Supera in popliteal aneurysms: how to do it step by step

Jörg Tessarek MD
Vascular Center Emsland
Bonifatius Hospital Lingen
Germany
Disclosure

Speaker name:
.....Jörg Tessarek MD........................................................

I have the following potential conflicts of interest to report:

- Consulting: Abbott, AB medica, Phillips Volcano, Taryag medical
- honoraria : Abbott, AB medica, Phillips Volcano, Medtronic, Terumo aortic
- research grants : Abbott
Procedure synopsis: similar to other femoropopliteal endovascular procedures

- Indication and limitations
  - PAA indicating treatment (also thrombosed PAA)
  - Landing zone diameter maximum 7mm (stent OD 7.5mm)

- Planning
  - Define distal landing zone: wall contact for stent circumference
  - Define proximal landing zone
  - Best option: 2 long stents, max. 3
  - Preloaded DAPT
  - Local anesthesia, DUS guided puncture
  - Antegrade/ x-over approach, intraop 70IE Hep./ Kg BW
  - Postop regime: Heparin low dose/ therapeutic dose 48h, DAPT for 6 mo., anticoagulation + MAPT (experience based)
Dual layer modification: higher density of mesh without loss of flexibility

Limitation: landing zone diameter > 7.0mm, other diameters or tortuositities are irrelevant. 1cm is ok in the long term, covered collaterals remain patent.
Optimal situation: 1st stent fixed on both ends.
Step by step: 1st stent
Step by step: 2nd stent deployment
Step by step: 3rd stent deployment
Proof of concept in PAA flow models

- Straight and curved flow modes (University of Twente)
- Stent free PAA (left)
- Stented PAA (right)
- Expansion of low to zero flow areas
- Centralisation of high laminar flow in stent tube

Explains excentric thrombus formation in untreated PAA
Explains the ordered thrombus formation after stent placement
Low flow and high residence time $\Rightarrow$ thrombogenicity
Explains thrombus stability without wash out even with stent sideways migration
Baseline FU examination: DUS / ABI/ 0-3-9-15...
FU with DUS, ABI and native X-ray
results and conclusions drawn

Diameter mismatch (4-7mm) does not influence the outcome but 6-7mm stent to achieve maximum ID in overlapping zone

DAPT was more effective than anticoagulation alone and prolonged DAPT (6 mo) more effective than 30 d

Maximum 3 telescoped stents: depends on landing zone diameter and PAA longitudinal extent
Max. 7x100 mm available
But 6x200 mm
In conclusion

- Supera in PAA is a safe and effective therapeutic approach
- Lab tests coherent with clinical results: early thrombosis
- Principle of flow diverting devices is reliable for this purpose
- User must be familiar with the device characteristics
- Deployment of stent must be complete before pulling the sheath back !!!!!!
- Radiologic control, deployment safety advice (IFU)
- When safely deployed (!) no device related complications (fractures, migration, separation)
- PP/ SP are in the range of CS
Thank you for your attention

joerg.tessarek@hospital-lingen.de
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