

Unusual Case of Interventricular Septal Dissection with Defects Following Anterior Myocardial Infarction

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A 58-year-old man complaining of squeezing chest pain over the last 12 h was referred to our emergency department. An initial 12-lead electrocardiography revealed a Q wave and ST elevation in leads V1 to V4 (Fig. 1). Cardiac enzymes (e.g., troponin I 50 ng/mL [0.000-0.016]) were elevated. An emergent coronary angiogram revealed total occlusion of the proximal left anterior descending (LAD) coronary artery, and percutaneous coronary intervention (PCI) with drug-eluting stent implantation in the proximal LAD was performed (Fig. 2).

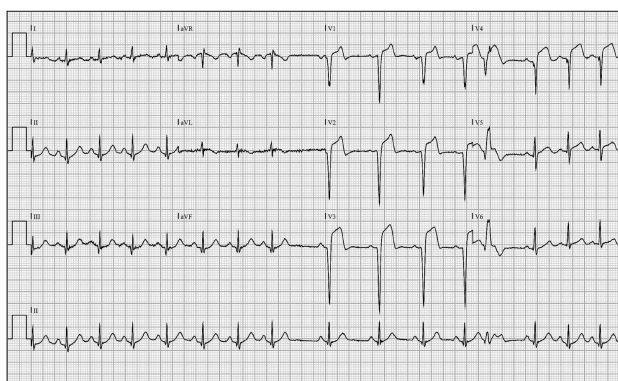


FIG. 1. Initial 12-lead electrocardiography shows ST elevation and a Q wave in leads V1-V4, as well as a premature ventricular beat.

The patient suddenly collapsed 6 h after PCI. He complained of chest pain, and diaphoresis and resting dyspnea were noted. His blood pressure was 70/40 mmHg, and a loud pansystolic murmur at the lower sternal border was auscultated. Portable echocardiography revealed akinesis of the apex with a dissecting interventricular septum and an apical septal defect with left-to-right shunting on color Doppler (Fig. 3). The patient subsequently underwent a successful bovine pericardial patch repair of the ventricular septum defect. He followed an uneventful post-operative course and was discharged on the 14th hospital day.

Interventricular septal dissection complicated by left-to-right shunting is an extremely rare complication of acute myocardial infarction.¹ Shunt flow was not seen in the standard view (Fig. 3A, B), but visualized when the probe was tilted slightly (Fig. 3C). Short time-delays between symptom onset, echocardiographic diagnosis, hemodynamic support, and definitive surgery were associated with survival.² Early diagnosis and prompt surgical intervention are critical for improving prognosis.³

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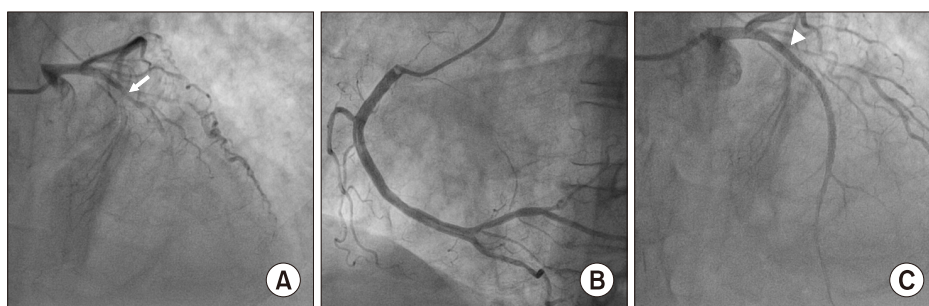


FIG. 2. Coronary angiography reveals total occlusion of proximal left anterior descending coronary artery (LAD) (arrow) (A) and a normal right coronary artery (B). Percutaneous coronary intervention with everolimus-eluting stent implantation (3.0×38 mm, Synergy XDTM, Boston Scientific, Marlborough, MA) in the proximal LAD is performed (triangle) (C).

