

MV Repair: The Trailing Edge Technique

Rosa Giusti, Rafik Margaryan, Giacomo Bianchi, Marco Solinas. Ospedale del Cuore, Fondazione Monasterio, Massa, Italy.

INTRODUCTION

Background

In the pool of current mitral valve repair techniques, valve reconstruction with polytetrafluoroethylene sutures is associated with high repair rates and excellent durability, but is dependent on careful implantation technique. When considering the manner in which freehand neo-chordae are performed, this is often associated with subjectivity and variability between surgeons, and this can lead to different results.

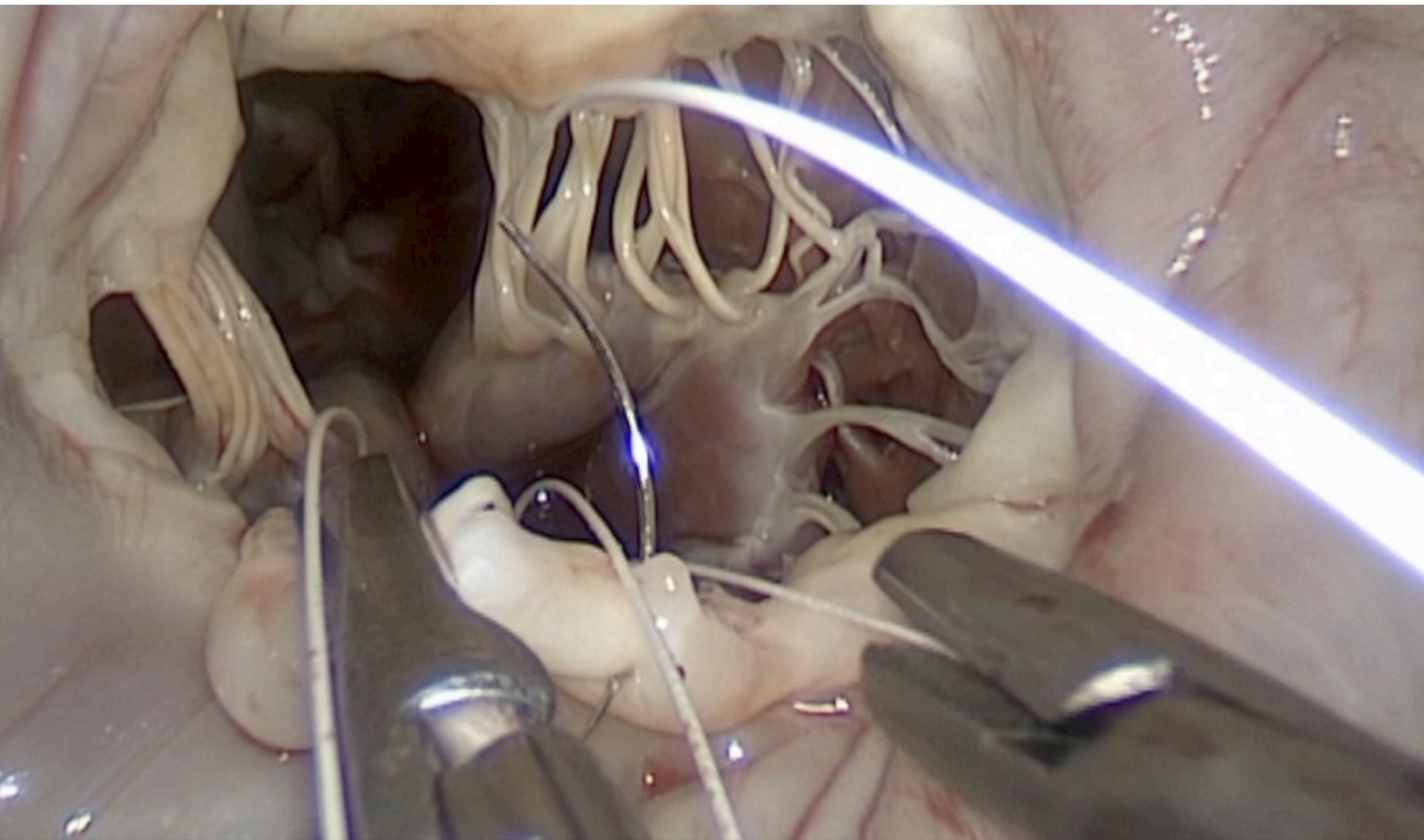
We present a strategy to simplify and standardise neo-chordae implantation to correct posterior mitral valve prolapse in two specific types of disease, fibroelastic and myxomatous deficiency. In contrast to FED, in which care must be taken to implant neochords on the free edge of the posterior leaflet due to the lack of tissue, myxomatous valves allow free implantation of neochords as ‘secondary order chords’, sliding back the trailing point and coaptation surface (“trailing edge technique”), reducing the length of the posterior leaflet and restoring the anatomical and functional shape of the valve.

