A 25-year-old female was admitted with chest distress, and a chest X-ray showed a giant heart (Panel A). A transthoracic echocardiogram showed a huge coronary artery aneurysm (CAA) and a fistula between the aneurysm and the right atrium (Panel B, the arrow points to fistula; see Supplementary material online, Videos S1 and S2). A computed tomographic scan demonstrated the CAA (14.4 cm × 12.0 cm in size), arising from the left circumflex coronary artery, compressing the right and left atria (Panels C and D; see Supplementary material online, Videos S3 and S4).

During surgery, the root of the aneurysm was ligated between the aorta and the base of the aneurysm. After the proximal aneurysm wall was cut open, the orifice of the aneurysm was further closed with a 4-0 prolene suture. And the fistulous communication was also closed (Panel E, the left arrow points to the root of the aneurysm and the right arrow points to the orifice of the aneurysm; see Supplementary material online, Videos S5–S9). The patient tolerated the procedure well and was discharged in 7 days.

Coronary artery aneurysm is caused mainly by atherosclerosis, congenital Kawasaki disease, post-percutaneous transluminal coronary angioplasty, and endocarditis. Most aneurysms originate from the proximal part of the right coronary artery. The symptoms are subclinical, according to the size and location of the aneurysm. Huge aneurysms usually compress the vicinal vessels, atriums, and ventricles, causing chest distress. For the symptomatic patients and the asymptomatic patients whose haemodynamics are affected by the CAA, surgery is curative. Normally, coronary artery bypass grafting (CABG) is needed. Fortunately, in this case, no coronary artery arose from the aneurysm and the heart blood supply was not affected without CABG.

Panels A–E. LAD, left anterior descending coronary artery; LCX, left circumflex coronary artery; LM, left main coronary artery; RA, right atrium; RV, right ventricle.

Supplementary material is available at European Heart Journal online.