Treatment of Acute Aortic Dissection with Primary Entries in the Arch and Extension to Descending Aorta

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BACKGROUND and OBJECTIVE

- **Acute aortic dissection with primary entries in the arch and extension to the distal descending aorta is designated as type Arch B aortic dissection**

- **The prevalence of acute Arch B aortic dissection is infrequent and the appropriate treatment strategy remains unclear**

- **To compare the outcomes of different surgical treatments for acute Arch B aortic dissection**

METHODS and RESULTS

- **From 2001 to 2022, 57 patients diagnosed with acute Arch B aortic dissection were enrolled (Figure1)**

    - 15 underwent total arch replacement (TAR) plus frozen elephant trunk

    - 14 underwent supra-arch debranching and retrograde stenting

    - 28 underwent isolated endovascular intervention with fenestration or chimney technique

METHODS and RESULTS

- Clinical outcomes including mortality and aortic reinterventions, and the computed tomography angiography-derived parameters of arch dimensions and remodeling were compared
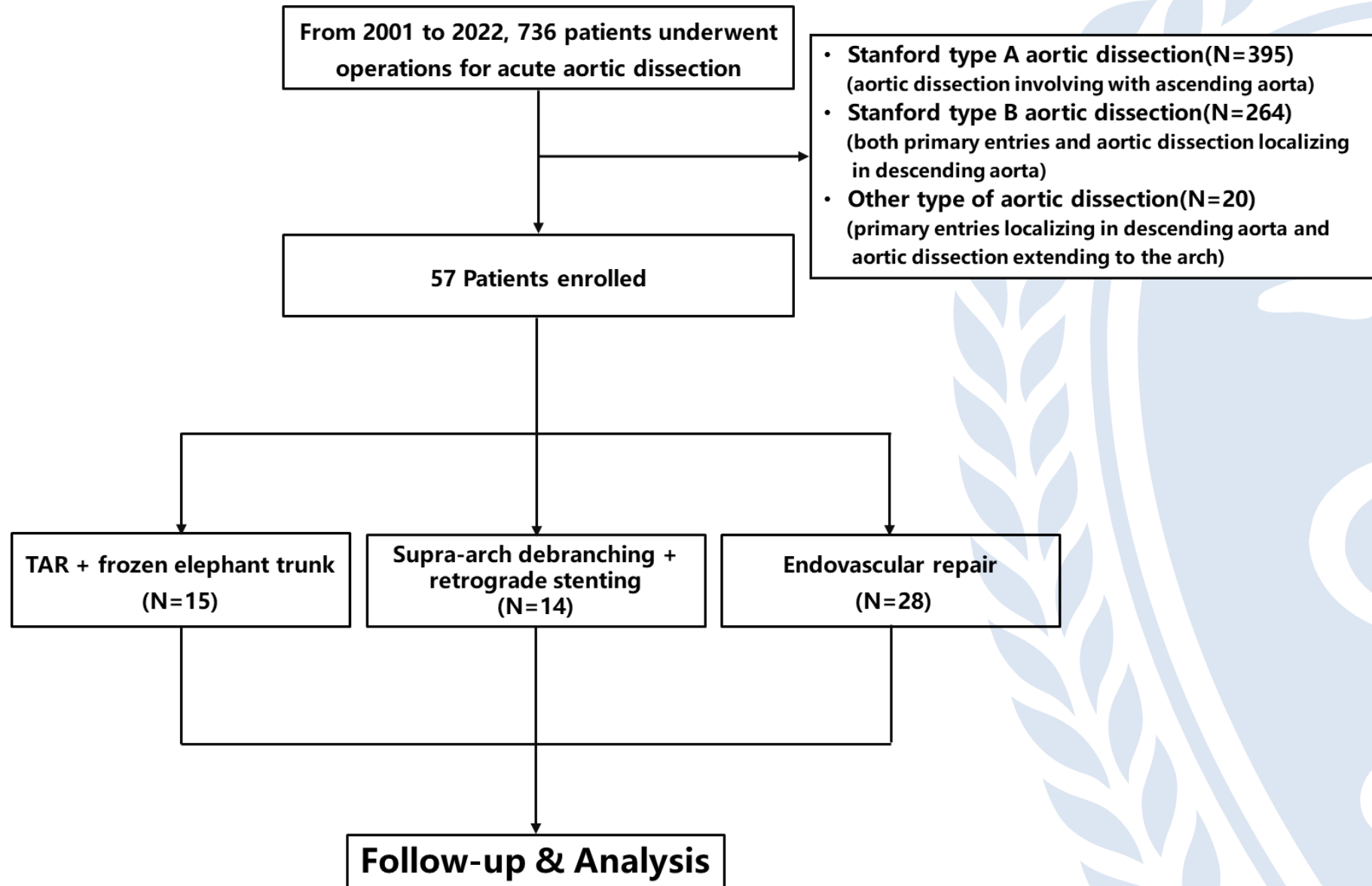
From 2001 to 2022, 736 patients underwent operations for acute aortic dissection

