A 15-year-old girl was referred for the evaluation of a heart murmur noted on a routine visit. Transthoracic echocardiography showed a dilated left ventricle with normal ejection fraction (65%) and moderate mitral regurgitation. In addition, the left coronary artery (LCA) was dilated and the origin of the right coronary artery (RCA) could not be certainly identified (Fig. A). Color-flow Doppler images of the ventricular septum showed numerous intercoronary collateral blood vessels mimicking a Swiss cheese ventricular septal defect and abnormal diastolic flow directed into the main pulmonary artery (MPA) (Fig. B). A selective LCA angiogram showed opacification of the LCA, extensive myocardial collaterals and retrograde opacification of the RCA with drainage into the MPA (Fig. C). Three-dimensional computed tomography confirmed the origin of the RCA from the MPA (Fig. D). The patient underwent surgical reimplantation of the RCA to the aortic root. Follow-up echocardiography showed a normal flow pattern in both coronary arteries and no significant mitral regurgitation.

**Figures.** (A) Echocardiographic image showing a dilated LCA (*) and 3D computed tomography angiography defining the origin of the LCA. The absence of the origin of the RCA is notable in both views. (B) Transthoracic echocardiographic images demonstrating numerous intercoronary collateral blood vessels within the ventricular septum mimicking a Swiss cheese ventricular septal defect and abnormal diastolic flow from the RCA (*) into the MPA. (C) Selective LCA angiogram showing opacification of the LCA and extensive myocardial collaterals(*) and retrograde opacification of the RCA system with drainage into the MPA. (D) Three-dimensional computed tomography clearly demonstrates the origin and course of the anomalous RCA.