

Spontaneous Isolated Pericardial Tamponade Associated with Warfarin

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To the Editor,

An 83-year-old female patient was admitted to the emergency department with progressive dyspnea and orthopnea for 3 days. She was discharged with warfarin therapy (5 mg per day) due to pulmonary embolism 5 months previously. On admission she was orthopneic and tachypneic. Her arterial blood pressure was 90/60 mmHg and heart rate was 115/min with sinus rhythm. On cardiac auscultation, S1 and S2 intensity were decreased, and pathologic murmur and pericardial friction were not observed. Other physical examination findings were unremarkable. An increased cardio-thoracic ratio was revealed on chest X-ray (Figure 1a). Decreased QRS voltage and sinus tachycardia was evaluated on electrocardiogram. The internalised normalised ratio (INR) level was 8.6 and the prothrombin

time was 70 seconds. Haemoglobin was determined to be 11.1 g/dL. The other laboratory findings were normal. An emergency thoracic computed tomography (CT) scan was performed to exclude recurrent pulmonary embolism, and surprisingly showed a massive pericardial effusion (Figure 1b). However, echocardiography revealed severe pericardial effusion that was compressing the right ventricle. Therefore, vitamin K and fresh frozen plasma infusion were administered promptly. As a result, the INR was decreased to 1.4 and 800 mL haemorrhagic fluid was drained percutaneously (P/S) with the apical approach. The patient's blood pressure, orthopnoea and dyspnoea improved dramatically. There was no other source of bleeding except haemopericardium. Consequently, the cardiac tamponade in our patient, secondary to haemopericardium, was considered to be the result of the incorrect dosage of Warfarin.

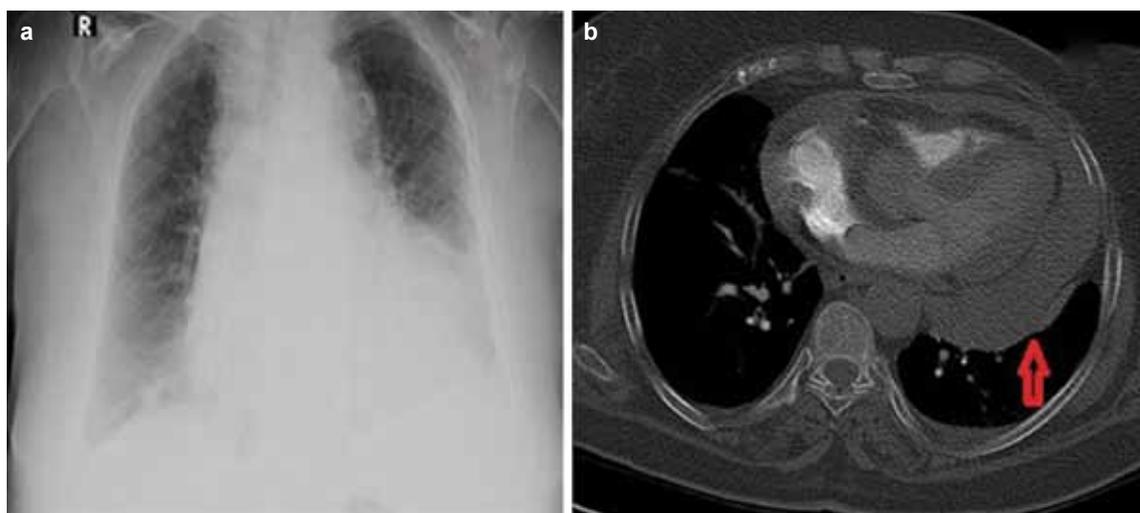


FIG. 1. a, b. Increased cardio-thoracic ratio due to pericardial effusion on chest X-ray (a). CT scan of chest showing large pericardial effusion (see arrow) (b)

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On control echocardiography, there was no recurrence of pericardial fluid and the patient was discharged on the 5th day.

Cardiac tamponade is a life-threatening emergency condition. It is an acute type of pericardial effusion in which fluid accumulates in the intrapericardial space. This creates a mechanical pressure in the cardiac chambers which disrupts cardiac filling. (1). The common causes of pericardial effusion resulting in tamponade are pericarditis, malignancy, acute myocardial infarction, congestive heart failure, collagen vascular diseases, end stage renal disease, viral and bacterial infections (1). Cardiac tamponade secondary to haemopericardium is rarely seen and occurs with traumatic and non-traumatic causes. Non-traumatic causes are less common and associated with a number of conditions such as malignancy, infection, uraemia or coagulopathy (2). Today, warfarin sodium is still the most commonly used agent for anticoagulant therapy. The risk of spontaneous bleeding in patients using warfarin is less than 10%, whereas the risk of bleeding into the pericardial space is less than 1% (3). Echocardiography, which is the diagnostic test of choice, evaluates the haemodynamic consequences and guides transcatheter drainage; CT is useful for further workup. These methods are superior to echocardiography for anatomical information, characterisation of the effusion, and providing information about the adjacent structures (2). The primary treatment of pericardial tamponade is pericardiocentesis. Echocardiography-guided pericardiocentesis has been shown to be a safe and effective method which can be performed at the patient's bedside (4). Isolated haemopericardium and cardiac tamponade secondary to warfarin are seen very rare. Haemorrhagic cardiac tamponade should be excluded in patients on warfarin with unexplained hypotension and excessive anticoagulation. Close monitoring of INR level is very important in the management of patients, especially in the elderly receiving warfarin treatment (5).

Ethics Committee Approval: Ethics committee approval was received for this case.

Informed Consent: Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

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