

Is Aortic Balloon Valvuloplasty in Patients With Inoperable Severe Calcific Aortic Stenosis a Viable Therapeutic Option?

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Background: . Aortic valve replacement is the standard treatment for severe aortic stenosis. Aortic balloon valvuloplasty (ABV) carries lower acute procedural risk than surgery but has a high restenosis rate. In view of the increasing number of patients with aortic stenosis who are inoperable due to advanced age or other comorbidities, we reinstated a balloon valvuloplasty program as palliative treatment for this high-risk patient population.

Methods: Between May and October 2008 10 patients underwent ABV. All were declared inoperable by consensus with cardiac surgeons prior to ABV. Clinical characteristics and patient outcomes were analyzed.

Results: Mean age was 81 ± 8 years, Euroscore 14 ± 4 , estimated surgical mortality $48\pm 27\%$ and 6/10 were female. Following ABV, aortic valve area increased from 0.77 ± 0.12 to 1.06 ± 0.11 cm², maximal pressure gradient decreased from 69 ± 13 to 49 ± 14 mmHg and mean pressure gradient from 39 ± 6 to 30 ± 9 mmHg. During 81 ± 66 days of follow-up 2 patients died. A 78 year-old man on mechanical ventilation and dialysis with end-stage heart failure, severely reduced ventricular function, and previous bypass surgery who had been transferred from another hospital, died during the procedure. An 88 year-old woman improved clinically following ABV but died suddenly 2 weeks later. An additional patient underwent repeat ABV after 5 months due to restenosis. The remaining 7 patients have improved functional capacity and have not needed hospital readmission for cardiac symptoms.

Conclusions: 1. Aortic balloon valvuloplasty is a viable palliative therapeutic option in inoperable patients with severe aortic stenosis. 2. A relatively small increase in valve area may translate into significant clinical improvement. 3. Long term follow-up in a larger cohort is planned to assess the value of this approach in relation to standard surgical treatment and to reported outcomes of percutaneous valve implantation.