

Incidental finding of multiple pulmonary embolisms on chest X-Ray

Stavros H. Tryfon¹,
 Marianna Moyseos²,
 Georgios Babalis²,
 Eva Serasli²,
 Konstantinos Ditsios³,
 Stavros Tryfon²

¹Private Medicine, Thessaloniki,
²Pulmonary Department of
 NHS, Geneneral Hospital "G.
 Papanikolaou", Thessaloniki,
³Second Orthopaedic
 Department, Aristotle University
 of Thessaloniki, Thessaloniki,
 Greece

A 52-year-old female patient had multiple symptomatic osteoporotic compression fractures of the thoracic and lumbar spine. She underwent a vertebroplasty for vertebrae T11, T12, L1, uncomplicated, with a good therapeutic result. Two years later, the routine chest radiograph showed multiple tubular radiographically dense opacities corresponding to pulmonary vessels blocked with polymethyl methacrylate (PMMA) in several areas of the lungs (Figure 1). Obviously, this silent PMMA embolism had occurred following the multilevel vertebroplasty 2 year earlier. The patient did not have respiratory symptoms at any time after vertebroplasty. CT-scanning showed pulmonary embolism of right anterior branch of pulmonary artery from a high-density material and multiple unilateral micro-emboli of the lungs (Figure 2). Vertebroplasty is the injection of bone cement, generally (PMMA), into a vertebral body (VB). Injection of PMMA into the VB is undertaken after careful imaging confirming insertion of the trocar in the anteromedial portion of the VB. The injection must be done with the aid of live fluoroscopic guidance. If the PMMA begins to go into a blood vessel or toward the posterior cortical margin, the injection must be halted immediately. Complications have been reported; a review revealed 58 reported complications from 1999 through 2003 of approximately 200,000 procedures performed¹. There is only one case with asymptomatic pulmonary embolism in a patient found 1 year after the procedure.

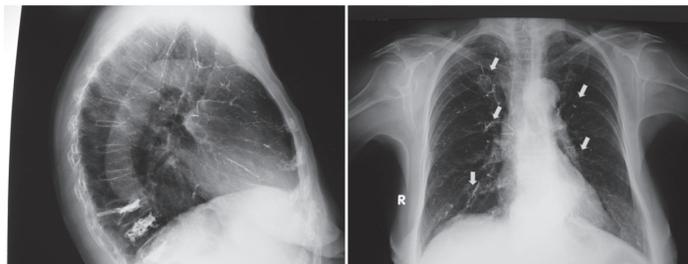


FIGURE 1. Chest radiographs 2 years after the augmentation of osteoporotic fractures at levels T11 to L1 (lateral view). High-density PMMA cement with a tubular and branching shape (arrows at posteroanterior view) distributed throughout the lungs corresponding to lung vessels with intraluminal cement.

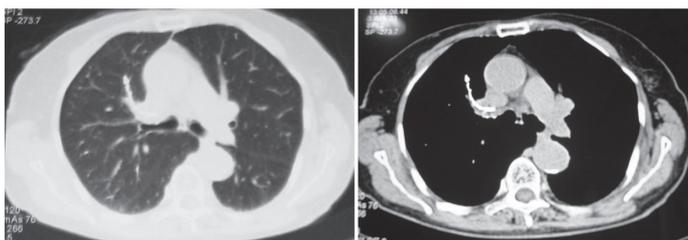


FIGURE 2. CT scanning shows pulmonary embolism of high density PMMA, along the right anterior branch of pulmonary artery. The tubular and branching shapes revealed on chest radiographs are not easy to detect in CT scan.

Correspondence:

Stavros Tryfon, MD, PhD, FCCP,
 Director NHS, Pulmonary Department
 of NHS, Geneneral Hospital
 "G. Papanikolaou", Thessaloniki, Greece
 Tel.: +30 6944597560
 E-mail: stavrostryfon@yahoo.gr

REFERENCE

1. Nussbaum DA, Gailloud P, Murphy K. A review of complications associated with vertebroplasty and kyphoplasty as reported to the food and drug administration medical device related web site. *J Vasc Interv Radiol* 2004; 15:1185–92.