A 51-year-old female patient presented with complaints of fatigue, breathlessness, and palpitation. The patient reported no previous cardiac problems and had no risk factors for coronary artery disease. Heart rate was 96 bpm and blood pressure was 121/78 mmHg. On heart auscultation, no murmur or sound were heard other than S₁ and S₂. Pulmonary area was clear on examination. Blood count, biochemical, and thyroid function tests were normal. Electrocardiography showed typical dynamic ST-T changes in precordial leads. Chest radiograph showed normal heart dimensions. Echocardiography showed normal size and function of heart chambers. We performed cardiac catheterization for further investigation. Angiography showed dilated left anterior descending artery and branches, but another vessel was dyed in the late phase by significant collaterals. This vessel and its branches resembled the left circumflex artery, but it was supplied by collaterals and drained to the right pulmonary artery (Fig. A). Other projections and pulmonary artery catheterization confirmed the presence of an abnormal circumflex artery originating from the pulmonary artery (Fig. B). The right coronary artery was also dilated, but was in normal location. Transthoracic echocardiography was performed again and the origin of the circumflex artery was visualized from the suprasternal window and confirmed by the Doppler pattern. Due to high risk for sudden death, the patient was referred for surgery.

Figures. (A) Right caudal view showing the left anterior descending artery (LAD), significant collaterals between the LAD and circumflex (Cx) artery, and drainage to the right pulmonary artery. (B) Left coronary angiogram in the anteroposterior view showing the origin of the circumflex artery from the pulmonary artery.