Duplex Guided Endovascular Repair Of Popliteal Aneurysms: Why It Is A Better Way

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Popliteal Aneurysm
- Most common peripheral aneurysm
- Diameter ≥ 1.2 cm *
- Adjacent proximal diameter x 1.5 **

* Neiman et al. Radiology ’79

Popliteal aneurysms – Duplex Diagnosis
- "If you can see the lesion, you can treat it…"
- No radiation, no nephrotoxic contrast
- Multi-planar image, magnification
- Visualization of arterial wall
- Selection & placement of balloons, stents
- Adequacy of the technique (anatomy+flow)
- Complications Tx

Duplex - Guided Vascular Interventions

Advantages
- No radiation, no nephrotoxic contrast
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Duplex-guided balloon angioplasty and stenting for femoropopliteal arterial occlusive disease: An alternative in patients with renal insufficiency

Duplex-guided endovascular treatment for occlusive and traumatic lesions of the femoropopliteal arterial segment: A comparative study in the first 253 cases

JVS 2002-2015
38 patients (37 male : 1 female)
Age 80 ± 6 (64 to 92 years)
Aneurysm diameter 2.6 ± 1.1 mm (15 to 66 mm)
Asymptomatic – 21 / 38 cases (54%)
Symptomatic – 17 / 38 cases (46%)
- Claudication – 8 cases
- Thrombosis – 9 cases

82 year old male patient
- Rt Nephrectomy
- Cr = 2.2 mg/dL
- HTN, MI, Stroke
- EF: 25%
- 32 mm partially thrombosed PAA

Landing Zone:
- AK: 3
- BH: 8
- BK: 27

Post-op PAVF 137 ± 41 ml/min (80-210)
Low PAVF (<100 ml/min) - 2 patients
- Both had 0 run-off score
- Both thrombosed (2 and 5 months)
**Duplex – Guided Endoleak Tx**

- No pseudo-aneurysms
- No embolizations
- No dissections
- One death from acute respiratory failure in 1 month

**Complications**

**Conclusions**

- Popliteal artery aneurysms can be successfully treated with endovascular graft placement under duplex guidance avoiding contrast exposure.

**Conclusions**

- Poor run-off and low PAVF (<100 ml/min) correlate with early popliteal endograft thrombosis.