

Right coronary artery compression caused by mediastinal hematoma after aortic dissection operation

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A 50 year-old man was admitted to the emergency department complaining of severe chest pain and breathlessness. The patient had an aortic dissection type A operation 14 days prior to admission to the emergency department. He had a previous history of coronary bypass grafting and aortic valve replacement. He was on warfarin treatment and the international normalized ratio level was high (4.58). Twelve-lead electrocardiography (ECG) revealed normal sinus rhythm with 89 bpm, ST-segment elevations more than 2.0 mm in the inferior leads II, III, and aVF, and ST-segment depressions in leads I, aVL and V1 to V3 leads. ECG signs were consis-

tent with the inferior myocardial infarction pattern (Fig. 1). The ST segment could not be interpreted in lead V6 due to technical difficulties. His blood pressure was 100/60 mm Hg, and on physical examination he was in moderate respiratory distress. The laboratory tests were normal, except for the cardiac biomarkers. The plasma levels, both troponine I and creatinine kinase-MB, were high on admission, 1.15 ng/mL (reference value < 0.01 ng/mL) and 11.36 ng/mL (reference value: 0.54–4.19 ng/mL), respectively. Bedside echocardiography revealed compression of the right atrium and ventricle by a giant hematoma measuring 9.5 cm in diameter-



Figure 1. ECG showing ST-segment elevations more than 2.0 mm in the inferior leads II, III, and aVF besides ST-segment depressions in leads I and aVL, and in leads V1 to V3. The ST segment in lead V6 cannot be reliably analyzed because of technical problems.

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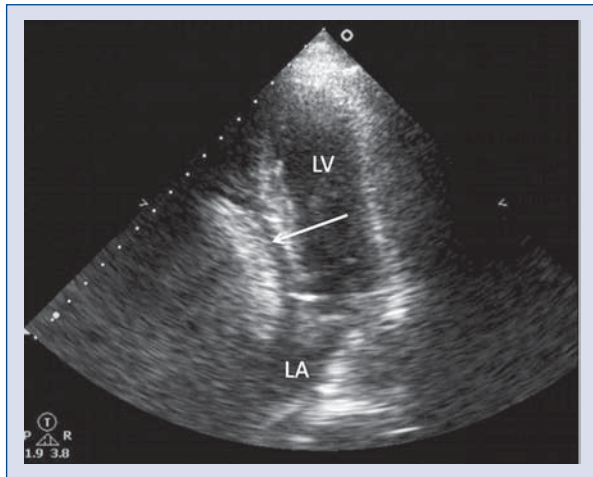


Figure 2. Bedside echocardiography showing compression of the right atrium and ventricle by a giant hematoma (arrow); LV — left ventricle; LA — left atrium.

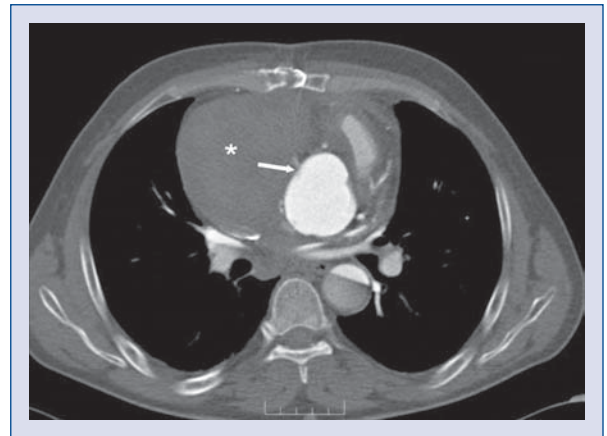


Figure 3. Chest computed tomography showing aortic dissection in the descending aorta and massive hematoma (asterisk) compressing the right coronary artery (arrow).



Figure 4. ECG performed after hematoma exploration, showing normal sinus rhythm without any ST-segment deviations. ST-segment elevations in the inferior leads were normalized absolutely.

with massive pericardial effusion (Fig. 2). The hematoma was initiated from the superior mediastinum and extended to the posterior mediastinal cavity. Superior vena cava was also compressed by the hematoma. Descending aortic dissection was also demonstrated. Left ventricular ejection fraction was mildly depressed (50%). We assessed the chest pain as being due to the giant mass compressing the right cavities of the heart. The patient was referred for cardiovascular surgery and immediate chest computer tomography was performed. This showed a massive hematoma in the mediastinum compressing right heart and right coronary artery (RCA) (Fig. 3). Urgent surgery confirmed compression of the RCA by a giant hematoma. The hematoma was explored and intrathoracic drainage was maintained. Following the hematoma exploration, the patient's ECG

showed normal sinus rhythm without any ST-segment deviations. ST-segment elevations in the inferior leads were normalized (Fig. 4). The patient's hemodynamic status was significantly improved and he was discharged seven days after admission to hospital.

In this report, myocardial infarction was related to the compression of the RCA by a giant hematoma after an aortic dissection type A operation. Physicians should be aware of this unusual complication requiring urgent intervention, especially after cardiac operations.

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