A systematic review of 8 articles; 51 patients
Double-stent chimney in 14 patients.
Perioperative mortality and morbidity: 5.9% and 13.7%.
Stroke rate: 7.8%. Primary early endoleak and type IA were 21.6% and 11.8%. Late mortality: 4.4%

Total endovascular aortic arch replacement 6 cases – first case was performed in 2010

Endovascular treatment of complex aortic aneurysms using the sandwich technique.

Background
Chimney and Sandwich
They work very well, however they are NOT a miracle

Total endovascular aortic arch replacement 3 cases – first case was performed in 2010

Status of Sandwich (Parallel) Grafts for Total Endovascular Arch Replacement
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Publications - Aortic Arch Sandwich & Chimney Techniques

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Endovascular treatment of complex aortic aneurysms using the sandwich technique.
Review 94 patients, 101 chimney
20 IA, 48 LCCA, 33 LSCA
Technical Success 98%. Endoleak: 18% (type IA in 6%).
Stroke: 5.3%. Perioperative mortality: 3.2%. Median FU: 11 m

26 patients underwent TEVAR
28 chimney (No proximal neck, TAA complicated TBAD, Type I endoleak, PAU)
Double chimney in 2 patients. IA (7), LCCA (10), LSCA (11)
Technical success 100%. Endoleak Type IA in 23%.
Stroke: 11.5%. Perioperative mortality: 3.8%. Median FU: 36.8 m
Chimney patency: 89.3%

CONCLUSION: The chimney technique is a feasible treatment option and may provide improved outcomes for patients with challenging anatomy given its associated and definitive efficacy and investigation into its outcomes.

18 reports were identified, with a total of 124 patients and 136 chimney.
Primary technical success was achieved in 123/124 patients (99.2%).


The perioperative mortality rate was 4.8% and the stroke rate was 4%. While events of spinal cord ischemia were rare.
The overall endoleak rate was 18.5%; 13 patients (10.5%) developed a type I endoleak and 10 (8%) patients a type II endoleak.
During a median follow-up period of 11.4 months (range, 0.87-20.1 months) all implanted chimney grafts remained patent.

22 articles were eligible for detailed analysis and data extraction.
A total of 182 patients underwent chimney techniques during TEVAR.
A total of 217 chimney grafts were implanted: 36 to the IA, 1 to the RCCA, 91 to the LCCA and 89 to the LSA.
Primary technical success was achieved in 171 patients (98%).
The chimney/sandwich technique is a method that requires advanced endovascular skills.

The total endovascular aortic arch replacement technique represents a good option to treat high-risk patients, but many concerns are still present, mainly related to durability and material interaction during time. Actually this technique has acceptable short and mid-term results.

Long-term data are available just from a very small number of patients and more data from a wider number are needed in order to embrace this method as a safe one.