Long-term outcomes of total arch replacement with frozen elephant trunk procedure in more than 1,000 cases of acute type A aortic dissection in a single-center

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Objective

- The most effective surgical method for acute type A aortic dissection (ATAAD) involving the aortic arch is controversial

- This study aims to evaluate the long-term outcomes of ATAAD treated with total arch replacement with frozen elephant trunk prodecure (TAR with FET) in a large single-center cohort

Methods

- Between 2007 and 2018, 1427 cases of ATAAD underwent surgical treatment at Fuwai Hospital
- Among them, patients who underwent TAR with FET were selected to obtain clinical data and conduct long-term follow-ups
- The follow-up deadline is November 2023
- Long-term clinical outcomes were summarized by survival, freedom from aortic reoperation, and activity of daily living

Results

- **Patient Characteristics**
  - 1090 patients underwent TAR with FET
  - Males constituted 80.18% of the cohort
  - Average age was 46.6 ± 10.2 years

- **Operative details**
  - 26.6% patients underwent the Bentall procedure
  - CPB time was 191.2 ± 63.7 min
  - Cross-clamp time was 105.1 ± 33.4 min
  - Hypothermic circulatory arrest time was 19.6 ± 7.2 min
  - Operative mortality was 7.34%

Results

- **Fellow-up results**
  - **All causes of death is 166, including 80 operative deaths**
  - **Follow-up time is 6.15±3.97 years, with the longest over 16 years**

- **Long-term outcomes**
  - **The 10-year overall survival was 81.7%**
  - **The 10-year freedom from aortic reoperation rates were 92.97%**
  - **Among the survivors, 847 (83.86%) were able to engage in general physical work**

Conclusion

- **TAR with FET had acceptable operative mortality and encouraging long-term outcomes for ATAAD**

- **TAR with FET should be given priority to recommend for ATAAD in experienced center**

Kaplan–Meier survival analysis