

Transthoracic echocardiographic and angiographic view of a coronary-to-left ventricular fistula

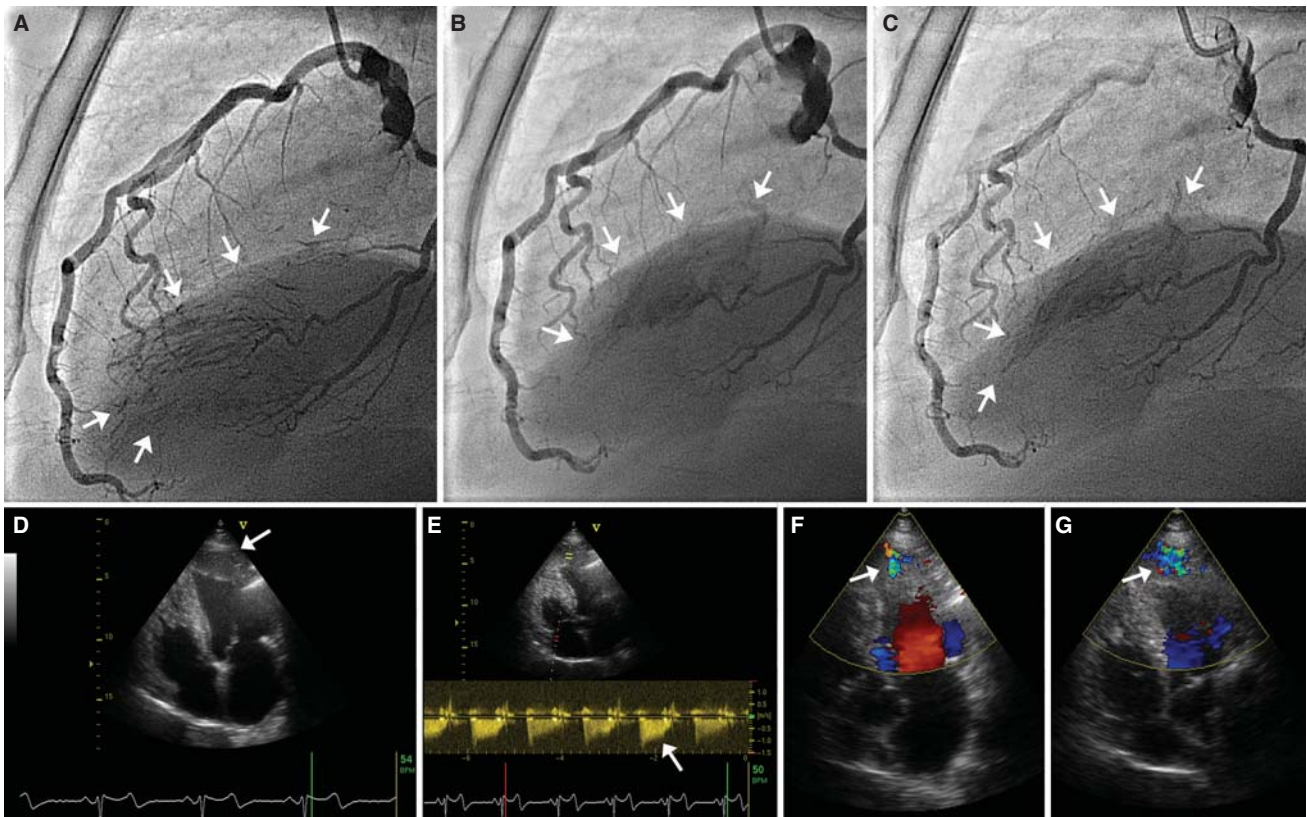
Koroner sol ventriküler fistülün transtorasik ekokardiyografik ve anjiyografik görünümü

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A 62-year-old male with a history of smoking presented with typical exercise angina. Resting electrocardiography showed left ventricular hypertrophy, biphasic T wave in leads V2-V3, and T wave inversion in leads V4-V6, DI and aVL. Coronary angiography revealed non-significant lesions in all major epicardial coronary arteries and multiple fine coronary-left ventricular fistulas arising from obtuse marginal, distal left circumflex, diagonal and distal left anterior descending arteries and draining into the left ventricle (Fig. A). A left ventriculogram was obtained through contrast injection

into the left coronary artery (Fig. B, C). Echocardiographic examination showed apical and apicolateral left ventricular wall thickening (Fig. D). Pulsed and color Doppler echocardiography (Figs. E to G) clearly demonstrated diastolic blood flow from this region of the left ventricular wall to the left ventricular cavity, consistent with a coronary-left ventricular fistula. Coronary artery fistulas (CAFs) are rare, direct communications between coronary arteries and cardiac chambers, the pulmonary artery, the coronary sinus or the superior vena cava. The reported incidence of CAFs is about 0.1-0.2% for patients undergoing coronary angiography. In most cases patients are asymptomatic and CAFs are discovered during cardiac catheterization for other reasons. Depending on the location of the fistula and severity of the shunt and/or coronary steal some patients may complain of dyspnea and angina pectoris.



Figures— Demonstration of coronary-left ventricular fistula. (A) Left coronary angiography showing multiple fine coronary-left ventricular fistulas (arrows), (B, C) draining into the left ventricle (arrows). (D) Transthoracic echocardiographic images showing left ventricular hypertrophy (arrow), (E, F, G) and a diastolic blood flow from the apical and apicolateral left ventricular wall to the left ventricular cavity (arrows).