Removal of Permanent IVC Filter: Snare, Laser, Pull, Pull (some more), and Pray

John A. Phillips, MD, FSCAI, RPVI
OhioHealth Heart & Vascular Physicians
Columbus, OH, USA
Disclosures

+ None pertinent to this talk
History of Present Illness

+ 52 yo M h/o permanent filter in 2009 (Greenfield™)
  • No DVT at time, prophylactic placement
+ July 2016 acute onset L LE edema with progression
+ Left leg edematous, firm, painful from thigh distal
  • Cyanosis
  • Doppler signals in PT/DP on left
+ Placed on heparin
Initial Venogram
CDT

+ Popliteal vein access under ultrasound
+ Mechanical thrombectomy with TNK dwell for 20 minutes with 8 Fr system (AngioJet Zelante with Power Pulse™, Boston Scientific)
+ Venous return improved, leg decompressed
+ Infusion catheter placed
After Mechanical Thrombectomy and PTA
3 Months later…

+ Patient tolerating rivaroxaban
+ No residual left LE edema
+ Patient wanted the IVC removed as he did not want to remain on long term AC
+ Risks/benefits discussed
+ Few reports of Greenfield™ (Boston Scientific) retrievals
  • We have never attempted
Extraction Attempt

+ Plan:
  • Place large bore sheath (18 Fr) into R IJ with ultrasound guidance
  • Use the largest laser sheath (16 Fr) as a guide through which a snare can be used to entrap the weld
  • Laser the length of the filter on snared
  • Large diameter balloon available for tamponade
  • Blood products available
  • Surgical backup
Initial Venogram Prior to Extraction
Unable to fully capture with 16 Fr laser sheath, after laser
Removal
IVC disruption Noted
IVC tear noted

+ Reversed AC
+ Monitored HD for 45 minutes in the lab
+ No change in venogram after 45 minutes
IVC CT (post procedure)
CT Post-procedure Day 1
Management

+ Hemodynamics were stable overnight
+ No symptoms reported
+ Discharged on rivaroxaban 36 hours after extraction

+ 3 Month follow up, stopped anticoagulation
  • Doing well
  • Repeat CT venogram: thrombus resolved
Conclusion

+ Permanent IVC filters (Greenfield™) can be removed
+ Small perforations with hemorrhage can be tolerated in the IVC and managed conservatively
  • Be prepared
+ Risk/benefit ratio needs to be assessed prior to the attempt
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