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NEXUS TRE Endograft for Aortic Arch Involvement in TBAD: A First-in-Italy Case

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OBJECTIVE

To describe the first Italian experience with the NEXUS TRE endograft system in a complex type B aortic dissection involving the aortic arch and to evaluate its feasibility, safety, and early clinical outcomes

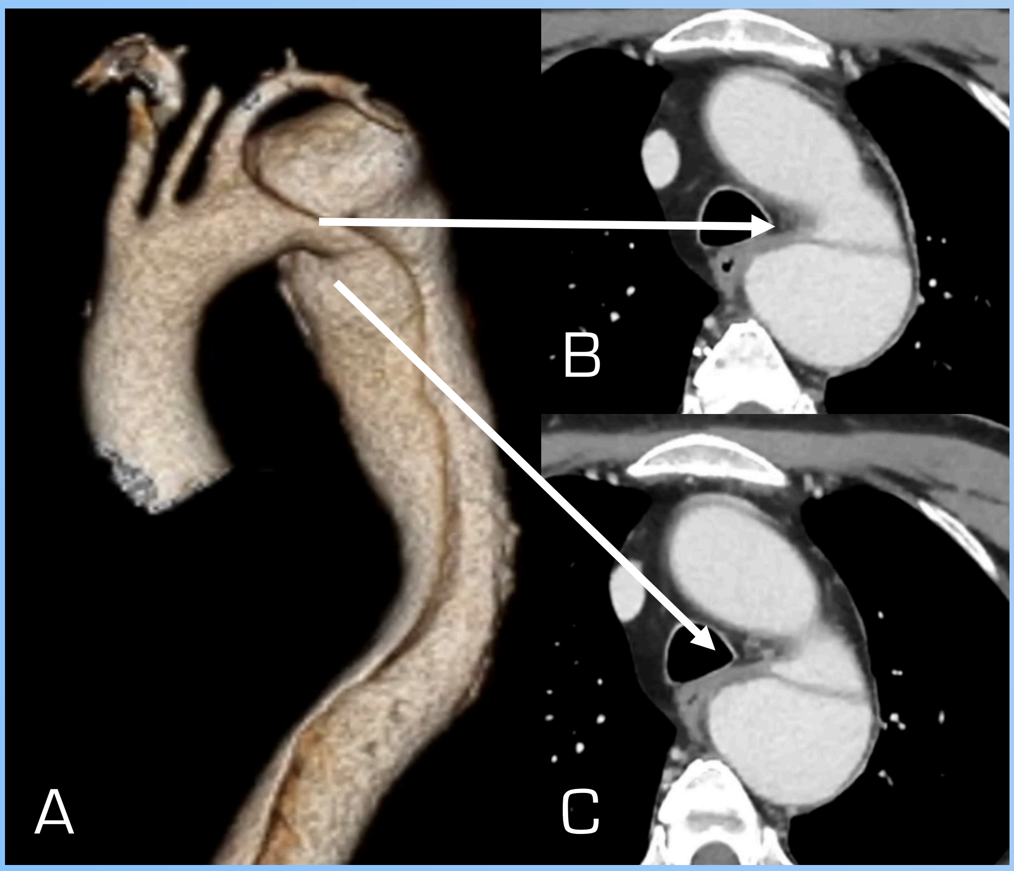

Figure 1: (A) 3D reconstruction of the pre-operative angioCT scan (B) Detail of the arch and descending (C) aorta showing the narrow aortic true lumed and the intimal flap

CASE REPORT

A **62-year-old male** with hypertension, chronic kidney disease and a prior subdural hematoma was admitted for treatment of an **aortic arch aneurysm complicated by TBAD.** Preoperative thoraco-abdominal CT angiography demonstrated a mildly ectatic ascending aorta, an aortic arch aneurysm and a TBAD extending **from the left subclavian artery to the right common iliac artery**, with visceral vessels arising from the true lumen and the right subclavian artery from the false lumen.

