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## Pericardiectomy for a patient with constrictive pericarditis and multivessel coronary artery disease

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## ABSTRACT

**INTRODUCTION:** Pericardiectomy for patients with constrictive pericarditis and multivessel coronary artery disease is rare. Therefore, there is limited experience of pericardiectomy in these patients.

**PRESENTATION OF CASE:** We performed only pericardiectomy under the support of intra-aortic balloon pumping (IABP) for a patient with tuberculous constrictive pericarditis and multivessel coronary artery disease who refused to accept revascularization. The postoperative course was uneventful.

**DISCUSSION:** There is limited experience of pericardiectomy in patients with constrictive pericarditis and coronary artery disease, especially in those who want to perform only pericardiectomy and refuse to accept revascularization. There has only been one case report of a patient who had constrictive pericarditis and coronary artery disease, and hemodynamic instability postoperatively who did not have revascularization performed. Cardiopulmonary bypass facilitates dissecting grossly thickened pericardium off the heart and coronary artery exposure, but is associated with higher mortality and reoperation rates, renal failure, and atrial fibrillation. In our patient, cutting grossly thickened pericardium to expose the coronary artery under cardiopulmonary bypass was unnecessary because he refused to accept revascularization. Therefore, we performed only pericardiectomy under the support of IABP to avoid hemodynamic instability.

**CONCLUSION:** Performing only pericardiectomy under the support of IABP for a patient with constrictive pericarditis and multivessel coronary artery disease is safe and effective as long as the left ventricular ejection fraction is normal.

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## 1. Introduction

There is limited experience of pericardiectomy for patients with constrictive pericarditis and coronary artery disease, especially in those who want only pericardiectomy performed and refuse to accept revascularization. We report such a patient who had only pericardiectomy performed under the support of intra-aortic balloon pumping (IABP). The patient had an uneventful postoperative course. The work has been reported in line with the SCARE criteria [1].

## 2. Presentation of case

A 61-year-old man presented with a 4-month history of progressive biventricular failure with predominantly right heart symptoms. He had a history of tuberculous pericarditis and type 2 diabetes mellitus. He was hospitalized with dyspnea, edema of the lower extremities, and pleural effusion. Computed tomography showed noncalcified pericardial thickening (Fig. 1). Coronary

angiography detected major multivessel disease (Fig. 2) and an echocardiogram showed that the ejection fraction was 53% and fractional shortening was 27%. An electrocardiogram indicated sinus rhythm, left precordial lead low voltage, and T-wave alternans. Combined detection of cardiac markers (electrochemoluminescence) showed the following: N-terminal proatriuretic peptide level, 1098 pg/ml; creatine kinase isoenzyme MB level, 2.42 ng/ml; myoglobin level, 21.00 ng/ml; and quantitative serum cardiac troponin T level, 18.26 ng/ml. The patient refused to have revascularization. Therefore, only pericardiectomy was performed.

With the support of IABP, pericardiectomy was performed through median sternotomy under general anesthesia. After the operation, central venous pressure declined from a preoperative value of 18 mmHg to a postoperative value of 5 mmHg. The postoperative course was uneventful. The patient was extubated within 24 h and discharged with oral medications for coronary artery disease 21 days after the operation. A histological examination of resected pericardium confirmed chronic inflammation (Fig. 3). After 6-months' follow-up, the patient remained in New York Heart Association class I functional status with complete resolution of pleural effusion (Fig. 4). Written informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

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Fig. 1. Computed tomography scan shows thickening of the pericardium (arrows).

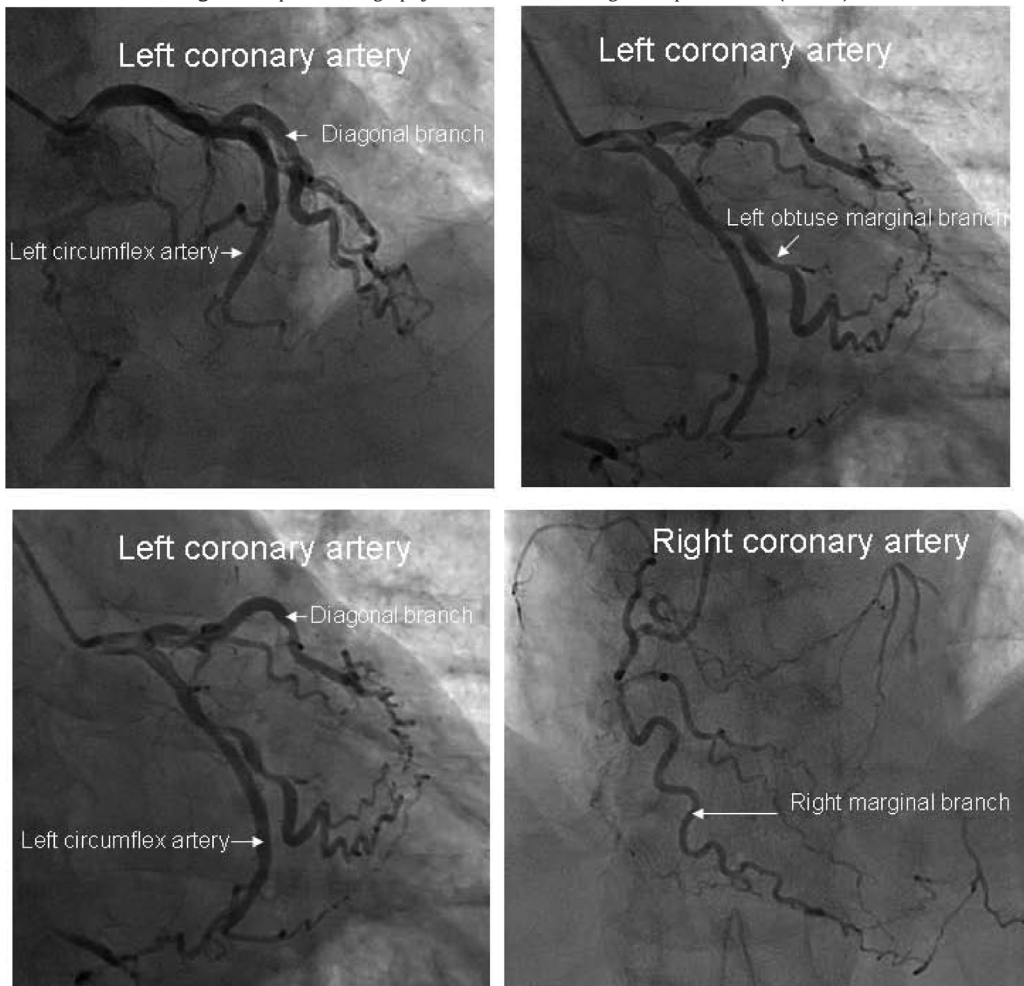


Fig. 2. Coronary angiography shows a completely obstructed left anterior descending coronary artery, completely obstructed right coronary artery, and the origin of obtuse marginal branch stenosis.

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