ChEVAS Nellix with chimneys: What we've learned from a single center study

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Disclosure

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I have the following potential conflicts of interest to report:

- Consulting
  - Consultant of Endologix
  - Consultant of CrioLife
ASCEND Registry

Clinical Investigation

Early Experience With Endovascular Aneurysm Sealing in Combination With Parallel Grafts for the Treatment of Complex Abdominal Aneurysms: The ASCEND Registry

Matt Thompson, MD, FRCS¹, Marwan Youssef, MD², Rudolf Jacob, MD³, Sebastian Zerwes, MD⁴, Michel Reijnen, MD, PhD⁴, Piotr Szopinski, MD⁵, Patrick Berg, MD⁶, Grzegorz Oszkinis, MD, PhD⁷, and Andrew Holden, MBChB, FRANZCR, EBIR⁸
CHIMNEYS

February 2014 – December 2017

32/59 (52%) cases – Nellix with chimneys:

- **coeliac trunk**: LifeStream (2) – *Nellix for failes TEVAR*

- **SMA**: LifeStream (7), E-ventus (1), Advanta (1)

- **renal arteries**: LifeStream (30), Advanta (9), E-ventus (4), Dynamic Renal (1)
ChEVAS RESULTS

- Follow-up 1-48 months - all patients alive

- 0 stroke, 0 neurological complications

- 1/32 – explantation of Nellix with chimneys – bifurcated graft with left renal artery transposition

- two ChEVAS in one patient – NINA procedure for type I endoleak

- 3/63 - peripheral stent-graft occlusion
  - one renal
  - both renals – patient on dialysis

- No stent-graft migration
Nellix + RRA LifeStream 8x58mm+ LRA LifeStream 8x58mm+ Astron 8x60mm
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Prefiling – saline volume determines the polymer volume
AXILLARY ACCESS

Terumo, COOK
6F, 7F, 12F
STEPS OF THE PROCEDURE

1. Vascular access (risk of neurological complications)
2. Angiography in lateral view
3. Cannulation of renal arteries/SMA (AP+lateral)
4. Introduction of parallel stent-grafts
5. Introduction of Nellix stent-grafts
6. Positioning (the tops of the Nellix stents aligned with the tops of the parallel stent-grafts)
7. Deployment of the balloons
8. Prefiling with saline – polymer volume
9. Control angiography (all balloons deflated)
10. Saline removal and polymer injection
11. Final angiography AP (+ lateral) with all balloons deflated
12. Plain X-ray
13. Follow-up

Recorded case presentation: active aneurysm sac management with Nellix ChEVAS technique.
01 Feb 2018 - Main Arena 2 - 13:05-13:25
THREE CHIMNEYS

- M 76, suprarenal aneurysm
- h/o: CAD, hypertension

Nellix + **SMA** E-ventus 9x37mm + **RRA** E-ventus 8x57mm + **LRA** Advanta V12 7x59mm
SINGLE NELLIX WITH THREE CHIMNEYS

- M73
- aortic pseudoaneurysm, very narrow distal aorta (10mm in diameter)
- h/o: hypertension, CAD, COPD
Conclusions

• The promising results of the ChEVAS technique in patients with pararenal and suprarenal aneurysms offer an alternative to custom-made fenestrated or branched stent-grafts.

• The use of parallel branches reduce the risk of the Nellix system migration – there was no migration observed in our study.

• There is no dedicated peripheral stent-graft for the use as parallel/bridging endograft.