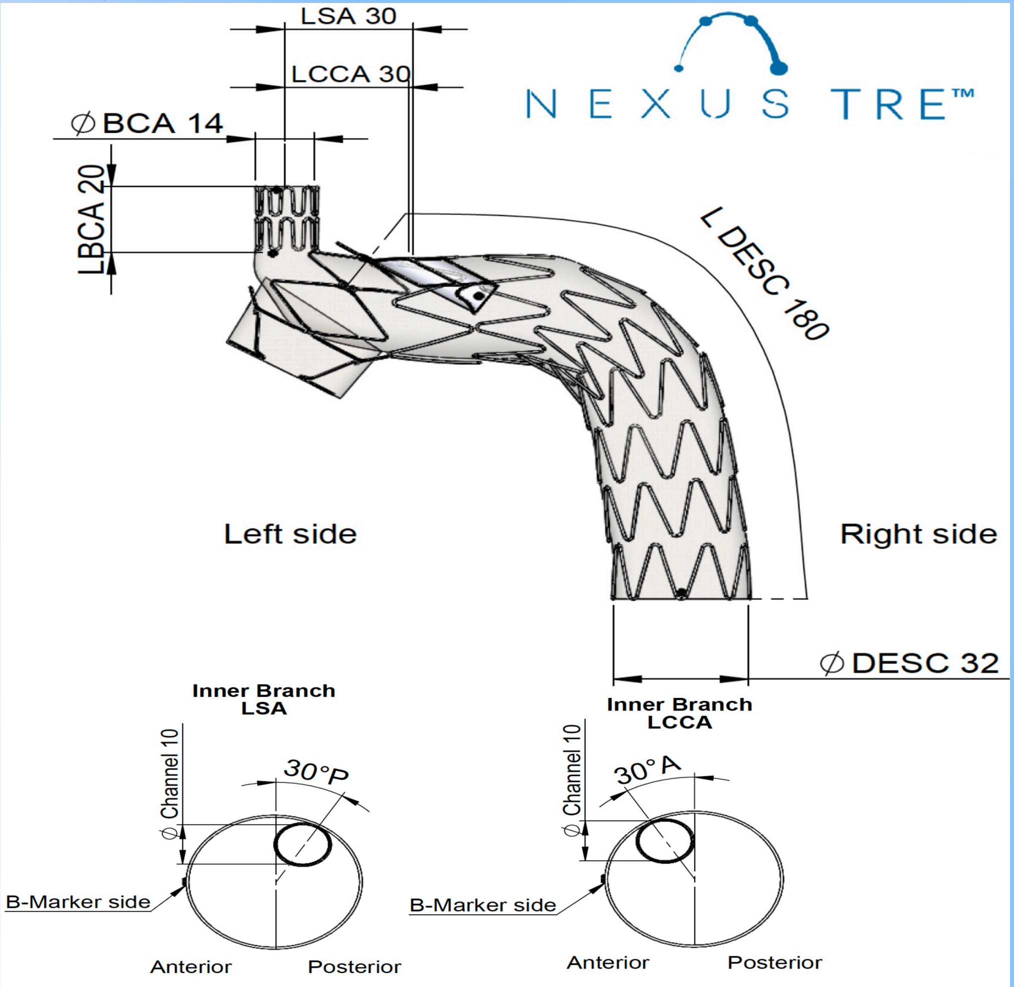

Figure 2: Schematics of the NEXUS TRE, with details on the orientation of the two inner branches and the branch for the brachiocephalic trunk

An endovascular approach was selected, using the **NEXUS TRE** modular system.

Two femoral percutaneous accesses, one subclavian access and one femoral venous accesses for rapid pacing were employed. The procedure included deployment of the ascending module and the main module with brachiocephalic trunk branch, supplemented by Viabahn and VBX covered stents in the left common carotid and left subclavian arteries.

