What to do with venous in stent restenosis

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

☒ Consulting- Bard/Cook/Medtronic/Boston Scientific/Creganna/
☐ Employment in industry
☒ Stockholder of a healthcare company- Marvao Medical
☐ Owner of a healthcare company
☐ Other(s)

☐ I do not have any potential conflict of interest
Venous in stent restenosis (ISR) is not the same pathological entity as arterial in stent restenosis.

It is not due to neo-intimal hyperplasia.
Therefore the standard arterial strategies are not successful in venous ISR

• **NO PROVEN BENEFIT TO:**
  • Drug eluting balloons
  • Drug eluting stents
  • Aggressive anti-platelet modification
What is venous ISR on pathology?

• Every single time I have biopsied, the results show bland, organised, chronic thrombus
• This is surprising as there appears to be at least two different “modes” of venous stent ISR
  • “soft” ISR which responds immediately to PTA
  • “hard” ISR whereby stent deforms but ISR barely budges
I am a simple peasant: I believe in prevention as much as cure

- In the first place, use large balloons to pre dilate to at least the nominal diameter of the stent
- Then use large stents
- Then post dilate to large diameter
- Use IVUS to confirm proper stent expansion
- Venous ISR is much less of a problem in a 16mm stent than a 10mm stent
- Make sure your patient is fully anticoagulated before, during, and after the procedure
Acute R IF DVT 2008
Successful lysis then stenting
14/90 Wallstent
MISTAKES:
1- I had to stop at 10mm during dilatation due to pain
2- Did not do IVUS
Lost to follow up; returned at 3 years with recurrent symptoms

Note
1- small diameter of stent
2- low attenuation material within stent
2- large obdurator collateral
Catch venous ISR early rather than late

- Make sure patients know to contact YOU if symptoms recur
- Frequent Ultrasounds- day 1/30/90
- If patient is challenging anatomically use IVUS or CTV
- If you suspect ISR based on symptoms but imaging is equivocal just go ahead and do a venogram/IVUS
Involve your haematologist

- Optimise meds
- Consider alternative methods of AC
  - Low Molecular Weight Heparin
    - Twice daily v Once daily
  - NOACs??
  - Aspirin?
  - Clopidogrel?
  - Increase the INR?????
- Anecdotal evidence of symptom improvement with more aggressive anticoagulation
But let’s assume you have done all of these—now what?

- Balloon dilatation-high pressure
- Mechanical debulking e.g. Rotarex
- Stents??
- Covered stents??
- Arterio Venous fistula??
Straub Rotarex- high speed rotation and debulking
In summary:

1. Avoid under-stenting/under dilating
2. Consider General Anaesthetic to achieve better diameters
3. Be cognizant of patients ability to relate symptoms; if unable perhaps consider not treating in the first place
4. Avoid periods of poor anti-coagulation
5. Follow up aggressively by imaging
6. Mechanical debulking and high pressure PTA appear current best options
However bad venous in-stent restenosis is, it is MUCH MUCH MUCH MUCH MUCH easier to deal with than venous stent occlusion!!!

(particularly with the newer stents!)
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