

OBJECTIVES

Different strategies for mitral valve (MV) repair in treating mitral regurgitation (MR), including both resectional and non-resectional approaches, have demonstrated effectiveness and durability in clinical practice. This study aims to evaluate the preliminary outcomes of a standardized, non-resectional repair technique that combines fixed-length chordae implantation with edge-to-edge repair, applied across a broad spectrum of patients undergoing MV repair.

METHODS

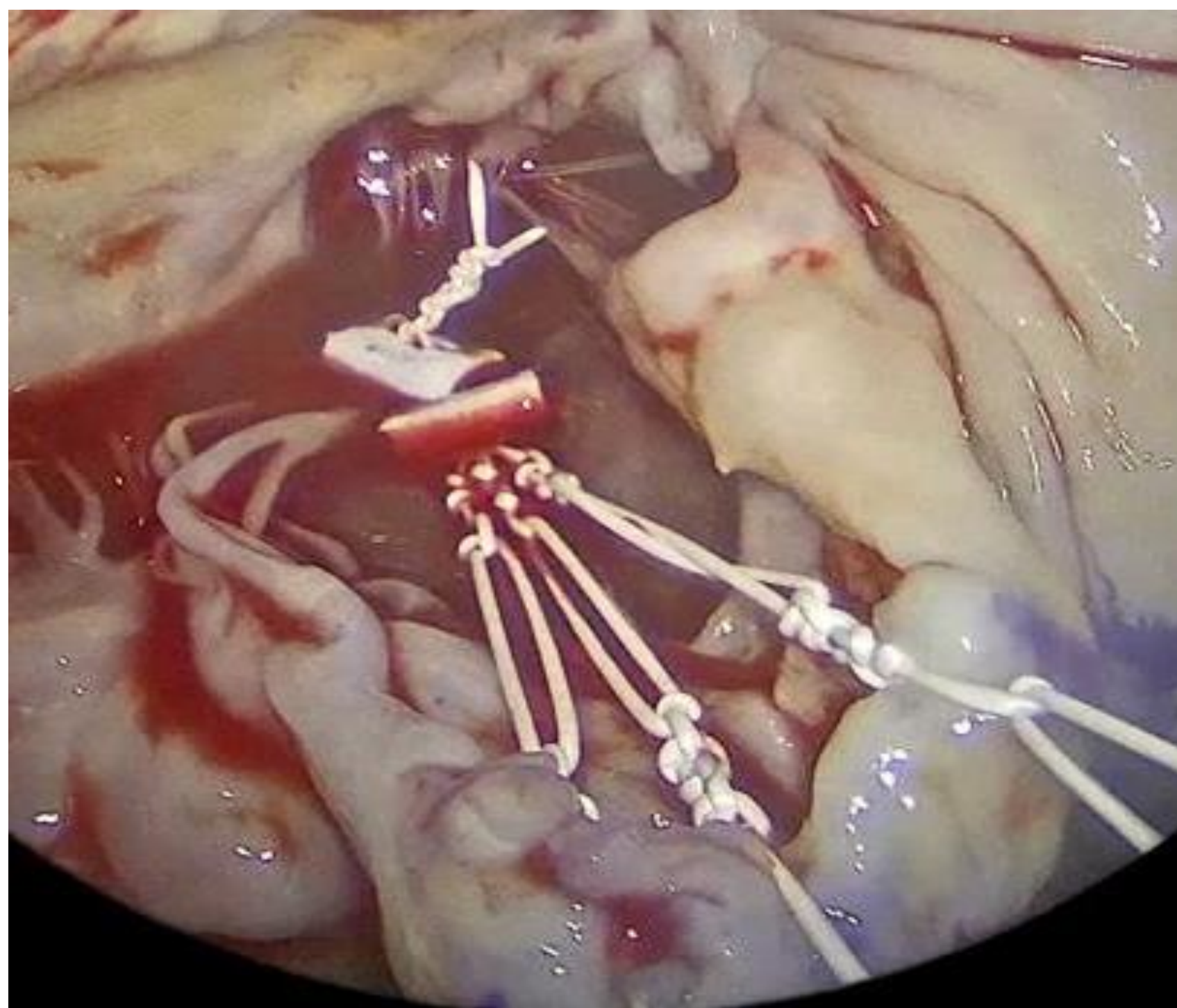
A retrospective analysis was conducted on 182 consecutive patients who underwent MV repair with this standardized approach between January 2021 and June 2024. Fixed-length CV-4 Gore-Tex sutures were employed for artificial chordae, measuring 23 mm for the anterior leaflet and 16 mm for the posterior leaflet. Edge-to-edge repair was utilized in cases where the MV area was > 4 cm², either as the primary technique or to address residual MR. Additionally, a prosthetic annuloplasty band was implanted without downsizing.

RESULTS

The mean patient age was 63.7±10.8 years. Preoperative congestive heart failure was observed in 49 patients (26.9%), while pulmonary hypertension was present in 19 patients (10.4%). Posterior leaflet disease was identified in 124 patients (68.1%) while anterior and bileaflet disease was identified in 23(12.6%), and 28 patients (15.4%), respectively. Preoperative echocardiographic measurements showed an LVEF of 62.3±8.8%, a left ventricular end-diastolic diameter (LVDd) of 55.4±10.0 mm, and a left ventricular end-systolic diameter (LVDs) of 35.5±8.6 mm. Successful MV repair was achieved in 178 patients (97.8%), with 63 patients (35.4%) undergoing median sternotomy and 115 patients (64.6%) undergoing right mini-thoracotomy. Repair techniques included the use of artificial chordae alone in 81 patients (45.5%), a combination of chordae and edge-to-edge repair in 35 patients (19.7%), and edge-to-edge repair alone in 56 patients (31.5%). There was one cardiac-related mortality (0.5%). At discharge, 175 patients (98.3%) had less than mild MR, while 3 patients (1.7%) had mild to moderate MR. The mean MV pressure gradient at discharge was 3.4±1.7 mmHg. During a median follow-up of 1.3±1.0 years, one patient (1.1%) required reoperation for recurrent MR.

CONCLUSIONS

Our standardized, non-resectional MV repair technique, using fixed-length artificial chordae and edge-to-edge repair, demonstrated promising short-term outcomes. Further long-term follow-up is needed to evaluate its durability.



Approach	N = 182
Median sternotomy	63 (35.4%)
Right mini-thoracotomy	115 (64.6%)
MIS conversion	4 (2.2%)
MV repair	178 (97.8%)
Conversion to replacement	4 (2.2%)
Concomitant procedures	
Tricuspid annuloplasty	14 (7.7%)
atrial fibrillation surgery	41 (22.5%)
CABG	27 14.8%)
AVR	5 (2.7%)
ASD closure	7 (3.8%)
Description of MV repair	
Annuloplasty	176 (98.8%)
Median ring size (mm, IQR)	34 (32-36)
Chords only	81 (45.5%)
Edge-to-edge repair only	56 (31.5%)
Chords + edge-to-edge repair	35 (19.7%)
Post-operative events	
30-day mortality	1 (0.5%)
stroke	4 (2.2%)
wound complication	4 (2.2%)
Renal failure	9 (4.9%)
Sepsis	3 (1.6%)
PM implantation	1 (0.5%)
Postoperative MV repair echo findings	
none, trivial, trivial-mild	175 (98.3%)
mild-moderate	3 (1.7%)
mean PG	3.4 ± 1.7 mmHg