

# Left circumflex coronary artery aneurysm combined with fistula to the left ventricle

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## Abstract

Coronary artery fistula (CAF) are abnormal connections between a coronary artery and cardiac chambers or with other vessels. CAF occurs in about 0.1% of adult patients and most commonly affects the right heart. We present a rare case of left circumflex coronary artery aneurysm with fistula to the left ventricle.

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**Key words:** Left circumflex coronary artery aneurysm, fistula, left ventricle

## Abstract

Coronary artery fistula (CAF) are abnormal connections between a coronary artery and cardiac chambers or with other vessels. CAF occurs in about 0.1% of adult patients and most commonly affects the right heart<sup>1, 2</sup>. We present a rare case of left circumflex coronary artery aneurysm with fistula to the left ventricle.

## Description

A 19-year-old man was admitted for exertional dyspnea and oppressive chest pain. A diastolic murmur could be heard at the left border of sternum. Chest radiography and electrocardiography revealed no abnormalities. Cardiac troponin-I was normal. Transthoracic echocardiography (TTE) demonstrated a large vascular structure emptying into the left ventricle (LV) (Figure1 A). The fistulous fistula was located near the posterior mitral annulus, with diameter of 0.5cm. The peak velocity of the shunt was 2.9 m/s. Computed tomography angiography (CTA) revealed a 8-cm long left circumflex coronary aneurysm with a fistula to the posterior wall of left ventricle (Figure1 B, D, E). The fistula originated from the left coronary

artery and meandered on the surface of heart. The diameter of the wider part was 1 cm. It ran along the left atrioventricular groove to the posterior atrioventricular junction. Coronary angiography showed a highly enlarged left circumflex coronary artery which entered the left ventricle at the posterior side (Figure1 C).

The operation was performed under cardiopulmonary bypass and the heart was arrested with the cold blood cardioplegia (Figure1 F). The aneurysm sac was opened and explored, and the fistulous orifice to the LV was sutured and ligated with 4-0 prolene sutures. The remainder of the fistulous vessel was reconstructed with a running 4-0 prolene suture. The postoperative TTE and CTA showed the fistula was closed with a little residual intracardiac shunt due to collateral circulation (Figure1 G-I). The patient recovered well and was discharged with no symptoms.

## References

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## Data Availability Statement

The data used to support the findings of this study are available from the corresponding author upon request.

**Conflicts of interest** The authors have declared that no conflicts of interest exists.

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