- **Stanford type A aortic dissection(N=395)**
  (aortic dissection involving with ascending aorta)
- **Stanford type B aortic dissection(N=264)**
  (both primary entries and aortic dissection localizing in descending aorta)
- **Other type of aortic dissection(N=20)**
  (primary entries localizing in descending aorta and aortic dissection extending to the arch)

57 Patients enrolled

TAR + frozen elephant trunk (N=15)

Supra-arch debranching + retrograde stenting (N=14)

Endovascular repair (N=28)

Follow-up & Analysis

Figure1. Flow-chart of this study

METHODS and RESULTS

- **The long-term survival was comparable between TAR group and non-TAR group (P=0.915) (Figure2)**

- **There was a trend towards lower 5-year freedom from aortic reintervention in the TAR group (TAR vs non-TAR:100% vs 83.6% ± 6.8%, P=0.057) (Figure3)**

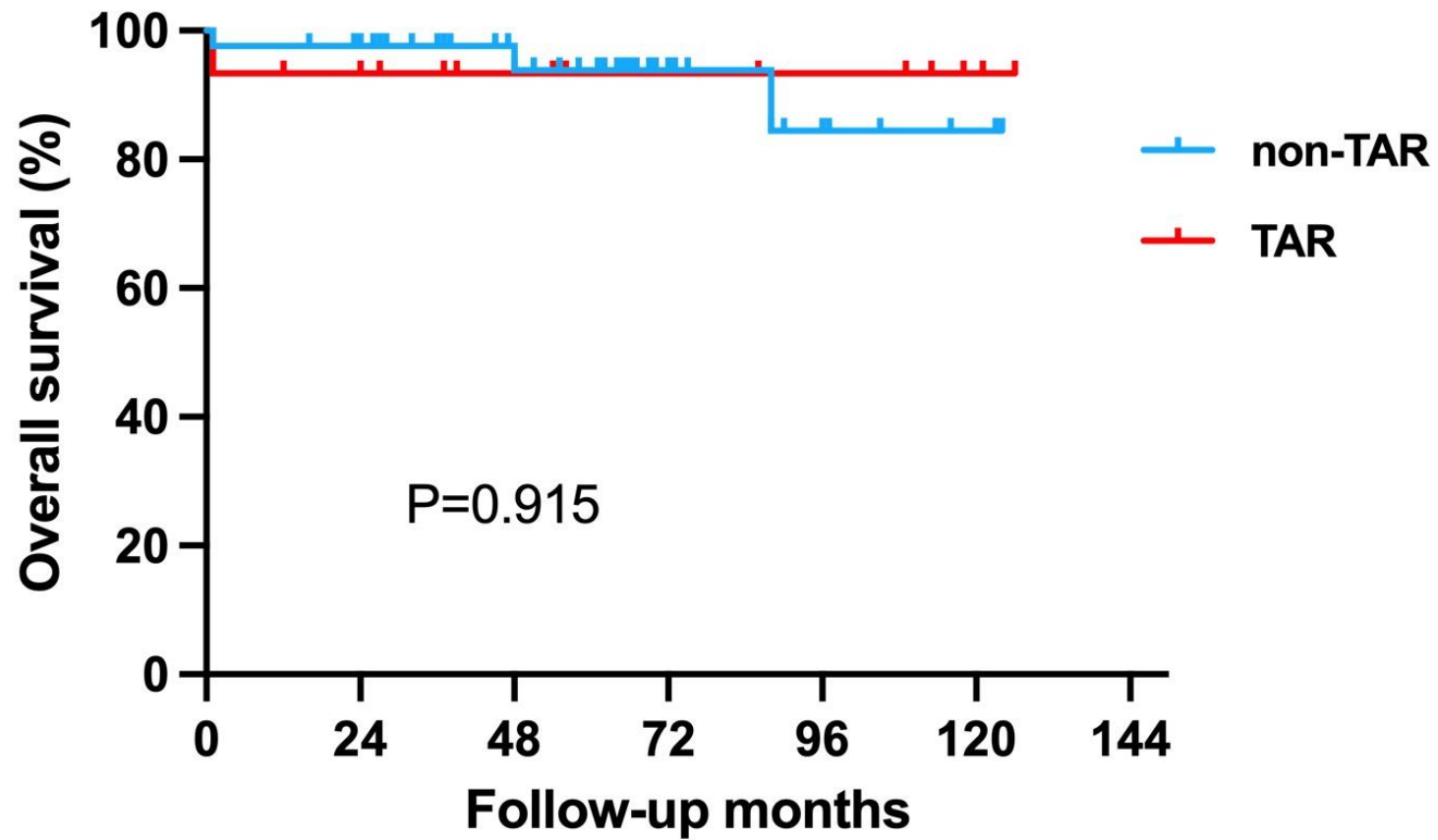- **The rate of complete descending aortic remodeling was also higher in the TAR group (66.7% vs 48.6%, P=0.045)**
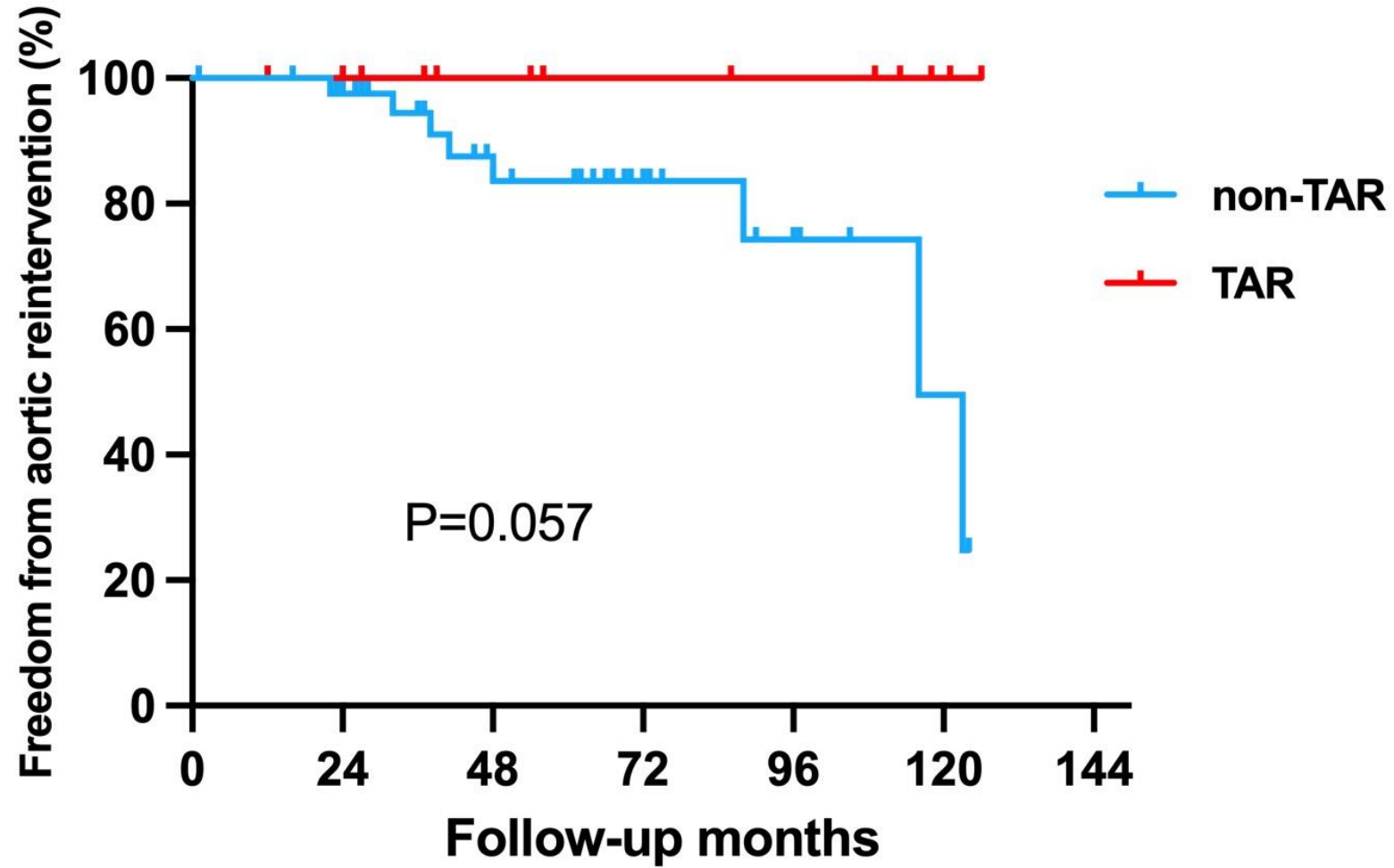
Figure2. The long-term survival

Figure3. The long-term freedom from aortic reintervention

CONCLUSIONS

- **In patients with acute Arch B aortic dissection, resection of the dissected arch may be beneficial with acceptable survival and superior freedom from aortic reintervention compared with non-resection treatments**