Conventional Isolated Aortic Valve Replacement in Octogenarians: A 10-Year Single Center Experience

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Conventional Isolated Aortic Valve Replacement in Octogenarians: a 10-Year Single Center Experience

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Aortic Valve Replacement (AVR) is a type of open heart surgery where a patient’s failing aortic valve is replaced with either a bioprosthetic or mechanical valve. AVR’s are usually performed on patients with leaky valves (aortic insufficiency, caused by endocarditis or a congenitally bicuspid valve) or patients with blocked valves (aortic stenosis, see pictures below). Previous surgeries and additional heart, kidney, or respiratory problems can be an added risk to this surgery. Patients who receive bioprosthetic valves (either bovine, porcine, or homograft) must get those valves replaced again within 7-10 years. Mechanical valves do not need a future replacement but require lifetime use of anticoagulants to prevent clotting. Since there are so many extraneous factors involved in an AVR it is important to retroactively study these surgeries in hopes of identifying risks.

We conducted a retrospective review of 633 consecutive patients undergoing isolated aortic valve replacement during a 10-year period (2000-2010) at a large tertiary community hospital. The patients were divided into two groups: age <80 (n=505) and age ≥80 (n=128). Primary outcomes measured were in-hospital and 30 day mortality, as well as the time to death.

At baseline, age ≥80 patients were more likely to be female (57% vs 44.2%), had more CKD (23.4% vs 11.3%), had a longer length of stay (10.2±6.7 days vs 7.6±6.1 days†), and higher in-hospital mortality (3.9% vs 0.6%). Both patient groups had similar LVEF (55.7±11.9 vs 55.3±12.5), DM (26.7% vs 29.7%), and COPD (16.4% vs 12.5%). Despite a greater in-hospital mortality in age ≥80, there were no deaths within 30 days after hospital discharge. Once discharged, the readmission rates were similar for age ≥80 (% vs 8.5%), in patients ≥80, there were 34 (26.6%) total deaths compared to 64 (16.6%) in <80†. The time to death however was not significant ≥80 (29±24.8 months) vs <80 (36.3±29.9), *P<0.05, †P<0.01.

These results suggest that despite advanced age, the overall 30-day and time to death was similar to a younger cohort. In low-risk octogenarians, conventional AVR should still be considered the gold standard. However, developing a modified risk-assessment algorithm specific for octogenarians would improve patient outcomes. Further studies should include looking at “low risk” TAVR vs AVR.