

Thread-like Bone Cement in the Right-side Heart and Pulmonary Arteries Causing Diffuse Pulmonary Embolism as a Late Complication



Jin Kyung Oh, MD^a, Jae-Hyeong Park, MD, PhD^{a*},
Song Soo Kim, MD, PhD^b, Ji Hye Han, MD^a, Hee Jin Kwon, MD^a,
Jun Hyung Kim, MD^a, Jae-Hwan Lee, MD, PhD^a, Si-Wan Choi, MD, PhD^a,
Jin-Ok Jeong, MD, PhD^a, In-Whan Seong, MD, PhD^a

^aDepartment of Cardiology in Internal Medicine, School of Medicine, Chungnam National University, Chungnam National University Hospital, Daejeon, Korea

^bDivision of Cardiothoracic Radiology, Department of Radiology, School of Medicine, Chungnam National University, Chungnam National University Hospital, Daejeon, Korea

Received 15 November 2014; received in revised form 15 January 2015; accepted 17 February 2015; online published-ahead-of-print 2 March 2015

Pulmonary embolism (PE) is usually associated with deep vein thrombosis (DVT) in the lower extremities. However, foreign bodies in the pulmonary arteries can rarely cause PE without evidence of DVT. In this report, we present a case of diffuse PE associated with a migrated thread-like structure of the right-side heart and pulmonary arteries in a 70 year-old woman. The patient underwent several episodes of percutaneous vertebroplasty (PV) to treat compression fractures. The thread-like foreign bodies were identified as the bone cement injected during the previous PV procedures. We present this case study to emphasise that clinicians should consider the possibility of PE as a late complication, especially those with a history of PV.

Keywords

Pulmonary embolism • Bone cement • Percutaneous vertebroplasty • Echocardiography
• Computerised tomography

Introduction

Pulmonary embolism (PE) is usually associated with deep vein thrombosis (DVT) in the lower extremities. However, foreign bodies in the pulmonary artery can rarely cause PE without relation to DVT. In this case report, we present a case of diffuse PE associated with a migrated thread-like structure of the right-side heart and pulmonary arteries. The foreign bodies were identified as bone cement injected during the previous percutaneous vertebroplasty (PV) procedures. After management with anticoagulation therapy, the patient's symptoms were relieved, and follow-up CT scan

revealed decreased extent of thrombus in the pulmonary arteries.

Case Report

A 70 year-old woman was admitted to our emergency room with a progressive dyspnoea for about two weeks. Her medical history revealed paroxysmal atrial fibrillation and hypertension which were controlled with medications. Two years earlier, the patient had undergone several episodes of the PV at a private clinic to treat compression fractures of 4th, 6th, 11th thoracic, and 2nd lumbar vertebral bodies associated

*Corresponding author at: Department of Cardiology, Internal Medicine, Chungnam National University, Chungnam National University Hospital, 282 Munhwa-ro, Jung-gu, Daejeon 301-721, Korea. Tel.: +82-42-280-8237; fax: +82-42-280-8238, Emails: jaehpark@cnu.ac.kr, jaehyeongpark@gmail.com

