

Images in
Cardiovascular Disease



A Bone Cement Mass in the Pulmonary Artery

Jeong Rang Park , MD, PhD, and Jin Yong Hwang , MD, PhD

Division of Cardiology, Department of Internal Medicine, Gyeongsang National University School of Medicine and Gyeongsang National University Hospital, Jinju, Korea

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Address for Correspondence:

Jin-Yong Hwang, MD, PhD

Division of Cardiology, Department of Internal Medicine, Gyeongsang National University School of Medicine and Gyeongsang National University Hospital, 15 Jinju-daero 816 beon-gil, Jinju 52727, Korea.
E-mail: jyhwang@gnu.ac.kr

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ORCID iDs

Jeong Rang Park

<https://orcid.org/0000-0002-8330-2738>

Jin Yong Hwang

<https://orcid.org/0000-0002-6632-7239>

Conflict of Interest

The authors have no financial conflicts of interest.

A 72-year-old woman presented with mild dyspnea on exertion 2 months ago. She had a history of myocardial infarction 8 years ago. She had undergone vertebroplasty by injecting polymethylmethacrylate cement in the 10th thoracic body due to a compression fracture 2 years ago (**Figure 1**). For evaluation of dyspnea, transthoracic echocardiography was undertaken. Echocardiography revealed a lobulated mass attached to the pulmonary valve and a stick at the bifurcation of the pulmonary artery (**Movie 1**). Simple chest X-ray showed a round radio-opaque mass made of coiled lines in the pulmonary artery and linear materials in the left and right pulmonary arteries (**Figure 1**). Computed tomography confirmed a mass with high attenuation (**Figure 2A**). Additionally, transesophageal echocardiography revealed the lobulated mass attached to the pulmonary valve (**Figure 2B**). The foreign bodies were bone cements that had leaked into the paravertebral vasculature and moved to the pulmonary artery during vertebroplasty. The mass did not lead to pulmonary hypertension and a progressive thromboembolic phenomenon was not found. We decided to monitor the cement emboli regularly with the patient's consent.

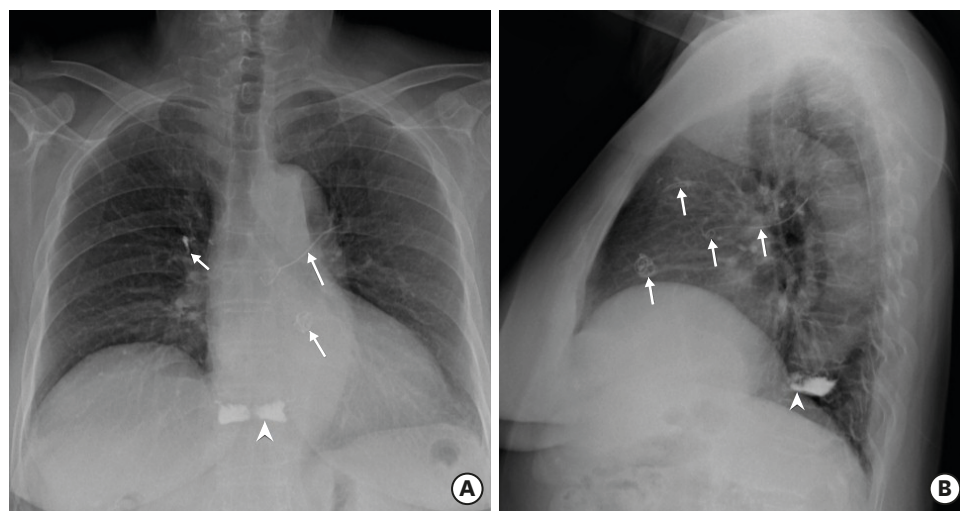


Figure 1. Simple X-ray images of chest PA (A) and chest left-lateral (B) show a round radio-opaque mass made of coiled lines in the pulmonary artery and linear materials in the left and right pulmonary artery (arrow). The vertebroplasty was seen in a simple X-ray (A and B, arrow head).

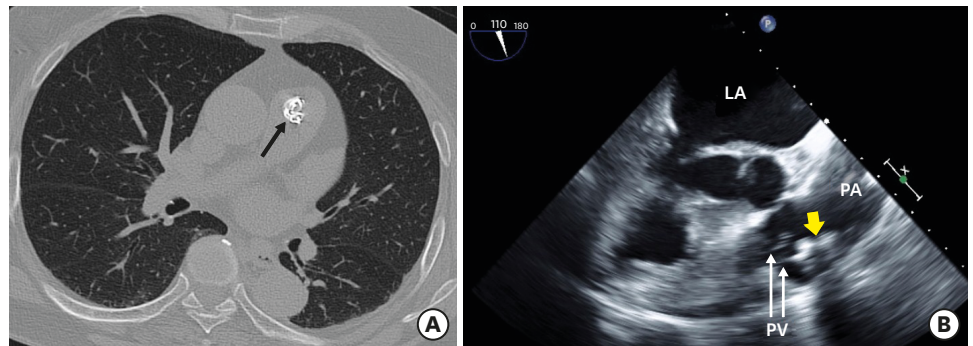


Figure 2. (A) Computed tomography shows a lobulated mass with high attenuation (arrow) in the pulmonary artery. (B) The mass of bone cement was attached at pulmonary valve by transesophageal echocardiogram. LA: left atrium, PA: pulmonary artery, PV: pulmonary valve.

Pulmonary bone cement embolism is not a rare complication. The incidence of pulmonary embolism is 2.1% to 26%.^{1,2)} Although most cases are detected incidentally and are asymptomatic, clinical presentation is varied and can include dyspnea, chest pain, cardiac rupture, and/or death.²⁾ In this patient, the mass in the pulmonary artery was detected incidentally, and it was confused with a cardiac mass, vegetation, and pulmonary thromboembolism. We were able to confirm bone cement emboli through a multimodality imaging technique.

SUPPLEMENTARY MATERIAL

Movie 1

Short axis image on transthoracic echocardiography shows a mobile lobulated-mass attached to the pulmonary valve and a stick from the bifurcation of the main pulmonary artery to the left pulmonary artery.

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