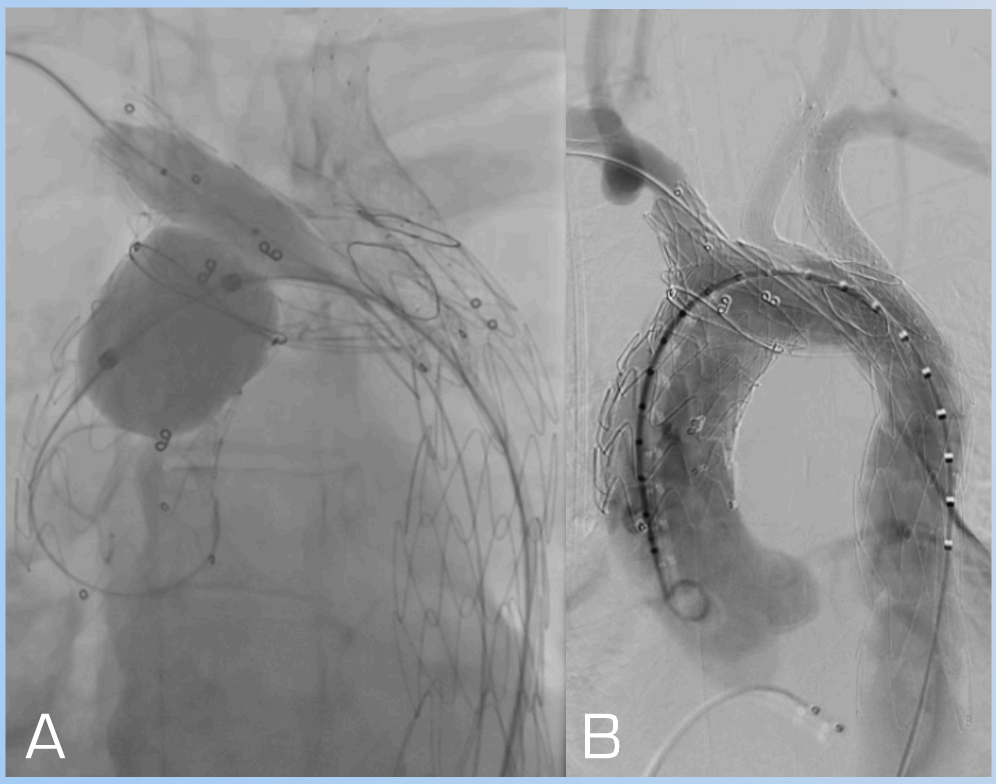

Figure 3: (A) Combined ballooning of the ascending aortic module and the brachiocephalic branch (B) Post-operative angiography with patency of all endografts.

RESULTS

The procedure was completed successfully with no intraoperative complications. Postoperative recovery was uneventful. Follow-up CT angiography confirmed accurate positioning and expansion of the endograft with patent supra-aortic branches and complete exclusion of the false lumen. Residual abdominal dissection persisted with a paravisceral aneurysmal dilation of 45 mm, but visceral and iliac-femoral vessels remained patent.

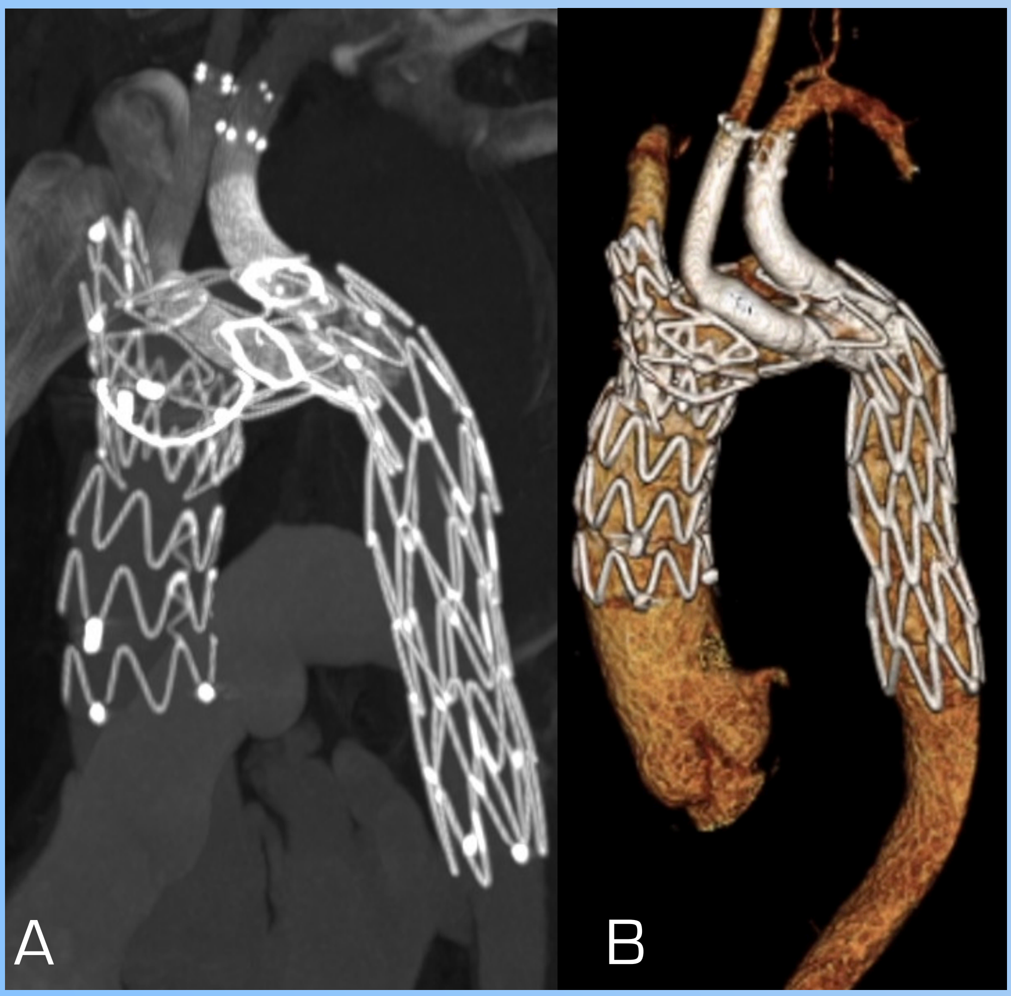

Figure 4: (A) – (B) 3D reconstruction of the post-operative angioCT scan, showing optimal endograft expansion and patency of all supra-aortic trunks