Re-interventions after thoracic endovascular aortic repair (TEVAR) of Type B dissection

Qinglong Zeng, MD Lianjun Huang, MD Lizhong Sun, MD

Objective: We evaluated mechanisms of failure and re-interventions after thoracic endovascular aortic repair for Type B dissection (TEVAR).

Methods: Between Mar 2015 and Jun 2016, 25 patients (18 men; mean 58±12 years, range 38-86) underwent secondary interventions after TEVAR for Type B dissection. Indications were retrograde type A dissection, ascending aortic dissection, endoleak, stent-graft immigration, distal re-entry and rupture.

Results: Mean interval to re-intervention was 40.3±36.4 months (range 0.5-108). Ascending and total arch replacement plus frozen elephant trunk were performed in 9 patients for indications of retrograde dissection in 6, ascending aortic dissection in 2 and rupture for retrograde dissection in 1. Second TEVAR were performed in 14 patients, including 5 of endoleaks (type Ia in 2, type Ib in 1 and type Ia plus III in 2), 1 of device immigration, 5 of distal re-entry and 3 of false lumen rupture. 1 patient underwent bypass from ascending aorta to left cervical artery and left subclavian artery plus open frozen elephant truck for type Ia endoleak. The 30-day mortality was 8% (2/25), causes of death were cerebral infarction and hemorrhage shock respectively. Hyoxemia occurred in 2 patients and systematic infection in 1 patient during hospital stay. No death and complications were found in patients during follow up.

Conclusion: Close surveillance after TEVAR for Type B dissection was warranted to detect potential complications. Secondary interventions can be personalized in individuals with different characteristics and short term outcomes were satisfactory. Further critical evaluation and respecting limitations of TEVAR will help to reduce the need for re-interventions.