The Evidence for Success and Durability of Ch-EVAR is Poor: Fenestrated is the Gold Standard

I DO NOT Believe in Parallel Grafts

- Branch stents were not tested to be radially/externally compressed
- There is no such thing as a ‘mild’ type I endoleak
- There will always be gutters
- We have a better alternative: FEVAR

FEVAR: The Evidence: 12 Year Experience

- 2% Aortic related mortality over mean 8 years
- 6% Renal Re-Intervention
  - 2% – 3% Visceral Re-Intervention

FEVAR: The Evidence
Change in Aortic Diameter over Time

Disclosures and Affiliations

- Cook Medical Inc, consultant and proctor
- Siemens Medical, research collaboration
- CYDAR Medical, research collaboration
- Medopad, research collaboration

I do not use Ch-EVAR in my practice
FEVAR: The Evidence
Type Ia Endoleak in Fenestrated

- O’Callaghan et al JVS 2015
- 26/924 = 2.8%

FEVAR: The Evidence
Type Ia endoleaks = Progression of disease

- O’Callaghan et al JVS 2015
- Number at Risk: 904
- Follow-Up Time (Years): 0, 5, 10, 15

FEVAR: The Evidence
More Vessels with Even Better Outcomes

- El Batti, Mastracci Submitted SVS 2018
- p<0.02

Why Wouldn’t you use FEVAR?

- Skill?
- Cost?
- Facility requirements?
- Ancillary devices?
- Manufacturing Delay in Emergency?

In emergency situations, should we close our eyes, hold our breath, and start using Chimneys?

Parallel Grafts: The Evidence
Proof of Concept

- Li et al, Ann Vasc Surg 2014
- 2003 – 2014
- 236 patients, 12 studies, 12 months follow up
- ?? Number of vessels incorporated?
- 11.8% type I endoleak
Parallel Grafts: The Evidence
Impact on Natural History

- 517 Patients
- Multinational Study
- 17.1m follow up
- 7.9% Type 1a Endoleak
- Pre operative diameter 65.9 +/- 16.5
- Post operative diameter 61.2 ± 19.7 mm


Parallel Grafts: The Evidence
Long versus Short Gutters

- 66 patients, single centre
- 73% 2 vessels incorporated
- 21/60 = early type Ia endoleak on angio,
- 18/60= Type Ia on CT scan

Ullery et al, JVS 2017

Parallel Grafts: The Evidence
Compared with FEVAR

- 4 Studies comparing Ch-EVAR with FEVAR
- 30 outcomes are acceptable, but give NO indicator of durability

Yaoguo et al, Vascular 2017

My (Less Systematic Read) of The Literature

10 Largest Studies from FEVAR and Ch-EVAR

Literature, compared

Long Term Survival in Chimney Versus Fenestrated Studies

Post Operative Type I Endoleak in Chimney Versus Fenestrated Studies
**Number of Target Vessels Incorporated versus Post Operative Endoleak**

Increasing Complexity improves performance for Fenestrated Repair.

**AAA Guidelines = INCREASE Mortality**

**FEVAR is More Durable than Parallel Grafts**

- Fewer early endoleaks
- Fewer late endoleaks
- Longer evidence of follow up
- Feasibility to incorporate more vessels
- Increasing complexity IMPROVES FEVAR