METHODS

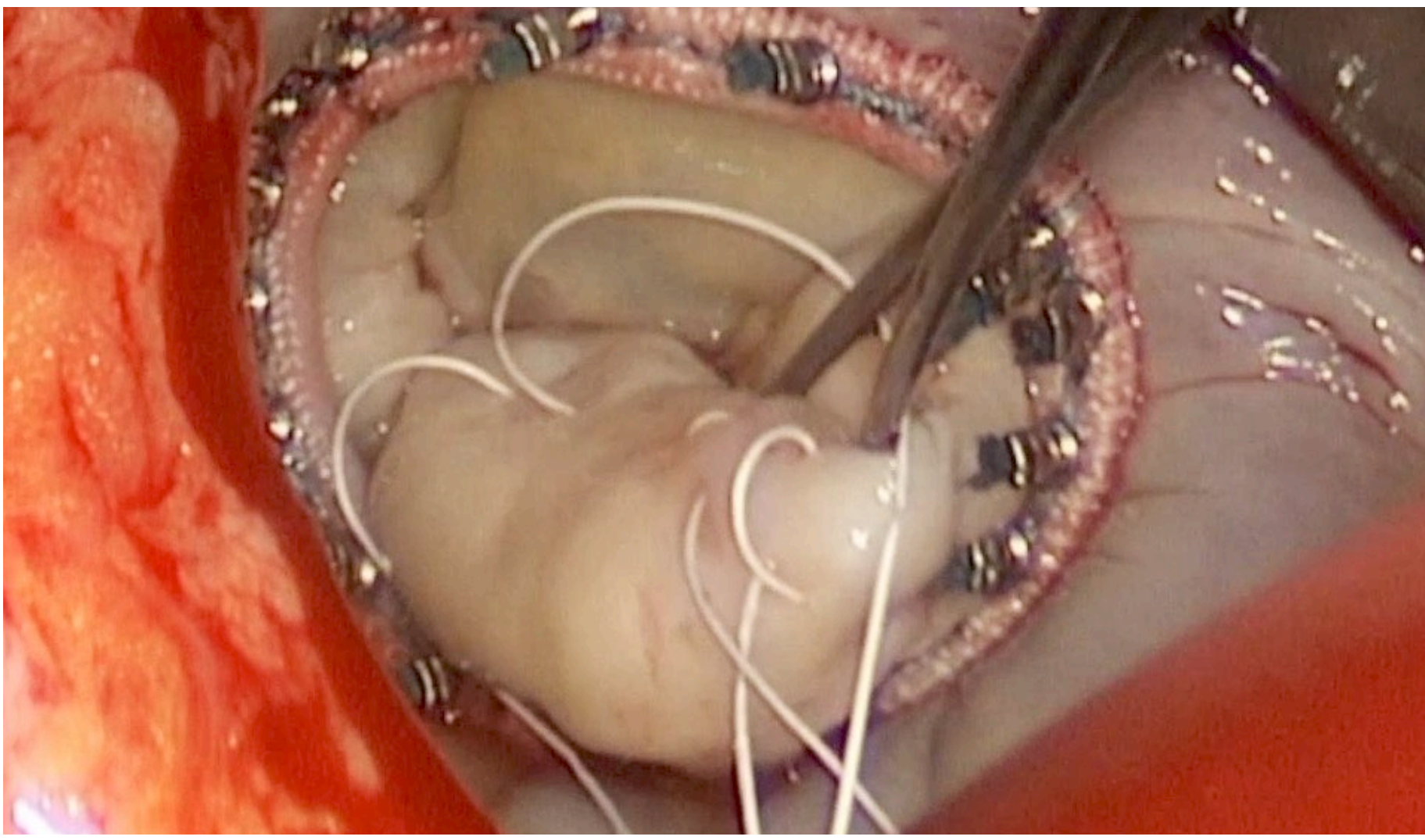
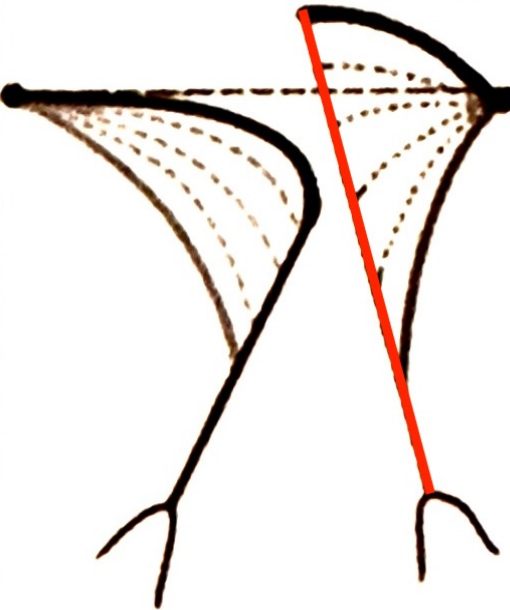
From 2015 to September of 2024 a total of 779 patients underwent endoscopic mitral valve surgery. 170 patients with mitral insufficiency from posterior leaflet prolapse underwent mitral valve repair using above mentioned technique. In this cohort, 71.7% (n=122) had fibroelastic deficiency and 28.3% (n=48) had myxomatous leaflet disease.

