A 39-year-old female admitted with chest pain, dyspnoea and abnormal electrocardiograph (anterior T wave inversion) was referred for cardiac investigation. Cardiac catheterization demonstrated separate origins of the left anterior descending and circumflex arteries with multiple fistulae passing directly into the left ventricular cavity. There was no evidence of atheromatous coronary disease. The right coronary artery was normal. Left ventricular function appeared preserved, but end diastolic pressure was elevated. In view of progressive symptoms, she underwent stress echocardiography. Baseline study showed normal left ventricular systolic function without wall motion abnormalities. At peak-dose dobutamine, there was dilatation of the left ventricular cavity with marked hypokinesis of the left ventricular apex, mid and apical inferoseptum and mid and apical anterior wall. The patient developed chest tightness at peak-dose dobutamine. Coronary artery fistula is an extremely rare presentation (0.1–0.2% in angiographic series, with only 3% of cases involving the left ventricle). Stress echocardiogram confirmed a marked inducible ischaemic response. The mechanism is likely to involve a ‘steal phenomenon’ with blood following a low-pressure route to the left ventricle with subsequent elevation in end diastolic pressure. The net result is inducible ischaemia. In this case, the patient was intolerant of all beta blockers due to asthma and calcium channel antagonists were found to be ineffective. Ivabradine resulted in symptomatic improvement.

Supplementary data
Supplementary data are available at European Journal of Echocardiography online.