



Risk factors associated with aortic remodeling in patients with Stanford type B aortic dissection after thoracic endovascular aortic repair

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ABSTRACT. To determine the risk factors associated with adverse aortic remodeling after thoracic endovascular aortic repair (TEVAR) in patients with Stanford type B aortic dissection, we performed a retrospective analysis of 54 patients between January 2009 and June 2012 at the First Affiliated Hospital of Soochow University. All patients underwent TEVAR of the descending thoracic aorta. Multiple-logistic regression analyses were performed to identify risk factors associated with aortic remodeling. True-lumen and false-lumen volumes were increased ($P < 0.001$) and decreased ($P < 0.001$) after surgery, respectively. Therefore, the remodeling index increased after surgery (1.04 ± 0.6 to 2.06 ± 1.12 , $P < 0.001$). Remodeling index and true-lumen volume were higher in the favorable aortic remodeling group compared to the adverse aortic remodeling group ($P < 0.001$), while the false-lumen volume was lower in the favorable aortic remodeling group

($P < 0.001$). Multivariate analyses revealed a branch originating from the false lumen (OR = 39.9, $P < 0.01$) and multiple tears (OR = 27.4, $P < 0.01$) to be independent risk factors for adverse aortic remodeling. Therefore, a branch originating from the false lumen and multiple tears were determined to be independent risk factors for adverse aortic remodeling after TEVAR in patients with Stanford type B aortic dissection.

Key words: Aortic dissection; Aortic remodeling; Lumen volume; Thoracic endovascular aortic repair; Remodeling index