Role of Trellis Catheter in the Treatment of IVC Filter Thrombosis
Mohsen Sharifi1, Curt Bay2, Suzanne Bentz3, Mahshid Mehdipour3, Pamela Eden3,
1Arizona Cardiovascular Consultants & A.T. Still University, Mesa, AZ, 2A.T.Still University, Mesa, AZ, 3Arizona Cardiovascular Consultants, Mesa, AZ

Background: Acute deep venous thrombosis (DVT) responds favorably to various thrombectomy alone has a limited role in its management and most patients require CDT.

Methods: Fifty two patients with IVCFT underwent treatment with Trellis as part of the percutaneous endovenous intervention (PEVI) strategy(Fig.1). All had bilateral lower extremity and iliac DVT and were quite symptomatic. For initial treatment an 8 F Trellis device was activated inside the filter. Following the procedure venography was obtained to assess the outcome.

Conclusions: IVCFT is associated with bilateral iliac and femoropopliteal DVT. Trellis thrombectomy alone has a limited role in its management and most patients require CDT.

TCT-759
Ultrasound-Accelerated Thrombolysis for the Treatment of Acute Pulmonary Embolism
Matthew Wissamien1, Joseph Foley1, John Garule1
University of Kentucky, Lexington, KY

Background: Acute pulmonary embolism (PE) is a major cause of death. 90-day mortality rates are 58% for massive PE (with cardiogenic shock) and 22% for submassive PE (right heart strain without shock). Systemic thrombolysis improves hemodynamic stability but is associated with major bleeding in 20% of patients. Alternative therapies for acute PE are needed. This study examines the safety and effectiveness of catheter-directed, ultrasound-accelerated thrombolysis (USAT) in patients with PE.

Methods: We retrospectively evaluated consecutive PE patients treated using USAT (EKOS Corporation) with recombinant tPA at East Jefferson General Hospital from 2009 to 2011. All patients presented with signs of acute PE and received chest CT scans for confirmation of PE. Follow-up CT was performed at 39±2.3 hours after USAT. RV dysfunction was characterized by the right-to-left ventricular dimensional ratio (RV/LV) ratio. Thrombus burden was assessed using the modified Miller Score. All CT measurements were performed by an independent core laboratory.

Results: Among the 42 patients (age 58±16 yrs) evaluated, 7 were massive and 35 were submassive PE cases. 37 patients (88%) presented with bilateral PE. Overall, the mean tPA dose was 31.0±16.6 mg infused over 19.0±6.8 hours. Following USAT, the RV/LV ratio was reduced from 1.48±0.42 to 0.96±0.18 (p<.001) and the modified Miller Score from 18.0±5.1 to 9.7±5.3 (p<.001) at follow-up CT. Patients treated early in the series (n=13) using a total dose of ~45 mg tPA did not show greater reduction in RV/LV ratio or Miller Score than those later in the series (n=29) using a total dose of ~20 mg tPA (p=.38). Median length of stay was 1 day in the ICU and 7 days in the hospital. All patients were discharged alive. There were no systemic bleeding complications, but 4 access site bleeding complications requiring transfusion and 1 suspected recurrent massive PE event, all reported in the higher tPA dose group.

Conclusions: For massive and submassive PE, treatment by USAT rapidly reduced RV dilatation and pulmonary clot burden with minimal risk of bleeding, allowing restoration of cardiopulmonary function.