“Protruding Myocardium” as a Target for Percutaneous Transluminal Septal Myocardial Ablation in a Case of Hypertrophic Obstructive Cardiomyopathy

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A 57-year-old woman with known hypertrophic obstructive cardiomyopathy (HOCM) presented with dyspnea and fatigue, consistent with New York Heart Association (NYHA) functional class III heart failure. The patient had previously undergone percutaneous transluminal myocardial ablation (PTSMA) twice at another hospital. Echocardiography revealed a “protruding myocardium,” systolic anterior motion of the mitral valve, and mild mitral regurgitation (Figures 1A and 1B, Online Videos 1 and 2). The “protruding myocardium” adjoined the basal and mid-portion of the ventricular myocardium that had been previously ablated. At rest, the left ventricular outflow tract (LVOT) gradient was 109 mm Hg. Comparison of the coronary angiography that we performed with that performed previously at another hospital confirmed that 1 of the 2 proximal septal branches could not be used in PTSMA because the guidewire could not be passed. The patient declined open surgery; therefore, PTSMA was performed. Selective alcohol ablation was performed in the first branch of the identified target vessels guided by real-time 2-dimensional echocardiography to the enhanced saturation of each vascular bed (Figure 1C). The post-procedural LVOT gradient was 7 mm Hg. Three months later, her symptoms improved to NYHA functional class I, and echocardiography revealed the disappearance of the “protruding myocardium” (Figure 1D, Online Video 3). Target vessel selection is the most important step in PTSMA (1). Misidentification of the correct target vessel is a potential cause of PTSMA failure. In addition, the guidewire can occasionally fail to pass due to technical difficulties despite correct identification of the target septal branches. Our case highlights the importance of target vessel selection and complete myocardial ablation.

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**APPENDIX** For the accompanying videos, please see the online version of this article.