

Early Results of Arch Disease Treated with Nexus Arch Endograft

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Objective: The objective of this study was to describe the results of five consecutive cases of aortic arch disease repaired using the novel Nexus arch endograft (Endospan, Herzliya, Israel). Aortic arch disease poses a technical and anatomic challenge for endovascular repair. Durable aneurysm exclusion and procedure-related complications including strokes account for some of these challenges. We report five consecutive cases of arch disease (aneurysm and dissection) treated with the Nexus arch endograft.

Methods: Charts were reviewed retrospectively from the prospective data collection with current follow-up. All cases had a life-sized aortic model constructed to facilitate preoperative case planning and simulated graft deployment before each implantation. The study was approved by the University Health Network research ethics board.

Results: There were three saccular aneurysms of the aortic arch, and two patients had dissection; one required proximal coverage for an expanding thoracic aneurysm secondary to a type B dissection, and one had a previous type A dissection repair and expansion of the descending thoracic aorta. All patients had significant comorbidities (age, impaired left ventricular function, previous aortic surgery, ulcerative colitis, morbid obesity). Each patient underwent carotid-carotid and carotid-subclavian bypass before arch endografting. Key clinical variables are seen in the Table. No periprocedural strokes or renal dysfunction occurred; however, one patient was noted on postoperative imaging to have an ascending aortic hematoma that progressed to require ascending aortic replacement. Follow-up has ranged from 1.5 to 13 months. No endoleaks have been noted in early or later follow-up. Aneurysm shrinkage has been observed in two cases.

Conclusions: Our early experience with the Nexus arch graft has been successful in treating challenging arch aneurysmal disease without stroke or mortality in a high-risk population.

Table. Nexus patient data

Variable	Mean
Age, years	74.6
Aneurysm size, mm	68.4
Innominate to aneurysm distance, mm	10.4
Bypass length of stay, days	7.8
Nexus length of stay, days	8.4
Contrast material volume, mL	125.4
Fluoroscopy time, minutes	38

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