Long-term outcomes of endovascular popliteal aneurysm repairs with stent-grafts: good but not perfect - when is open repair best?

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Indication for treatment

Diameter:
• >30 mm: treatment
• <20 mm: conservative
• 20 - 30 mm: ?
• Not so much evidence for ‘20 mm’

Other factors:
• Angulation >45° and diameter >3 cm
• Thrombus
• Run-off
• Statins
• Anti-coagulation

Endovascular vs. open repair: meta-analyses

1. Endovascular repair should be considered as a viable alternative to open repair of PAA on a case by case basis.
2. Endovascular repair popliteal artery aneurysm showed mid-term results comparable to open surgery and appears to be a safe alternative to open repair.
3. Endovascular repair is associated with inferior perioperative and postoperative outcomes compared with open repair.
4. Endovascular repair has a lower wound complication rate and shorter length of hospital stay compared with open repair. This comes at the cost of inferior primary patency but not secondary patency out to 3 years.

Conclusion latest meta-analysis (2017)

• Studies reporting long-term outcomes are lacking and necessary.

Long-term follow-up endo treatment PAA

The purpose of this study was to evaluate the long-term outcome of PAAs treated with endografts.
Long-term follow-up endo treatment PAA

- All patients with a PAA treated with expanded PTFE stent-graft
- Between June 1998 - November 2014
- Tertiary referral center
- Prospectively gathered in a database and retrospectively analyzed

• 75 PAAs in 64 patients.
• Mean age 68.1 ± 9.4 years.
• Median follow-up 68 months (range, 2-187 months).

Procedural details

- 75 PAAs in 64 patients.
- Unilateral PAA in 38 patients (61%) and bilateral PAAs in 25 patients (39%), of which 11 (17%) treated bilaterally.

Patient survival

- Patency rates

Patency rates - Hemobahn vs Viabahn
Stent graft occlusion and fracture

Details of reinterventions

Conclusion

• Endovascular repair has gained an established role in the treatment protocol for PAAs.
• 5- and 10-year primary patency rate of 60% and 51%.
• Reinterventions mainly performed for occlusions, which occurred in a third of cases.
• Conversion rate to open surgical repair 4%.
• Stent fractures in a quarter of cases but not associated with a higher occlusion rate and no limb loss.
• Future developments will have to be focused on the design of more dedicated and durable stents for this specific indication.

See you in Groningen - ESCVS 22-25 May 2019

Thank you for your attention!