RESULTS

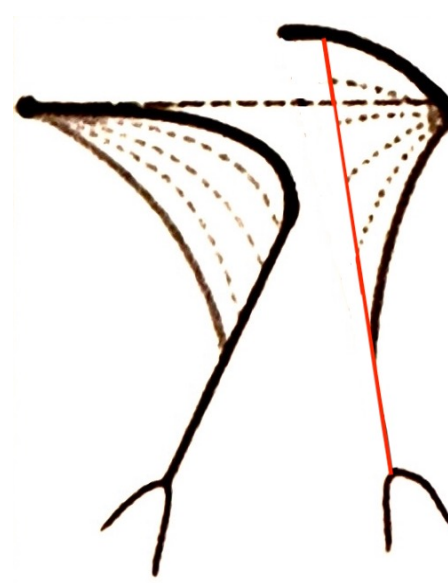
All patients underwent successful endoscopic mitral valve surgery. The average age was 62±11 years, 16.5% (n=28) were women; in-hospital and 30-day mortality rate was null. Analysis of the ultrasound data at a mean follow-up of 5 years showed 2 cases of moderate residual mitral insufficiency (1.2%) and 17 cases of mild insufficiency (10%), resulting absolute freedom from reintervention. The incidence of SAM was 2.9% with good medical management with beta-blockers.



FED



MIXOMATOUS



CONCLUSIONS

The “trailing edge technique” is intended to be an attempt to simplify, standardize and generalize the management of the freehand neo-chordae system. Thus, it could for all intents and purposes be part of everyday practice. In our experience it yields to “perfect” mitral valve repair.

