DU surveillance of peripheral stent grafts is not reliable for popliteal aneurysms but is for lower extremity occlusive disease

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DU Surveillance for Lower Extremity Grafts

Why?

• Clearly accepted for vein grafts
• Not well accepted for prosthetic grafts

• But should it be?

DU for Lower Extremity Grafts

Prosthetic grafts

• Revision of failing vs failed prosthetic graft yields better patency rates
• May not be able to restore patency
• Performing balloon angioplasty or other endovascular Rx of anastomotic stenosis much easier than open revision or new bypass

DU for Lower Extremity Stent Grafts

Occlusive disease

2005-2013: 92 stent grafts (mostly Viabahn)
Surveillance: DU in accredited NIVL
One week postop, then every 6 months

Abnormal DU findings
PSV Vr > 3.0
focal PSVs > 300 cms/s
uniform PSVs < 50 cms/s throughout stent graft
DU for Lower Extremity Stent Grafts

Occlusive disease

75% (15/20) with abnormal DU findings
prophylactic intervention (8) occluded without intervention (7)

vs.

3% (2/72) with normal DU findings
occluded without intervention (p = 0.0001)

(Troutman, Madden, Dougherty, Calligaro. JVS 2014;60: 1580-84)

DU for Lower Extremity Stent Grafts

Popliteal aneurysms

2007-2014: 21 Viabahn stent grafts
Surveillance – DU in accredited NIVL
One week postop, then every six months
Mean follow-up = 2 years

DU for Lower Extremity Stent Grafts

Popliteal aneurysms (21)

- 4 presented with thrombosis despite normal DU within six months
- But 3 had identifiable acute prolonged knee flexion at time of occlusion
- So maybe useful to diagnose other stenoses?

(Pineda, Troutman, Dougherty, Calligaro (submitted))

Summary

DU Surveillance of LE stent grafts

- Occlusive disease - YES
- Popliteal aneurysms – MAYBE NOT?

REFERENCES

