Value of Hybrid Arch Repairs With and Without The Gore Hybrid Graft: Its Advantages

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Disclosures

Bolton Medical
Lombard Medical
Medtronic
TriVascular
Hybrid Aortic Procedures

Combine the advantages of traditional open surgical procedures with the less invasive advantages of endovascular techniques.

Thoracic Aortic Arch Aneurysm

Great Vessel Transposition for Antegrade Delivery of the TAG Endoprosthesis in the Proximal Aortic Arch

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Purpose: To report a technique for antegrade delivery of the TAG aortic graft during repair of lesions in the proximal aorta.

Technique: Via an median sternotomy, a bifurcated graft, usually 14 or 16 mm in diameter, is transferred to the ascending aorta with a 5F femoral sheath and an extra-stiff wire is advanced into the left subclavian artery through the ascending aorta. The proximal aortic aneurysm is opened and a 10-0 polypropylene suture is used to secure the anastomosis. The graft is then deployed antegrade from the distal part of the aortic arch and secured to the innominate artery.
Conduit Ligation

Type A Dissection
Cardiopulmonary bypass
Mild hypothermia
Retrograde left femoral cannulation (above fem-fem)

One-Stage Triple Hybrid Arch Debranching
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Limitations of Standard Debranching

Standard clamp and sew techniques of the LCCA anastomosis adds warm ischemia time.

End-to-end anastomosis to LCCA can be subject to intimal hyperplasia.

LSCA anastomosis can be technically challenging via sternotomy.

Advantages of Debranching Using the GORE Hybrid Graft

Less warm ischemia time due to endoluminal graft deployment at LCCA anastomosis.

Improved patency at LCCA anastomosis due to radial force of endoluminal graft.

LSCA anastomosis becomes much more facile since you don’t need the same exposure as standard bypass.

Technical Tips of Debranching Using the GORE Hybrid Graft

Does not need hybrid OR / Fluoroscopy.

5-0 prolene tacking sutures needed to secure the endoluminal graft to the LCCA to prevent pullout.

Don’t necessarily need to balloon angioplasty the endoluminal graft following deployment.

State-of-the-Art of Hybrid Procedures for the Aortic Arch: A Meta-Analysis

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Questions have been raised regarding procedural indications, techniques, and outcome for hybrid arch procedures. We performed a meta-analysis to benchmark this innovative approach. Studies and case reports involving hybrid arch procedures (performed through May 2009) were reviewed, and data collected. Data points were 30-day mortality, 30-day morbidity, technical failure rate, and long-term outcome. A total of 789 patients were included in the meta-analysis. Overall 30-day mortality was 9.6%. Endoleaks were seen in 5.2%, false lumen in 4.8%, and paraplegia in 5.0%. Treated patients at any level did not show any mortality. Results compare favorably with standard open surgical repair. Long-term follow-up is needed.

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Summary

GORE Hybrid Vascular Graft provides significant advantages to hybrid arch debranching procedures.

Limited to use in the LCCA and LSCA due to limited diameters available (too small for the innominate artery).

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