

Staged hybrid approach for aortic reconstruction in connective tissue disorders

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Introduction

Treatment of aneurysmal disease following aortic dissection via single stage total endovascular approach can be technically feasible, however the long term outcomes with compromised (pathological) landing zones, as well as paraplegia risk and perioperative complications remains questionable. We are presenting the management of a 63 year old patient with Marfan syndrome presenting with a rapidly expanding thoracoabdominal aorta following an acute type B dissection.

Background

Patient presented with an uncomplicated acute type B dissection with a compromised proximal landing zone and extended all the way to both external and internal iliac arteries. Successful medical management.

Three months follow up CT scans showed rapid expansion 65mm TAA

"Staged Hybrid Approach"

Stage 1: Open repair of the 6.5 cm descending thoracic aorta through a left thoracotomy (4th intercostal space) left heart bypass.

Stage 2: Open Juxta renal aorta iliac repair with reimplantation of internal iliac arteries and excision of dissection flap at the level of renal arteries to facilitate endovascular access to target vessels

Stage 3: 4 Fenestrations endovascular bridge between the 2 open repairs.

Outcome and conclusion

Patient was discharged home with no major complications, 3 months post operative CT scan showed successful total aortic reconstruction with no major complications.

In patients with connective tissue disorder we believe using staged hybrid approach combining the advantages of open/endovascular could reduce the surgical trauma and paraplegia risk preserving left subclavian and hypogastric arteries. Also creating landing zones with open surgery (proximal and/or distal) facilitates endovascular repair and possibly offers a more durable repair avoiding compromised seal in a diseased aorta.