6.4 days: $P < 0.0001$) and higher hospital charges ($\$89,898 \pm 66,881$ versus $\$82,035 \pm 72,827$: $p < 0.002$) compared to the low volume group.

Conclusions: In this observational study we found that the CDT at high volume centers was associated with lower rates of intracranial hemorrhage and shorter length of stay as compared to low volume centers. A non-significant trend towards lower in-hospital mortality was noted in the high volume centers.