

Uncomplicated type B acute aortic dissection: endovascular repair or best medical treatment?

Patients with uncomplicated type B acute aortic dissection (type B-AAD) are commonly treated with conservative therapy (best medical treatment [BMT]) although the long-term outcome of medical therapy alone is suboptimal, with a reported 30% to 50% mortality rate at 5 years and a delayed expansion of the false lumen in 20% to 50% of patients at 4 years. Thoracic endovascular aortic repair (TEVAR) has been also used in patients with uncomplicated type B-AAD to reduce late morbidity and mortality. Recently, several studies have compared early and late outcomes of TEVAR and BMT in patients with type B-AAD. However, the results following preemptive TEVAR for uncomplicated type B-AAD in the acute setting require long-term observation to determine the benefits.

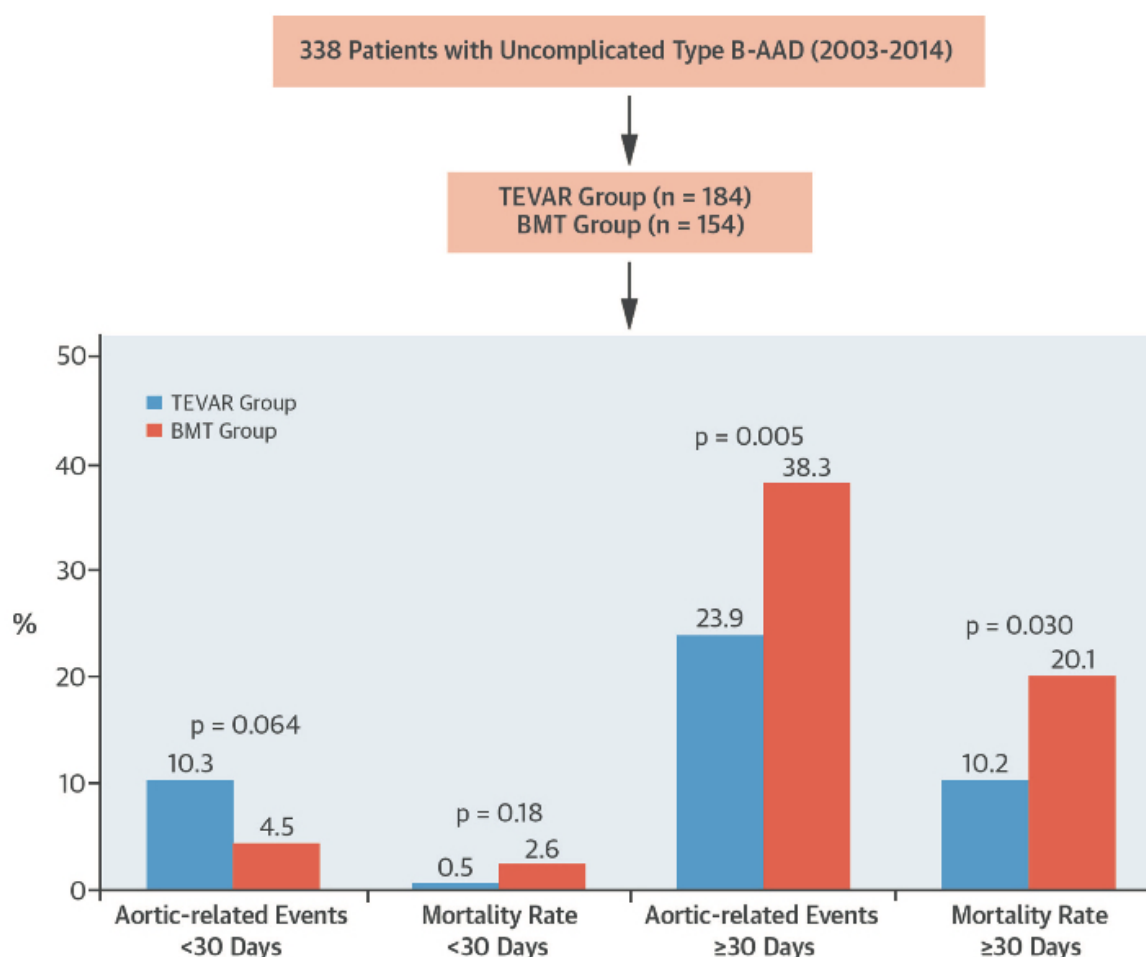


Fig. 1. In a retrospective study of 338 patients with uncomplicated type B acute aortic dissection (B-AAD), management strategies involving thoracic endovascular aortic repair (TEVAR) and best medical treatment (BMT) were compared.

Between February 2003 and August 2014, 338 patients with uncomplicated type B-AAD were identified retrospectively through a review of hospital admitting notes and radiology department procedural logs in 3 medical centers in China, with TEVAR procedures performed on 184 patients. We retrospectively reviewed all their computed tomography angiography (CTA) scans, and the anatomic characteristics, thrombosis status of the false lumen, and extent of the dissection were evaluated and documented. Follow-up CTA imaging was available for all patients; the final survival state was determined via telephone follow-up in 25 patients. The baseline characteristics, comorbidity profiles, extension of dissection, and patency of false lumen were evenly distributed between the TEVAR and BMT groups.

In our study, the early event rate in the TEVAR group was 10.3%, which was higher than that of the BMT group (4.5%), although the difference was not statistically significant. In the TEVAR group, most of the early events (17 of 19) seemed minor or transient, but regular surveillance was warranted if type I endoleak presented. In the BMT group, 4 major complications (1 organ failure and 3 ruptures) occurred, plus 3 uncomplicated dissections became complicated despite aggressive antihypertensive management. The early mortality rate was 0.5% with TEVAR and 2.6% with BMT, and no significant was found between two groups.

In our study, patients in the BMT group experienced more aortic-related adverse events and late deaths than those treated with TEVAR. The cumulative freedom from aortic-related adverse events at 5-year follow-up was 71.8% in the TEVAR group and 62.2% in the BMT group. Type I endoleak (11 of 35; 31.4%) and stent graft-induced new entry ?SINE? (9 of 35; 25.7%) were the main late events in patients treated with TEVAR, and the main causes of late events in patients treated with BMT were aortic enlargement (28 of 59; 47.5%) and aortic rupture (19 of 59; 32.2%) . The cumulative survival rates from all causes of death at the fifth year was 89.2% in the TEVAR group and 85.7% in the BMT group. A total of 50 late deaths were reported, including 27 aortic-related late deaths, 24 of which were due to a ruptured false lumen in the descending aorta and the remaining 3 to retrograde type A-AD.

This study confirmed the feasibility of TEVAR for uncomplicated type B-AAD in the acute setting with lower aortic-related adverse events and a lower mortality rate compared with BMT after 5 years of follow-up. Given that the TEVAR procedure did not significantly lower morbidity and mortality compared with BMT during the early years of follow-up, TEVAR should be considered as a therapy to improve late outcomes in young adults or patients with longer life expectancy.

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