THE IMPORTANCE OF DETECTION OF SAC GROWTH AFTER ENDOVASCULAR AORTIC ANEURYSM REPAIR

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Disclosure

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☒ I have the following potential conflicts of interest to report:

☑ Receipt of grants/ research support
☐ Receipt of honoraria and travel support
☐ Employment in industry
☒ Shareholder in a healthcare company
☒ Owner of a healthcare company

☐ I do not have any potential conflict of interest
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Department of Health Disclaimer

The views and options expressed herein are those of the authors and do not necessarily reflect those of the HTA programme, NIHR. National health Service or the Department of Health.
Trajectories of aneurysm sac diameter over follow-up, by type of event

**EVAR Trials**
- No rupture or RPR: n=630
- RPR (with no subsequent rupture): n=113
- Rupture: n=42

**Helsinki Cohort**
- No rupture or RPR: n=317
- RPR (with no subsequent rupture): n=62
- Rupture: n=11

- 44% safe
- 85% unsafe
The “Cluster” of Wyss et al 2010

Type I Endoleak
- Type Ia Endoleak
  - Sac Expansion
- Type Ib Endoleak

Type III Endoleak
- Sac Expansion

Migration (Type Ia Endoleak)
- Sac Expansion

Kinking (Type Ia Endoleak)
- Sac Expansion

Type II Endoleak
- Sac Expansion

All associated with secondary sac rupture (67% mortality)

Deadly & Urgent

Wyss TR, Brown LC, Powell JT, Greenhalgh RM
Rate and Predictability of Graft Rupture After Endovascular and Open Abdominal Aortic Aneurysm Repair: Data From the EVAR Trials.
Annals of Surgery 252(5) Nov 2010
Discrete Event Simulation

Predictive model constructed to estimate incidence of complications, ruptures and deaths that would have occurred under alternative surveillance protocols.

Patients need benefit now not after another 15 years at high cost of repeat trial.

ARTIFICIAL INTELLIGENCE
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Annals of Surgery, Online 7th October 2019
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Strategy C (ESVS intervention guidelines) compared to F (primary care US scan):
- Offers 87 extra QALYs for a cohort of 10,000
- Cost per additional QALY: £280,000
Detection of EVAR sac expansion using ultrasound surveillance
Towards Primary Care EVAR surveillance
Medical Device study using novel hand-held ultrasound probe
Co-DETECT

Detection of EVAR sac expansion using ultrasound surveillance

Missed Abdominal Aortic Aneurysm (AAA) Before and After Operation