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 anular 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.

Lin Chen (1), Rashed Mahboubi (1), Habib Layoun (1), Mona Kakavand (1), fei xiang (1), Jeevanantham Rajeswaran (1), Austin Firth (1), Serge C. Harb (1), Eugene Blackstone (1), Marc Gillinov (1), Lars Svensson (1), Marijan koprivanac (1), Douglas Johnston (1), (1) Cleveland Clinic, Cleveland, OH

Additional Resources