Clinical picture

A nonresolving infiltrate in the lung

Introduction
About 8% of diagnostic bronchoscopies and 15% of pulmonary consultations are performed to evaluate nonresolving infiltrates.1

Case history
A 47-year-old woman was referred for a bronchoscopy for a nonresolving infiltrate in the right lower lobe (RLL). She had a history of diabetes mellitus, hypertension, end-stage renal disease status after failed renal transplant and was currently on peritoneal dialysis. Her postoperative course was complicated by a vocal cord injury resulting from a traumatic intubation. She underwent a prosthetic vocal cord implant placement. She was treated for RLL pneumonia 2 months after surgery. On follow-up imaging, there was a persistent infiltrate in the RLL.

She had cough with minimal expectoration but denied any fevers. She received another course of antibiotics for her presumed aspiration. The infiltrate persisted, however, and the patient was referred for possible bronchoscopy. Computed tomography (CT) of thorax revealed a small right effusion and a RLL infiltrate (Figure 1). A careful review of the CT with our radiologist suggested scattered calcifications in the RLL. Was this dystrophic pulmonary calcification following pneumonia?

Workup revealed a high parathyroid hormone, low vitamin D with low calcium and high

Figure 1. (A and B) CT of thorax at diagnosis with evidence of calcium deposition. (C) Chest radiograph at diagnosis with RLL infiltrate. (D) Chest radiograph with improving infiltrate in the RLL 4 months after surgery.

© The Author 2013. Published by Oxford University Press on behalf of the Association of Physicians. All rights reserved. For Permissions, please email: journals.permissions@oup.com
phosphorus levels. She was started on aggressive therapy to correct her secondary hyperparathyroidism. She then underwent a subtotal parathyroidectomy for persistent hyperparathyroidism. The chest radiograph has shown progressive improvement in the RLL calcification.

Teaching points

1. Pulmonary calcification is a relatively rare complication of both benign and malignant disorders. Slowly progressive cases are frequently misdiagnosed as a pneumonia/nonresolving infiltrate on the chest radiograph and CT scan. Bone scintigraphy with the bone-avid radiotracer 99mTc-MDP (technetium-methylene diphosphate) helps with equivocal cases.2

2. Treatment is targeted at correction of the elevated calcium-phosphate product. The response to transplantation is unpredictable—a successful transplant may ameliorate metastatic pulmonary calcification but in some rare cases metastatic pulmonary calcification may continue to progress despite a normally functioning renal allograft and normal or near-normal calcium and phosphate levels, although occult tertiary hyperparathyroidism may be responsible.2

3. A variety of noninfectious causes of pulmonary infiltrates can mimic nonresolving pneumonia. They should always be considered in the differential to avoid excessive and/or inappropriate interventions, unnecessary costs and the respective risks of invasive diagnostic procedures.

Photographs and text from: P. Mehta and R.J. Lenox, Division of Pulmonary and Critical Care Medicine, SUNY Upstate Medical University, Syracuse, NY, USA.

email: mehtapa@upstate.edu

Conflict of interest: None declared.

References
