How Leaving A Catheter In The AAA Sac After EVAR Can Be Helpful: Angiography, Pressure Measurement, Embolization Of Thrombin-Gelfoam

The “SCAT” technique
(Sac Characterization And Thrombosis)

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Disclosure of Financial Interest

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<tr>
<th>Company</th>
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<td>Grant/Research Support</td>
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EVAR – Reproducing the Foundations of Open Repair

- Proximal Seal and Fixation
- Ligation of lumbar and IMA
- Graft lumens to maintain aorto-iliac flow
- Distal fixation and seal

- Check
- Check
- Nothing
- Check

- Check
- Check
- Check
- Check

Risk factors and consequences of persistent type II endoleaks

Vascular Surgery (2014)
April 2014

Outcomes of endovascular aneurysm repair with contemporary volume-dependent sac embolization in patients at risk for type II endoleak

*Fibrin glue and coils*
Impetus for the Technique

- Characterize and confirm sac exclusion
  - Pressure
  - Imaging
- Ablate the sac and potential for transac branch flow (T II endoleak)
- Confirm sac ablation
  - Imaging
  - Suprasystolic pressure

Long history of pseudoaneurysm ablation with thrombin

Technique of SCAT (Sac Characterization And Thrombosis)

1. Place 5 Fr catheter via 3rd access (no sheath) in thoracic aorta
2. Complete EVAR and confirm no T IIx with completion angiography
3. Pull 5 Fr catheter into excluded AAA sac
4. Flush catheter and attach arterial monitor for pressures and waveforms
   i. Secondary confirmation of sac exclusion
5. Subtraction angiography of sac in multiple projections
   i. Tertiary confirmation of sac exclusion
   ii. Documentation of lumbar and IMA status
6. 3 way stopcock with FloSeal and 1 cc dosing syringe
7. Proximal and distal injection of 0.5-1 cc of FloSeal matrix
8. Flush 5 Fr catheter and perform angiography
9. If stasis demonstrated, flush and reattach arterial line for waveform and pressure

Floseal Hemostatic Matrix

- Synergy of thrombin and gelfoam
- Physical consistency resistant to embolization
- Density < 1 prevents dependent embolization (lumbars)
- Widely available, cheap and standardized

The FLOSEAL kit consists of a bovine-derived Gelatin Matrix, a human derived Thrombin Component, Applicator tips, and several mixing accessories. The

Early observations

- Technique is easy
- Thrombosis of sac is universal and quick
- Second contrast injection can remain in sac for weeks and seen on 1st post op CT
- Completion pressure measurements often show suprasystolic pressure (compartment syndrome of sac)

Residual contrast 6 weeks post-op
Next Steps

- Design and implementation of clinical trial
- Involvement of multiple institutions