36 yo female presents with severe left leg edema, pain

- H/o left leg DVT 9 months ago
- Treated with anticoagulation despite severe edema and pain
- Never improved much
- Duplex c/w iliac vein occlusion

Iliac recanalized/stented

- Iliac recanalization to IVC
- Stented confluence to
  - FIIV/FV junction
  - 18 x 90 Wall
  - 16 x 90 Wall

Venogram

Disclosures

- Veniti Inc
  - Co-national PI for Veniti Vici Stent clinical trial

Iliac recanalized/stented

- Did well for 15 months
- Then began to notice edema after hiking or other vigorous activity
- Over 4-6 months symptoms slowly worsened
Animal Study of Iliac vein stent implantation

- Eight adult sheep
- Bilateral iliac vein stent insertion
  - One side received Veniti nitinol stent (NVS)
  - Other side received Wallstent (WS)
  - 4 animals studied at 8 weeks after stent insertion
  - 4 animals studied at 6 months

Luminal cross sections at 180 days:
Variable neointimal thickness

Neointimal thickness:
Variable amount in both SS and nitinol

Normal appearing endothelial cells at 56 days in both groups

Inflammation
No inflammation or mild inflammation seen in both groups
Thrombus and Injury

- Small areas of thrombus or fibrin in a few cases in each group
- Most had no evidence of thrombus

Luminal narrowing at 180 days

Venography results

End result 6 months after stent insertion

- Stent increases diameter of internal elastic lamina of vein relative to strength
- Tissue growth occurs within stent to create a lumen of uniform diameter based on the narrowest segment of the vein

Summary

- Stents develop a layer of neo-intima covering of variable thickness
  - Particularly in PTS cases where stents extended down to CFV
  - Exact contents of layer unclear – organizing collagen?
- Appears to relate to inflow vessel size and maybe flow