SCIENTIFIC LETTER

RESOLUTION OF MITRAL ANNULAR DISJUNCTION THROUGH MINIMALLY INVASIVE SURGERY

ABSTRACT

We present the case of a 60-year-old patient with a history of hypertension, diagnosed with mitral insufficiency in the context of functional class 3 dyspnea.

Mitral annular dysjunction is a structural anomaly characterized by the separation of the myocardium of the left ventricle and the mitral annulus that supports the posterior leaflet during systole. A strong link between mitral annulus disjunction and arrhythmogenic valve prolapse is recognized in this entity.

Keywords: *mitral annular dysjunction, mitral valve, mini-invasive surgery.*

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INTRODUCTION

Mitral annular disjunction is a structural anomaly characterized by the separation of the left ventricular myocardium and the mitral annulus supporting the posterior leaflet during systole. A clear association between mitral annulus disjunction and arrhythmogenic valve prolapse is recognized in this entity[1-4]. The first description of this pathology was in the 1980s by Hutchins et al.[5] after performing autopsies on deceased patients with mitral valve prolapse. This entity gained importance in 2005, when Eriksson et al.[6] reported that understanding this pathology was crucial for achieving better long-term results[7].

CLINICAL CASE

We present the case of a 60-year-old patient with a history of hypertension, diagnosis of mitral regurgitation, and functional class 3 dyspnea. In the preoperative studies, the echocardiogram revealed valve prolapse, a 9 mm mitral annulus disjunction, and severe mitral regurgitation, with no evidence of arrhythmic events. The EF was 65%, there was eccentric hypertrophy, non-dilated right chambers, mild tricuspid and pulmonary regurgitation (*Figure 1*). Magnetic resonance imaging showed a myxomatous mitral valve and 9 mm annulus disjunction, without motility alterations, with severe mitral insufficiency and mild aortic insufficiency. A cine coronary angiography was also performed, in which no significant lesions were observed.

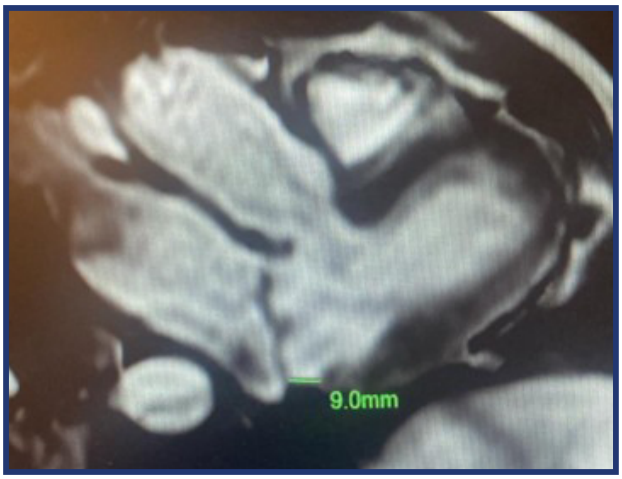

FIGURE 1. Echocardiogram showing atrial displacement of the mitral annulus plane.

TREATMENT

A minimally invasive video-assisted mitral valvuloplasty by right thoracoscopy was performed. The procedure consisted of quadrangular resection of P2 (*Figure 2A*), sliding of the posterior leaflet with incorporation of three pairs of neochords (*Figure 2B*), and fixation of the annulus to the ventricle with U-stitches with pledgets (*Figure 3A*) and a number 36 flexible ring (*Figure 3B*). The intraoperative control echocardiogram showed residual mild mitral regurgitation.

The patient underwent the postoperative period without complications; he remained for hours in the cardiovascular recovery room. He was discharged on the fourth day after surgery, without complications.

