Endovascular repair of popliteal aneurysms

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Disclosure

Speaker name:
Daniele Psacharopulo

I have the following potential conflicts of interest to report:

☒ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☐ I do not have any potential conflict of interest
ENDOVASCULAR REPAIR

• Analysis of the patient’s and lesion’s characteristics

• Right therapeutic approach

• Good results (early and long term)

Pulli et al. EJVS 2013
ENDOVASCULAR REPAIR

Antonello et al. JVS 2005
ENDO VS. OPEN

- 1 and 3 years: no difference in primary patency rates
- Benefit for open repair for secondary patency (n.s.)

Cina et al. JVS 2009
USE OF VIABAHN

- A subgroup analysis with Hemobahn/Viabahn showed greater patency (n.s): 
  - primary patency, 89% vs 83%
  - secondary patency 89% vs 86%

Cina et al. JVS 2009
USE OF VIABAHN

• Primary patency 85.3% at 1 y, 69.4% at 5 years

• Secondary patency 90.8% at 1 y, 77.4% at 5 years

Patel et al. EJVS 2015
MAURIZIANO EXPERIENCE

2008-2016

72 limbs in 61 patients

- Mean FU 3.7 months
- 13 occlusions (18%)
- Primary patency 82%
- Secondary patency 92%
KEY POINTS

1. Planning and sizing
2. Landing zone
3. One Viabahn better than two
4. Knee flection completion angiogram
5. Run off status
6. Pharmacological therapy and activity
1. PLANNING AND SIZING

[Images showing medical scans with measurements: 10 mm, 9 mm, and 244 mm]
2. LANDING ZONE

7.8 mm

8 mm

240 mm
3. MULTIPLE STENTS

8 X 150 mm

9 X 50 mm
Distal protection filter
4. EFFECTS OF KNEE FLECTION
5. RUN OFF STATUS
"Compared with patients with two-vessel or three-vessel runoff, the graft failure rate in patients with single-vessel runoff was statistically significant (P.02)."

"Run-off and symptoms did not appear as a risk factors in univariate analysis of our data"
6. THERAPY

Stent fractures in the Hemobahn/Viabahn stent graft after endovascular popliteal aneurysm repair

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Objective: During the last decade, endovascular repair of popliteal artery aneurysms (PAAs) has become a valid alternative to open repair. This study analyses the incidence and origin of stent fractures after endovascular repair, its impact on patency, and strategies to prevent fractures.

Methods: Data of 78 atherosclerotic PAAs in 64 patients were gathered in a prospectively-held database from 1998 to 2009. All x-rays were reviewed to detect stent fractures. Only circumferential fractures were included for analysis; localized strut fractures were excluded. Clinical endpoints were circumferential stent fracture, occlusion, and clinical status of the patient.

Results: Mean follow-up time was 50 months (range, 1-127 months). Fifteen circumferential stent fractures occurred in 13 (16.7%) patients. The majority of stent fractures (93.3%) were associated with the use of multiple stent grafts. At univariate analysis, younger age was identified as the only significant predictor for stent fracture (P = .007). The cumulative stent fracture-free survival was estimated at 78% and 73% at 5- and 10-year follow-up, respectively. The cumulative primary patency rate, defined as time to occlusion, was not different for the fracture group compared with the nonfracture group (P = .284).

Conclusions: The incidence of stent fractures after endovascular PAA repair is probably underreported in the literature. Stent graft fractures mainly occur at overlap zones and are associated with younger age of the patient. Fracture of the stent did not significantly influence patency of the stent graft. (J Vasc Surg 2010;51:1413-8.)
FOLLOW UP

• X-ray of the knee? "Stent fractures may be globally underestimated."

• The majority of stent fractures in cases with multiple stent grafts

• "In contrast to occlusive disease, incidence of stent fractures seems to be low."

Tielliu et al. JVS 2010
CONCLUSIONS

• Careful patient selection (activity and anatomic)

• Good runoff, landing zones, postop. antiplatelet therapy

• Learning curve

• Midterm outcomes similar to open repair
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