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## Misplaced mid-septal infarction aggravating sub aortic obstruction in hypertrophic obstructive cardiomyopathy

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A 68-year-old Caucasian hypertensive man with a Maron Type 2 hypertrophic obstructive cardiomyopathy (Panel A) underwent an alcohol septal ablation for persisting symptoms (repeated syncope) despite beta-blockers, verapamil treatment, and the implantation of an intracardiac defibrillator. A transthoracic echocardiography was repeated 3 months after the procedure (Panel B). Compared with the baseline echo (Panel A), the septum dumbbellappeared shaped, and the thickness of the sub-aortic region was unchanged. Left ventricular outflow tract (LVOT) obstruction was no longer present at rest but, during Valsalva maneouvre, systolic anterior motion of the mitral valve (SAM), and sub-aortic



peak pressure gradient (*Panel B*) were more severe than before the alcoholization. Analysis of the geometry of the left ventricle using 3D-echo suggested that a misplacement of the infarction in the mid-septum had aggravated its inward motion, thereby worsening 'flow drag' of the sub-valvular apparatus and sub-aortic obstruction. An easy 10 mm thick myectomy was performed in rescue and carefully extended within the left ventricle to the infarcted septal area. Surgery restored the normal shape of the interventricular septum, resolved SAM, and LVOT obstruction (*Panel C*, Supplementary data online), and markedly improved the patient's symptoms. In conclusion, a 'misplaced' septal infarction has the potential to reshape the basal septum to such an extent that the intraventricular fluid dynamics increases the flow drag on the mitral leaflets and the subvalvar apparatus. This can potentially worsen dynamic LVOT obstruction. Careful analysis of the target zone by intracoronary contrast injection under echocardiographic control is mandatory before planning such a procedure.

Supplementary data are available at European Heart Journal - Cardiovascular Imaging online.

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