Recurrent Suprarenal Inferior Vena Cava Filter Thrombosis with Acute Renal Failure Successfully treated with Catheter Directed Thrombolytic Therapy, Mechanical Thrombectomy, and Stent Exclusion of Filter

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Overview

• 34-year-old female with suprarenal IVC filter with recurrent iliofemoral DVT and acute renal failure.

• Catheter directed thrombectomy, mechanical thrombectomy, and stent exclusion with placement of Cook Celect infrarenal filter.

• Discussion on management and treatment of recurrent DVT with IVC filter in place.
Patient

- 34 yo F with suprarenal TrapEase IVC filter placed during pregnancy for DVT/PE. Since placement, 2 life-threatening events of thrombosis requiring HD
- PMH: PE/DVT 2009 during gestation, gestational HTN
- SOCHx: Lives with her husband and kids. No smoking, alcohol, recreational drugs. Highly functional IADLs, very active.
02/27/2014

- Transferred from outside hospital. Presented with back pain, acute renal failure and swelling legs.
- Intravascular examination suggested fresh thrombus throughout the inferior vena cava from the atrial caval junction to the right iliac vein system.
- Creatinine 7.33 (baseline 0.9) requiring HD.
Endovascular Intervention

• 02/27/2014
  – Iliocaval venograms
  – Mechanical thrombectomy of cava thrombosis via AngioJet w/ 10cc TPA
  – 2 lytic EKOS sonic catheters
    • L renal vein
    • R iliac
Endovascular Intervention

- 03/03/2014
  - Thrombolytic recheck with bilateral ileal cava venograms
- 03/04/214
  - Thrombolytic recheck, day #5
- 03/07/2014
  - IVC filter thromboembolectomy with AngioVac cannula
Endovascular Intervention

- 01/24-26/2016
- Mechanical thrombectomy via AngioJet device of bilateral renal veins, IVC
- Placement of temporary dialysis line for HD
- Normalization of renal function, resolution of clot burden
Endovascular Intervention

• 04/14/2016
• Inferior vena cavogram
• IVC filter exclusion via placement of Palmaz P5010p stent
• Catheterization of bilateral renal veins with adequate flow
• Placement of Cook Celect infrarenal IVC filter
PTA and stent deployed
Checking left renal after stent
6 weeks post procedure CT
QUESTIONS???
Incidence of Filter Thrombosis

- Higher incidence of thrombosis in retrievable filters
  - 1% VS. 15%
- 67% of thrombosed filters were biconical designs

Corrier, Ayerdi et al, JVSurg, 2007 45, 4; 789-794
Literature Review

Stenting of chronically obstructed inferior vena cava filters

• Methods: Retrospective review 1997-2009 Australia

• Results: 708 limbs had stenting for postthrombotic ilio-caval outflow obstruction.
  – In 25 pts, an IVC filter was obstructed
  – Patency rate was 75%
  – No IVC tear, PE, and mortality was nil

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Literature Review

Case reports of stent exclusion of IVC filters

• Baylor – Successful exclusion of Tulip filter using a 16x60 Wall Stent secondary to bilateral iliofemoral thrombosis that extended into IVC filter. 2010

• Endovascular Interventions: A case Based Approach – Exclusion IVC filter using a 20-to 50 mm Z-stent with in patient with chronic postthrombotic occlusion. 2011
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