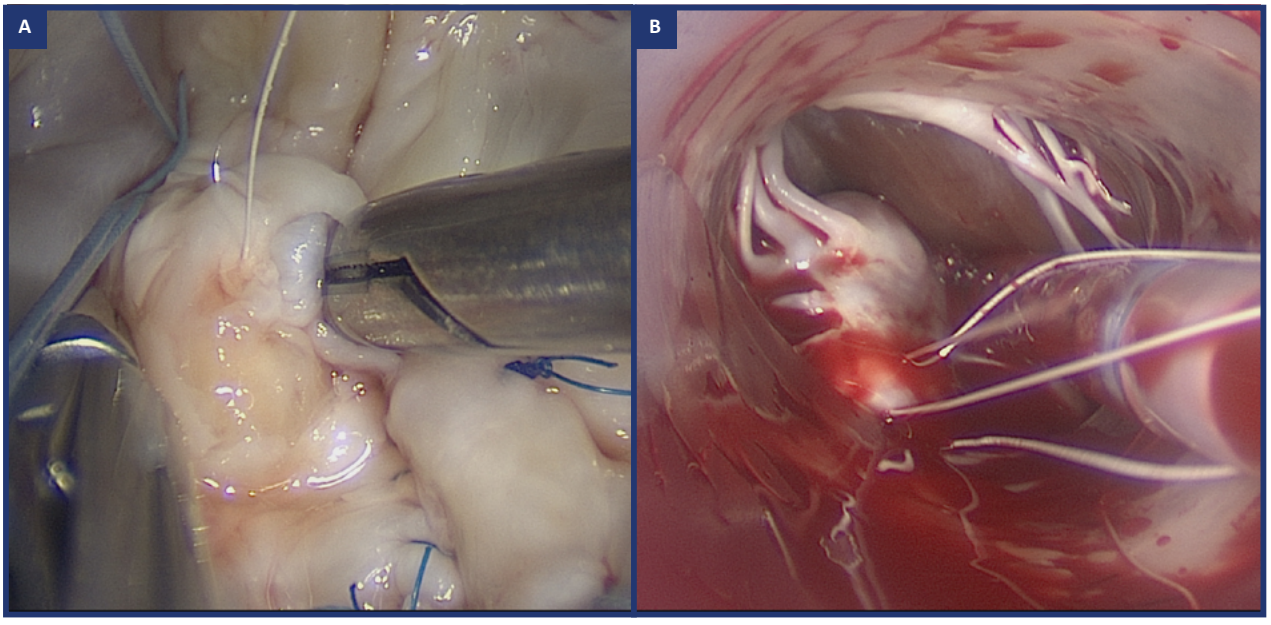

FIGURE 2. A: Quadrangular resection of P2. **B:** Neocord.

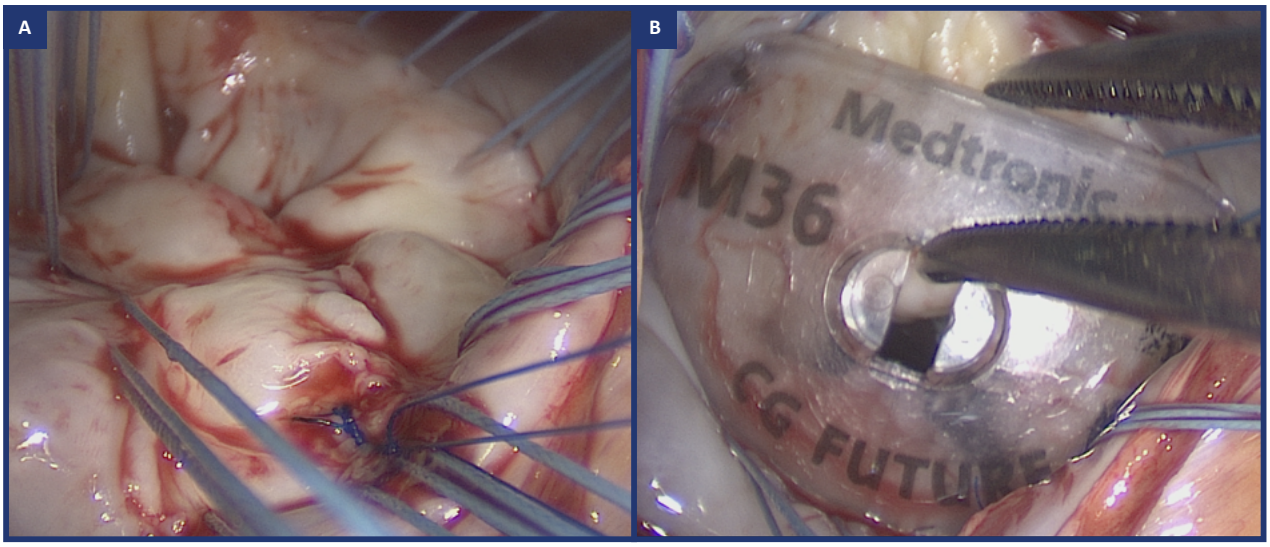

FIGURE 3. A: Annuloplasty points. **B:** Mitral annulus measurement with measuring device 36.

DISCUSSION

The case presented here highlights the importance of early diagnosis and surgical intervention in patients with mitral annulus disjunction, as adequate repair can restore valve functionality, prevent deterioration of cardiac function, and reduce the occurrence of ventricular arrhythmias associated with this condition.

Minimally invasive surgery is presented as a practical option for the management of severe mitral regurgitation associated with annular disjunction, with good postoperative results and rapid recovery.

Declarations

The authors declare no conflict of interest.

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