

SURGICAL SEPTAL MYECTOMY BY TRANSAPICAL APPROACH FOR RELIEF OF LEFT VENTRICULAR OUTFLOW TRACT IN HYPERTROPHIC CARDIOMYOPATHY.

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INTRODUCTION

- Heart muscle disease characterized by
 - **Left ventricular hypertrophy.**
 - **Left ventricular outflow tract gradient**
- This is the most important determinant of limiting symptoms in patients with HCM.
- There are both pharmacologic and nonpharmacologic therapy options.

BACKGROUND

- Septal myectomy by transapical approach under balanced anesthesia and on CPB.
- 34 years old female with HMC (NYHA class III).
- Preoperative coronariography with no remarks and TTE with anteroseptal and apical HCM (22mm). LVEF was normal.

PROCEDURE

- **Monitoring:** ASA standards + femoral artery + cerebral oximetry (INVOS) + Swan-Ganz + TEE.
- **Apical ventriculotomy** lateral to the left anterior descending artery. 10g of ventricular septal muscle was removed.
- **Immediate complication: severe mitral insufficiency** requiring mitral valve repair (annuloplasty).
- External pacemaker in AAI mode. Low doses of Noradrenaline and Dobutamine maintaining optimal cardiac output.

ICU

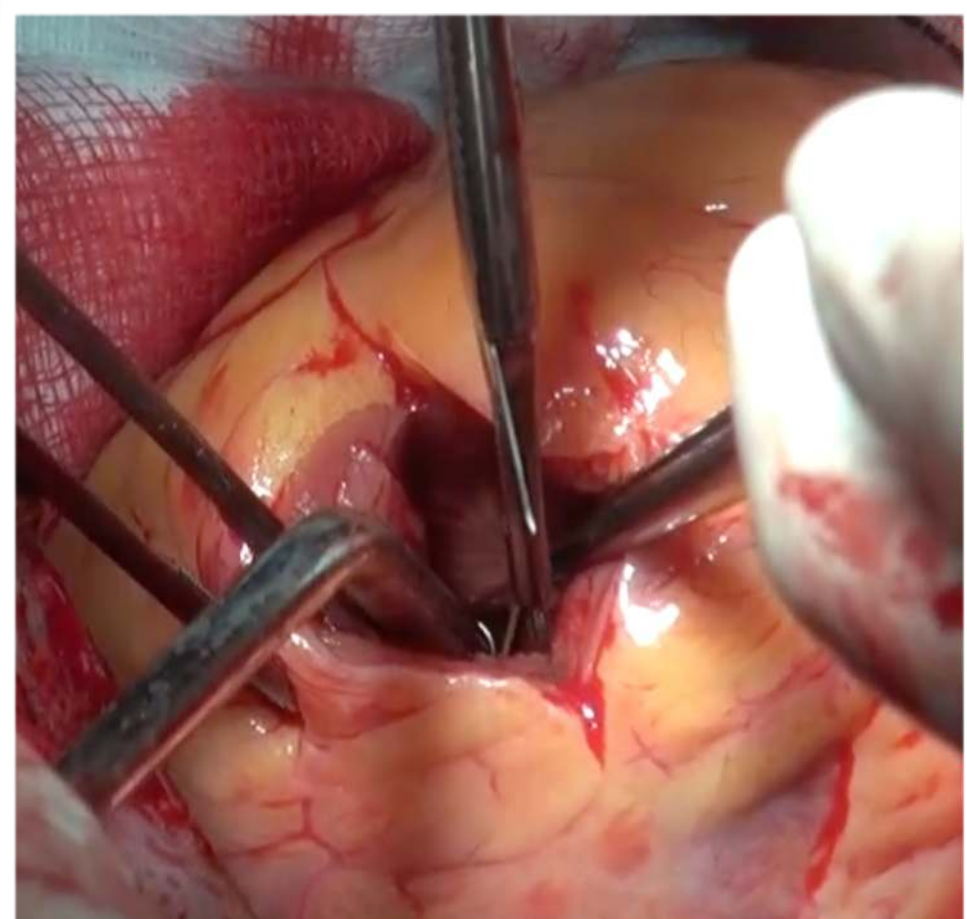
