

Modified Manouguian Technique for Aortic Root Enlargement: A Case Series

Madison Malfitano¹, Julia A. Brickey¹, Aurélie Merlo², and Thomas Caranasos²

¹University of North Carolina at Chapel Hill School of Medicine

²UNC Medical Center

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Abstract

Background: Manouguian aortic root enlargement (ARE) has been a standard root enlargement procedure to assist in patients with a small annular size. We describe a modification to the Manouguian ARE similar to Yang et al. This approach could serve as an alternate technique for performing ARE; to date only case reports have defined this approach and no studies have evaluated its efficacy or safety. *Methods:* A retrospective case series was performed on patients who underwent ARE for surgical aortic valve replacement via the modified Manouguian procedure at a single institution. Thirteen patients were identified between 2015-2021, and all surgeries were performed by a single operator. Data were collected via the Society of Thoracic Surgeons database and chart review. The primary outcome was difference in valve size after the procedure. *Results:* The most common indication for surgery was aortic stenosis (12, 92%), with the most common etiology being degenerative calcification (7, 54%). Congenital bicuspid or uni-cuspid valves were identified in 5 (38%) patients. The majority (10, 77%) of patients received a mechanical valve. This procedure was successfully performed in all 13 of the patients. Additionally, 13 of the 13 patients (100%) were upsized to a satisfactory valve size based on pre-operative echocardiography sizing. *Conclusions:* The modified Manouguian aortic enlargement technique can be safely and effectively used as an aortic enlargement procedure in a broad sample of patients.

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