


Fenestrated EVAR Versus Chimney EVAR For Juxtarenal AAAs: When Is One Better Than The Other And What Are The Critical Considerations

Piergiorgio Cao
Senior Professor of Vascular Surgery
University of Perugia


Disclosure
Speaker name:
Piergiorgio Cao

I do not have any potential conflict of interest

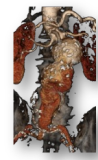
BACKGROUND




- The feasibility of f-EVAR for the treatment of JAAAs is now widely recognized, with several large series confirming satisfactory results
- However, the applicability of the technique is limited by strict anatomic requirements, high costs, and lengthy manufacturing



BACKGROUND



- The main advantage of Ch-EVAR lies in its immediate availability and minor cost
- However, uncertainties about long-term patency of stented visceral vessels and the risk of "gutter endoleak" remain reasons for concern



The role of open and endovascular treatment with fenestrated and chimney endografts for patients with juxtarenal aortic aneurysms

Konstantinos P. Demas, MD, PhD,* Markos Elezack, MS,* Giuseppe Parnicelli, MD, PhD,* Martin Antermann, MD, PhD,* Nami Otsu, PhD,* and Giovanni Torsello, MD, PhD,* Mainz, Germany

Historical series including medium complexity procedures (only 5 bilateral Ch-EVAR and only 2-fen f-EVAR)

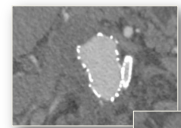
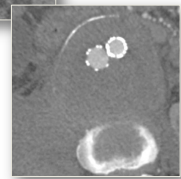
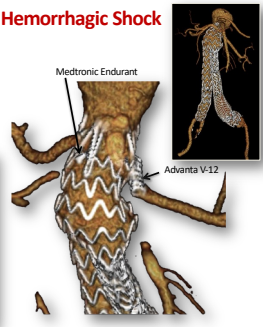
90 JAAA pts:	30 Ch-EVAR	29 f-EVAR	31 OR	
	Ch-EVAR	f-EVAR	OR	P
Target vessel preservation	97.4%	97.7%	—	.56
Operation duration, minutes	89 ± 21	290 ± 122	—	.04
Contrast medium (mL)	112 ± 23	156 ± 56	—	.23
Fluoroscopic time, minutes	44.8 ± 13.2	54.3 ± 12.2	—	.34
Read artery chimney	35/38			
Bilateral	5			
Right	19			
Left	16			
SMA chimney	3			
Types of chimney stent				
- Covered balloon expandable (Advanta)	38/38			
f-EVAR bridging stent		22/44		
- Covered balloon expandable (Advanta)		12/44		
- Bare balloon expandable (Palmar)		10/44		
Endoleak				
Type I	0	0		
Type II	2	1		
Mortality	0	0	2	.023

Similar results of Ch-EVAR and f-EVAR

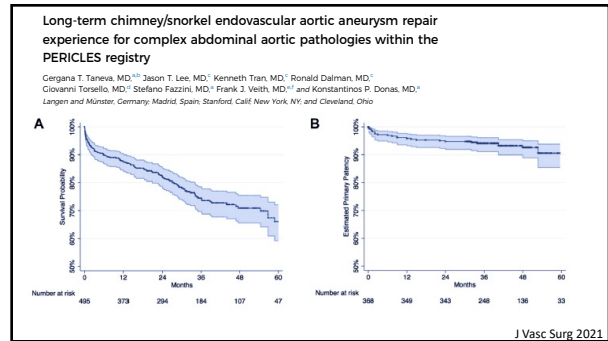
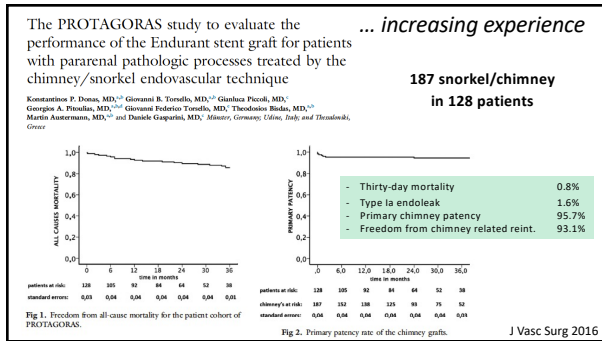
Ch/f-EVAR group: mortality 0%
OR group: mortality 6.4%

J Vasc Surg 2012

RUPTURED JAAA in a 77 yo male with Hemorrhagic Shock

Single Chimney on L renal



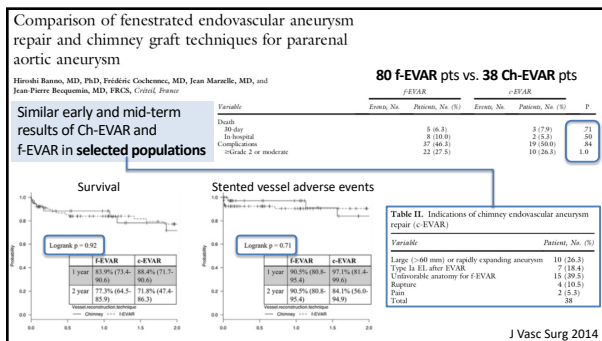
Pros and Cons of Ch-EVAR in JAAA

- Not ideal for multiple vessels ❌
- Upper-extremity access mandatory ❌
- Gutter endoleak ❌
- Risk of mechanical compression ❌
- Off-the-shelf solution ✅
- Minimum aortic coverage ✅

Pros and Cons of f-EVAR in JAAA

- Not ideal in very tortuous ❌
- aorto-iliac anatomies ❌
- Not ideal in angulated ❌
- pararenal aorta ❌
- Custom-made ❌
- Less aortic coverage if compared to b-EVAR ✅

Deployment issues



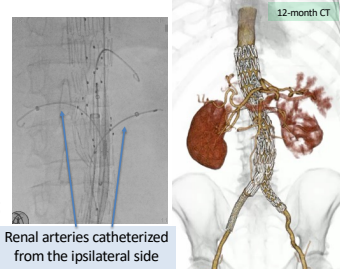
Male, 65 yo, hypertension, CAD, severe COPD

55-mm saccular PAAA

Narrow aortic bifurcation + severe iliac stenosis

PRELOADED F-EVAR - RATIONALE

To get access, in patients with **compromised access routes** (occluded or stenotic contralateral iliac axis, narrow aortic bifurcation not able to accommodate two large-caliber sheaths), **without using upper extremity access**

**CONCLUSION**

- Direct comparison between f-EVAR and Ch-EVAR may result difficult because of selection bias especially concerning late results
- Main advantage of Ch-EVAR remains in urgent settings and seems to be more appropriate in old patients who cannot benefit of a more durable repair like f-EVAR
- New technological development in custom-made devices are breaking down more and more any anatomical constrains for f-EVAR