First experiences in Australia with HeliFX in the short neck

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Disclosure

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I do not have any potential conflict of interest
Seal zones are the achilles heel of endovascular

Seal Zones: Distributed Function

- Dependent on length, angle, width, conicity, Ca2+, thrombus, device design
- Hostile Necks = Higher risk of type Ia’s, neck degeneration, 2nd procedures, etc
EVAR grafts offer different approaches to longitudinal graft fixation

No grafts offer techniques for radial fixation
Yet AAA is a dilating disease

Graft Deficiencies:
• Often used outside IFU
• increases risk of migration, neck dilatation, & late Type Ia endoleaks
• Adaptability to long-term disease process may improve outcomes
• Don’t fight the disease but learn to live with the pathologic environment

Bottom Line:
Long-term EVAR durability still a concern in AAA patients at high risk for late aortic events
How can we improve late outcomes by treating the hostile neck patient before EVAR failure
It’s not just seal zone anatomy & morphology...

- Cross-sectional area in systole was $35 \pm 15\%$ greater than diastole
- Asymmetrical differences in wall motion

(Anterior wall motion $3.3$ x’s greater than posterior)
Heli-FX EndoAnchor Implant System

Endovascular Interrupted Suture System – FDA approved 2011
Australian experience

• First cases done in 2015
• Initial cases were done after endoleak was noted.
• Subsequent cases were done prophylactically in hostile necks
• 11 cases
• Longest Fu 3yrs
• 1 patient died of other reasons
• Type 1 endoleak free
79 M
High risk OSR
82 F
Significant cardiac issues
6cm AAA
• Endoanchors work well in hostile neck anatomies, regardless of neck length.
• Key to success is getting apposition of endograft to aorta and penetration of endoanchors through graft fabric and into aortic adventitia
• Technical success is key to procedural and long-term success!
“It’s not neck length that dictates Endoanchoring success, it’s getting apposition of the endograft to the aortic wall and ensuring Endoanchors penetrate through graft fabric and into aortic adventitia”
• Greatest values of endoanchors are expanded patient applicability with an off-the-shelf solution without having to instrument the renals (patient selection is key)
• Endoanchor ability to reduce the need for proximal neck related 2nd procedures, even in hostile neck patients
Anchor Registry (prophylactic)

Nearly 1000 patients recruited

Reason for EndoAnchoring
- 72.1% Concern for Late Failure
- 27.9% Prevention of Neck Dilatation
- 18.4% Urgent/Emergent Cases

1-Year N=293

- Decrease 37.2%
- Increase 4.1%
- Stable 58.7%

3-Year N=115

- Increase 3.5%
- Decrease 50.4%
- Stable 46.1%
Conclusions: heli-fx™ endoanchor implants

**Average Neck Length in the Propensity-Matched Analysis was ~2.5 cm**
2-year outcomes with very high rate of sac regression compared to those treated by standard EVAR

**Average Neck Length in ANCHOR Primary Arm was ~1.6 cm**
3-year outcomes with low type Ia’s, good sac dynamics, and infrequent need for proximal neck-related 2nd procedures

**Average Neck Length in the Short Neck Cohort was ~0.7 cm**
1-year outcomes with only 1 type Ia, excellent sac regression, and one proximal neck-related 2nd procedure

Neck lengths of 2.5, 1.6, and 0.7 cm, all with consistent clinical outcomes
Thank You
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