

SEVERE AORTIC STENOSIS: A CONTEMPORARY LOOK AT THE PATTERNS OF REFERRAL AND TREATMENT

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Background: With the advent of percutaneous valve technology, little is known about the care path of patients from the point of diagnosis of severe aortic stenosis (AS). The purpose of this study was to determine the patterns for referral and treatment of patients with severe AS and their impact on survival.

Methods: We retrospectively reviewed all patients diagnosed with severe AS at an academic medical facility between January 1997 and April 2008 (n = 345). The risk profile and the treatment plan of each patient were analyzed. Estimates of survival were calculated by the Kaplan-Meier method and hazard function methodology was used to determine risk factors for mortality.

Results: Only 205 patients (59%) underwent aortic valve replacement (AVR group). Of the remaining 140 patients (41%) (medical group), 24 patients (17%) were not evaluated by cardiology, 57 (41%) were evaluated by cardiology but not referred to surgery, 25 (18%) were evaluated by cardiac surgery but not offered surgical treatment, 30 (21%) declined surgical intervention, and 4 (3%) died during work-up. The AVR group was significantly younger (69.5 ± 9.6 years vs. 75.7 ± 8.6 years; $P < 0.001$) and had a higher prevalence of symptoms (96% vs. 71%; $P < 0.001$) compared to the medical group. The medical group had a lower cardiac ejection fraction ($42 \pm 15\%$ vs. $50 \pm 12\%$; $P < 0.001$) and a higher plasma creatinine (1.4 ± 0.8 mg/dl vs. 1.2 ± 0.5 mg/dl; $P < 0.001$) compared to the AVR group. Survival rates were significantly higher in the AVR group than in the medical group at 1 year [92% (95% CI, 87%-95%) vs. 65% (95% CI, 56%-72%)], 3 years [85% (95% CI, 79%-90%) vs. 29% (95% CI, 21%-37%)], and 5 years [73% (95% CI, 65%-80%) vs. 16% (95% CI, 9%-23%)] (Log rank test, $P < 0.0001$). Surgery resulted in a reduction of mortality (HR 0.12, 95% CI, 0.07-0.23; $P < 0.0001$).

Conclusion: A significant number of patients with severe AS do not undergo AVR and many of whom never get to be evaluated by cardiac surgery. As expected, medically managed patients have extremely poor survival.