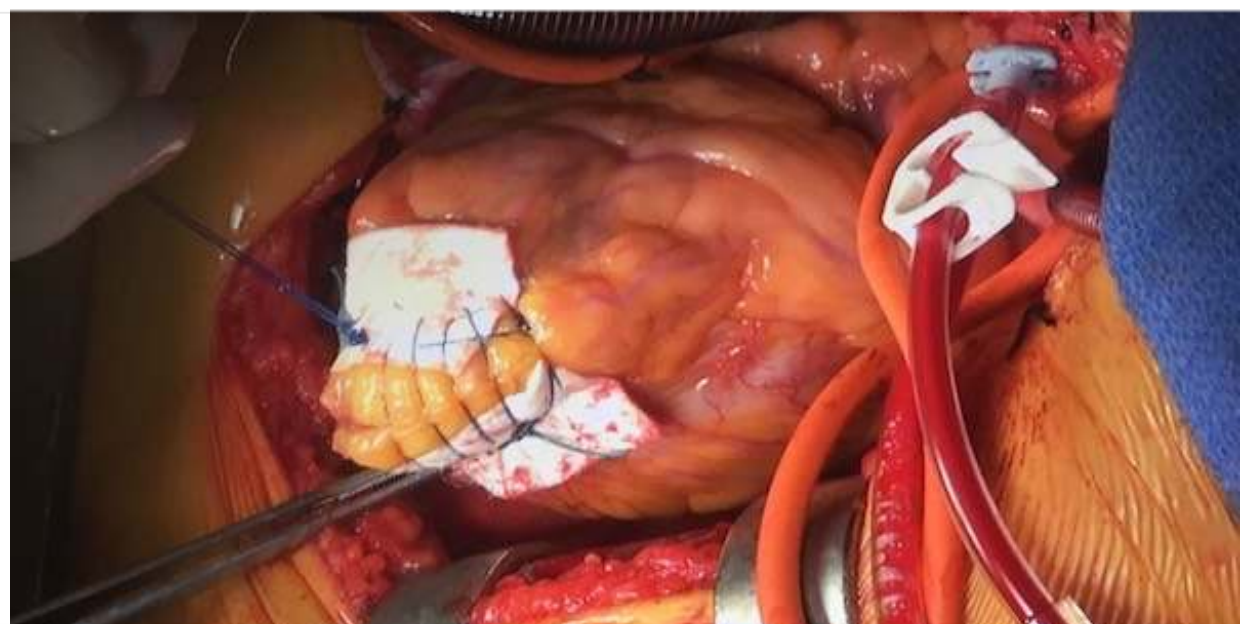
- In the first hours inotropic drugs were withdrawn. Troponins climbed to a peak and back to normal.
- Extubation was made in the first DAS.
- **Late complication: complete heart block** during 4 days.
- **TTE after surgery:** mild MI after mitral repair, **HCM improved (16mm).**
- Patient was discharged from ICU on the 4th DAS.

DISCUSSION

- Septal myectomy relieves LVOT obstruction by direct removal of septal muscle.
- **Complications** include
 - Septal defect (excessive removal of muscle)
 - Branch block or CHB
 - MI due to papilar muscle section.

LEARNING POINTS

- The transapical approach is a difficult procedure only performed at hospitals with experience in this pathology (**1st time in Spain**).
- Myectomy results in resolution of LVOT gradient and improvement of failure symptoms in almost all patients, and is associated with excellent long term survival^{1&2}.



1. Woo A et al. Clinical and echocardiographic determinants of long term survival after surgical myectomy in HCM. Circulation 2005; 111:2033
2. Kunkala et al. Transapical approach to myectomy for midventricular obstruction in HCM. Ann Thorac Surg. 2013 Aug;96(2):564-70