Contemporary experience with the Commando procedure for anterior mitral anular calcification

Objective: Anterior mitral anular calcification (MAC), particularly in the setting of radiation associated cardiac disease (RACD), presents a challenge to prosthesis sizing and placement when concomitant mitral and aortic double valve replacement (DVR) is required. The Commando procedure provides a reliable means of implanting mitral and aortic prostheses in patients with severe anterior MAC. We compared outcomes of the Commando procedure with double valve replacement (DVR) in which the aorto-mitral curtain was preserved.

Methods: Between Jan 2011 and Dec 2021, 128 Commando procedures and 1198 DVR were performed at our institution after excluding endocarditis. Indications for Commando were MAC (n=43), prosthesis mismatch (10), RACD (67), and others (8). One-to-one propensity score matching yielded 101 well-matched pairs. Longitudinal hemodynamics were assessed with mixed models, and reintervention and mortality by parametric hazard models.

Results: Baseline age was 63 years (12) and 60% were female sex. Commando and DVR had similar in-hospital outcomes including operative mortality (11 vs 7.9%, $P=.47$) and reoperation for bleeding (7.9 vs 5.9%, $P=.58$). For long-term outcomes, survival after Commando and DVR at 5 years were 53% and 73% ($P=.69$). Freedom from any reoperation after Commando and DVR at 5 years were 86% and 99% ($P=.26$). Commando had a lower aortic valve mean gradient vs DVR at 4 years (9.9 vs 12 mmHg, $P=.04$). When stratified by indication, survival at 5 years after Commando for MAC, prosthesis mismatch, and RACD were 58%, 37%, and 59% ($P=.43$), respectively.

Conclusion: Aggressive treatment for radiation associated cardiac disease and mitral annual calcification with the Commando procedure has demonstrated outcomes comparable to double valve replacement. Differences in long-term outcomes likely reflect differences in intrinsic cardiac disease in these challenging populations.

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Additional Resources

- [https://files.aievolution.com/prd/aat2101/abstracts/abs_4840/panel-2.pdf](https://files.aievolution.com/prd/aat2101/abstracts/abs_4840/panel-2.pdf)