Use of radiofrequency catheter ablation of septal hypertrophy in a patient with hypertrophic obstructive cardiomyopathy symptomatic.

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Objective:

Use of radiofrequency catheter ablation of septal hypertrophy in a patient with hypertrophic obstructive cardiomyopathy symptomatic, despite optimal medical treatment, as a therapeutic alternative to the non-surgical (Alcohol septal ablation ASA/Myectomy).

Abstract

Hypertrophic obstructive cardiomyopathy (HOCM) is a genetic disease. A left ventricular outflow tract (LVTO) can cause symptoms and be responsible for sudden death. Alcohol septal ablation (ASA) and surgical myectomy are therapeutic alternatives in patients with hypertrophic obstructive cardiomyopathy. However, the anatomical variability of the septal branch, risk of complete heart block, and late onset ventricular arrhythmias are limitations to its therapeutic usage. There is recent interest in the use of radiofrequency catheter ablation (RFCA) as a therapeutic option in HOCM. Recent studies have demonstrated that RFCA of the hypertrophied septum in patients with HOCM is effective and safety in reducing LVOT gradients by the mechanism of discrete septal hypokinesia, better control of location an extension of injury by means of electro anatomical mapping.

Methods:

A 52 year old man, III NYHA class, with significant left ventricular outflow tract (LVOT) gradient despite optimal drug therapy (calcium antagonist, beta blockers), cardio defibrillator implant, not suitable to ASA/myectomy, underwent ablation of the hypertrophied interventricular septum. Ablation was performed under 3D electro-anatomical system guidance using an open irrigated tip catheter. The region of maximal LV septal bulge as seen on intracardiac echocardiography was targeted. Patient was followed up at 1 month post-procedure and appointments in the next months.

Results:

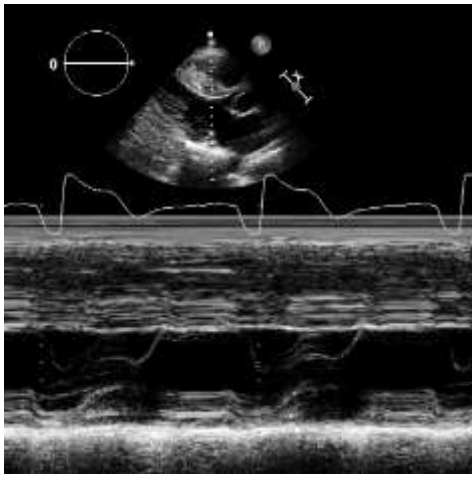
The mean baseline LVOT gradient by Doppler echocardiography was 81 mmHg which reduced to 59mmHg (27% less); at 1 month. Symptoms improved at least by I NYHA class. The image number 1 shows: anterior systolic movement of the mitral valve using M Mode, the image 2 shows the transthoracic gradient previous ablation, so it is important to differentiate the shape of the

gradient is like a dagger; the image number 3 shows the trans aortic gradient after the ablation and a decrease of 27% in relation with the first echocardiogram.

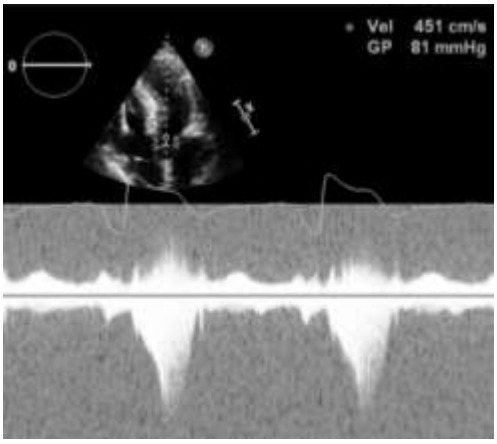
Conclusion:

RFCA of the hypertrophied septum causes sustained reduction in the LVOT gradient, avoidance of collateral damage to conduction system as well symptomatic improvement among patients with HOCM. This procedure helps to perform the procedure safely and effective.

1. M Mode mitral valve, systolic anterior movement



2. Transaortic gradient previus RFCA, maximum velocity 4,51 m/s, 81 mmHg



3. Transaortic gradient after RFCA, maximum velocity 3.83 m/s, 59 mmHg