Percutaneous Transluminal Septal Myocardial Ablation to a Pre-Procedural Coronary Computed Tomography Angiography-Detected Anomalous Septal Branch

Eri Nakai, MD; Yasuhiro Hamatani, MD; Takuya Hasegawa, MD, PhD;
Tatsuya Nishii, MD, PhD; Atsushi K. Kono, MD, PhD; Yuta Kato, MD, PhD;
Muneyuki Kadota, MD, PhD; Masashi Amano, MD; Atsushi Okada, MD, PhD;
Hiroyuki Takahama, MD, PhD; Makoto Amaki, MD, PhD; Tetsuya Fukuda, MD, PhD;
Hideaki Kanzaki, MD, PhD; Satoshi Yasuda, MD, PhD; Chisato Izumi, MD, PhD

Figure. (A) Coronary angiography (right anterior oblique caudal view). (B) Three-dimensional image created from computed tomography data. Black arrow, anomalous septal branch. (C) Inflation of an over-the-wire balloon in the target anomalous septal branch. (D) Transthoracic echocardiography at percutaneous transluminal septal myocardial ablation. The basal septum was selectively enhanced (yellow arrow). LA, left atrium; LAD, left anterior descending artery; LCX, left circumflex artery; LV, left ventricle.

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Department of Cardiovascular Medicine (E.N., Y.H., T.H., Y.K., M.K., M. Amano, A.O., H.T., M. Amaki, H.K., S.Y., C.I.), Department of Radiology (T.N., A.K.K., T.F.), National Cerebral and Cardiovascular Center, Suita, Japan

S.Y. is a member of *Circulation Reports* Editorial Team.

Mailing address: Yasuhiro Hamatani, MD, Department of Cardiovascular Medicine, National Cerebral and Cardiovascular Center, 6-1 Kishibe-Shimmachi, Suita 564-8565, Japan. E-mail: y.hamatani1114@gmail.com

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The anatomy of the septal branch varies among patients and identification of the target branch is important for evaluating the feasibility of percutaneous transluminal septal myocardial ablation (PTSMA).

A 61-year-old hypertrophic cardiomyopathy man with drug-refractory symptoms was referred to the present institution. Transthoracic echocardiogram showed a maximum pressure gradient of 80 mmHg across the left ventricular outflow tract (LVOT). Coronary angiography indicated a few septal branches applicable to PTSMA from the left anterior descending artery (**Figure A**). Meanwhile, coronary computed tomography angiography (CTA) unexpectedly but clearly showed that an anomalous septal branch at the bifurcation of the left main artery supplied the basal septum (**Figure B**).

At PTSMA, a total of 2.0 mL ethanol was injected into the target anomalous septal branch (**Figure C,D**). LVOT pressure gradient decreased from 50 mmHg to 10 mmHg after PTSMA to the anomalous septal branch. Postprocedural echocardiogram demonstrated a pressure gradient of 14 mmHg without any complication. The patient was asymptomatic on exertion in the outpatient clinic.

Coronary CTA enables identification of the target branches, including any anomalous branches. In this case, we could not find the target anomalous septal branch until coronary CTA was done, suggesting the utility of coronary CTA for evaluating target branches before PTSMA.

Disclosures

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