Balloon aortic valvuloplasty for severe aortic stenosis: acute and long-term outcomes

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Introduction: The use of the balloon aortic valvuloplasty (BAV) has risen with the development of transcatheter aortic valve stenosis (TAVR). The role of BAV should be reevaluated as a part of the complex treatment of severe aortic stenosis in high risk patients.

Aim: We evaluated the patient characteristics, peri-procedural complications and long-term outcome after BAV. We also present our results of the external beam radiation therapy (EBRT) impact on restenosis after BAV.

Methods: We retrospectively analyzed all of the patients who underwent BAV from January 2009 to June 2013 and

stratified our cohort into 3 groups: BAV as a bridge to TAVR/SAVR, BAV as a final therapy and consecutive BAV.

Results: We analyzed 228 patients (mean age 82.5 ± 6.3 , logistic EuroSCORE 17.0 ± 11.4). After BAV aortic valve area increased (0.60 ± 0.20 cm² to 0.72 ± 0.21 cm², $p < 0.001$) and mean aortic gradient decreased (48.8 ± 15.7 mmHg to 37.1 ± 11.9 mmHg, $p < 0.001$). Major intra-hospital complications occurred in 11.4% with three procedure-related deaths (1.3%). BAV bridged to TAVR had a better outcome than BAV alone. EBRT showed no effect on the long-term outcome.

KEYWORDS: balloon, aortic, valvuloplasty, stenosis, outcomes.

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