

## NEXUS™ AORTIC ARCH STENT GRAFT SYSTEM AND THE STABILISE TECHNIQUE TO SUCCESSFULLY TREAT A RESIDUAL TYPE A DISSECTION WITH ANEURYSMAL DEGENERATION



### PATIENT INFORMATION

A 60-year-old male consulted for an aneurysmal degeneration of a residual Type A dissection. Past medical history was positive for myocardial infarction treated by coronary stent in 2014 and a chronic Type B aortic dissection that had previously required infra-renal correction in January 2021 by an open aorto-bi-iliac repair. Also, in April 2021, the patient had undergone a hemiarch replacement at HEGP for Type A dissection.



### REASON TO TREAT

Rapid aneurysmal degeneration of the descending aorta and a false aneurysm (Figure 1) on the distal suture of the ascending repair at the origin of the brachio-cephalic trunk (BCT).

After multidisciplinary consultation, a branched endoprosthesis for the aortic arch appeared to be the best option to achieve proximal sealing, completed by the STABILISE technique down to the infra-renal level to achieve distal sealing of the false lumen.



### DEBRANCHING

An inter-carotid bypass and left subclavian revascularization was done one-month prior to NEXUS™ in order to limit the neurological risks.



### NEXUS™ IMPLANTATION

The endovascular procedure, preceded by cerebrospinal fluid (CSF) drainage, was successfully performed by implanting NEXUS™ allowing coverage of the proximal entry tear.



### STABILISE DISTAL SEALING

Treatment was completed on the same operative time by placing an aortic stent-graft (Gore CTAG 37/150 mm) distally into the descending thoracic aorta, extended by an uncovered aortic dissection stent (Cook ZDES Dissection 36/180 mm) down to the level of the previous infrarenal surgical prosthesis. A self-expanding stent was implanted through the aortic dissection stent mesh in order to ensure good patency of the right renal artery, which was being perfused from the false lumen.



### PROCEDURAL OUTCOME

Post-operative course was uneventful, and the patient could be discharged at day 4 after 2 days of CSF drainage surveillance in ICU. Pre-discharge control computed tomography confirmed optimal positioning of NEXUS™ in relation to a kink in the proximal ascending aorta surgical prosthesis, exclusion of proximal entry tear and a satisfying result of the STABILISE technique (Figure 2).



### COMMENTS

Endovascular branched devices seem to find more and more indications in cases of residual Type A dissections, thanks to their lower neurological complication rates compared to atherosclerotic aneurysm repair. Performing supra-aortic debranching as a first staged procedure is probably also a good way to avoid cumulative problems and may also decrease stroke rates of the whole treatment.

It also allows a more ergonomic installation of the patient in the Hybrid room during the second staged endovascular procedure, since there is no need for a retrograde branch insertion through the supra-aortic trunks.

Figure 1.

A: Computed tomography angiogram illustrates the aneurysmal degeneration and false aneurysm.

B: 3-D reconstruction illustrates the narrow true lumen and extent of the chronic Type B dissection distally to the infra-renal level.

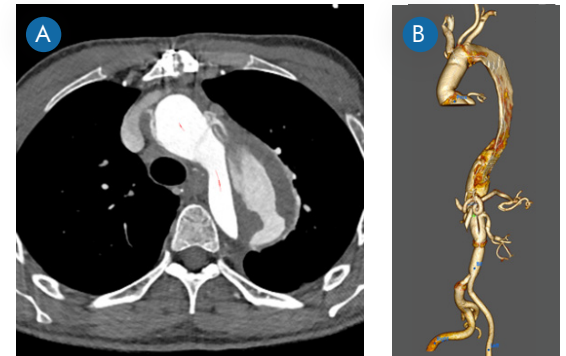
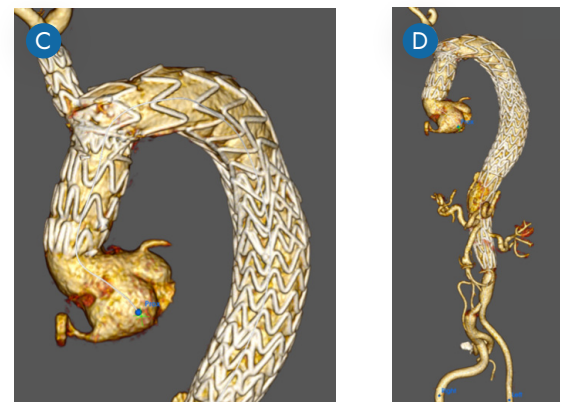


Figure 2.

3-D reconstruction generated from the pre-discharge control computed tomography angiography illustrating (C) optimal placement of NEXUS™ in relation to the kinked surgical ascending prosthesis, and with completed STABILISE technique (D).



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