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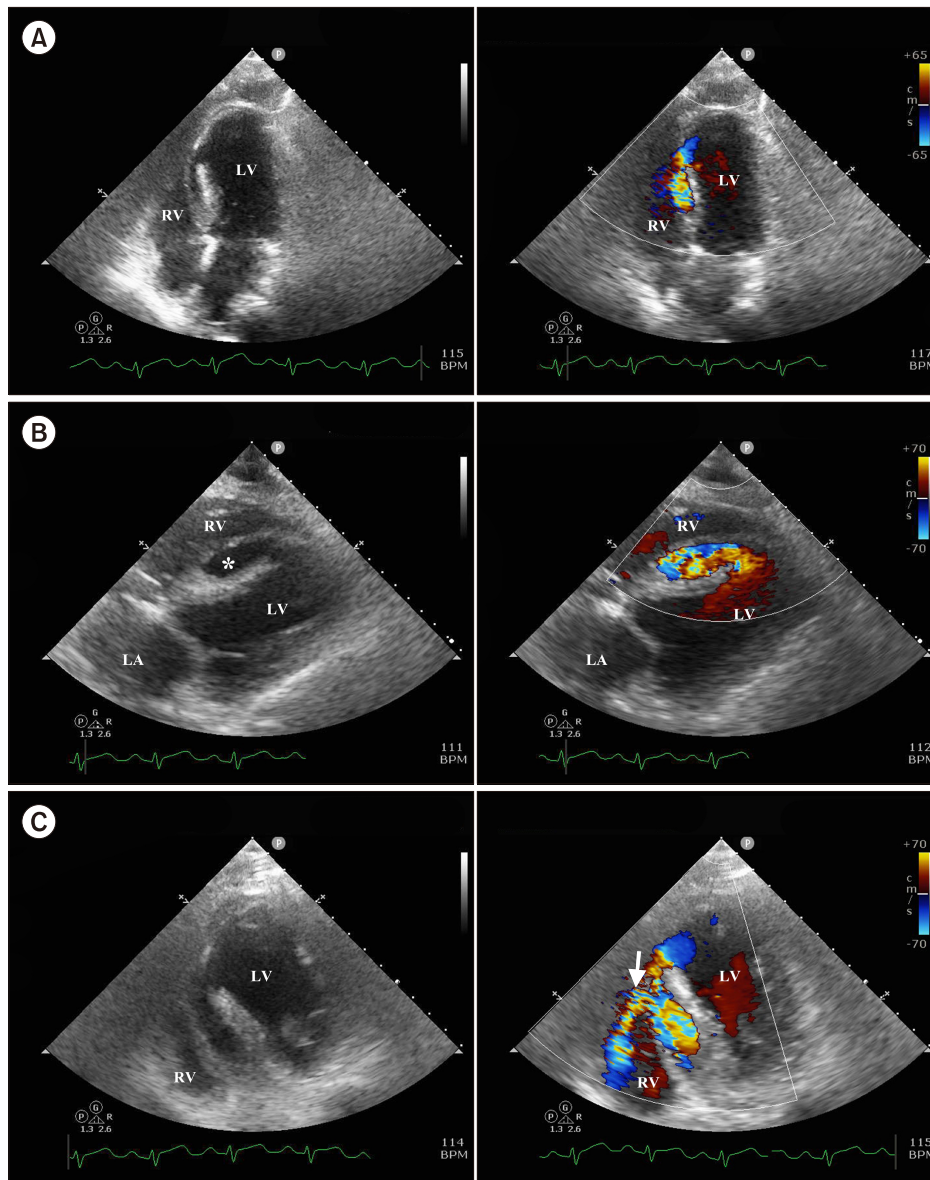


FIG. 3. Transthoracic echocardiogram with color Doppler showing a clear jet flow entering the dissecting interventricular septum (asterisk) (A) in apical four-chamber view (B) and subcostal view (C). A shunt flow from LV to RV through the dissected septum (white arrow) is shown in modified apical four-chamber view. LA: left atrium, LV: left ventricle, RA: right atrium, RV: right ventricle.

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CONFLICT OF INTEREST STATEMENT

None declared.

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