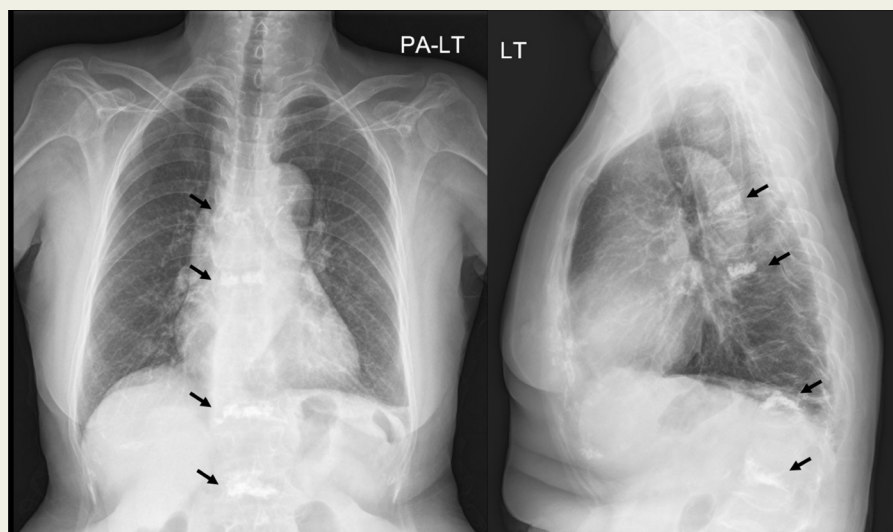


Figure 1 Chest radiography shows the high density lesions in the T4, T6, T11 and, L2 vertebral bodies (arrows) which indicate previous percutaneous vertebroplasty.

with severe osteoporosis. On physical examination, her blood pressure was 120/80 mmHg, heart rate was 144 beats/min, and respiratory rate was 28 beats/min. There was no evidence of unilateral leg oedema suggesting the presence of DVT. The electrocardiogram revealed atrial fibrillation with rapid ventricular response, and the chest radiography showed high density in T4, T6, T11, and L2 vertebrae suggesting previous PV (Fig. 1). In the transthoracic echocardiogram, an about 6 cm long hyperechogenic thread-like structure was found from the right atrium to the right ventricle (RV). The mass was also continued from the RV to the main pulmonary artery (Fig. 2). In addition, globally decreased cardiac wall motion abnormality with mild left ventricular (LV) systolic dysfunction was found (the

calculated LV ejection fraction was 45%). The estimated RV systolic pressure was 43 mmHg from the maximal velocity of tricuspid valve regurgitation (TR Vmax was 3.1m/sec).

We performed a multidetector computerised tomography (MDCT) with contrast enhancement to characterise the thread-like structure and to demonstrate PE. The MDCT scan demonstrated the 6 cm long radiopaque thread-like material in the RV, RV outflow tract, main pulmonary trunk, and right main pulmonary artery (Fig. 3A, B, and C). A pulmonary artery embolism obstructing pulmonary trunk, main pulmonary artery, the orifice of the interlobar branch of both lower lobes was detected. Ventilation and perfusion lung scan demonstrated diffuse, especially peripheral perfusion defect in the right-side lung and perfusion defect in the basal

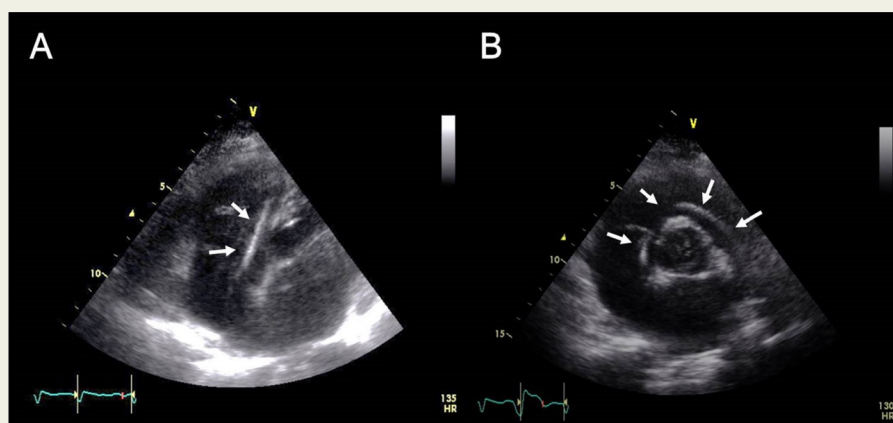


Figure 2 Transthoracic echocardiographic reveals a hyperechogenic thread-like structure (arrows) in the right atrium and right ventricle in the low parasternal view (A). The structure extended into right ventricular outflow tract and pulmonary artery in parasternal view of the cardiac base (B).

Download English Version:

<https://daneshyari.com/en/article/5958956>

Download Persian Version:

<https://daneshyari.com/article/5958956>

[Daneshyari.com](https://daneshyari.com)