Spontaneous Lung Herniation, Acute Cough, and Pneumonia

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The patient described here was treated for pneumonia, but a chest wall mass and CT changes suggested that more was going on.

The case
A 61-year-old man is admitted to the hospital with a 1-week history of severe nonproductive cough and pleuritic chest pain. He also has a right posterolateral chest wall mass that appeared after an episode of coughing 5 days earlier. The patient reports that the mass enlarges when he coughs. He has had no fever, chills, night sweats, change in weight, or hemoptysis during the past week. About 2 weeks earlier, the patient was hospitalized for community-acquired pneumonia that involved the right middle lobe. A chest CT scan obtained at the time showed pneumonia but no other abnormalities (Figure 1). After he received antimicrobial therapy, the radiographic appearance of the pneumonia improved and his leukocytosis decreased. He was discharged after 5 days; opioid therapy was prescribed to control his cough, which had diminished during his hospital stay. Current physical findings are as follows: Vital signs are normal. No hypoxia is noted while the patient is breathing room air. Breath sounds are decreased over the right lung base. The large soft tissue defect of the chest wall increases in size with expiration and moves inward with inspiration. A CT scan of the chest (with scout film) reveals a right-sided posterolateral splaying of the ribs at T9 to T10 and a segment of herniated lung that extends through the intercostal space (Figures 2 and 3). These findings were not present on the earlier CT scan (Figure 1).

Discussion
Lung herniation was first described in the 15th century. A system to classify hernias as cervical, thoracic, or diaphragmatic and as either congenital or acquired was developed in 1847. Lung herniation is uncommon; it may develop after trauma or chest wall surgery, at the site of the surgical incision. A few cases of lung herniation secondary to cough in patients with chronic obstructive pulmonary disease have been reported. To our knowledge, this is the first reported case of a spontaneous lung herniation resulting from an episode of acute cough in a patient with a recent history of pneumonia. Confirmation of lung herniation typically requires chest imaging. A diagnosis can frequently be made on the basis of inspiratory and expiratory chest radiographs. In patients who are candidates for surgical repair, a chest CT scan can help ascertain the extent of the chest wall defect. Thoracic lung hernias generally require surgical repair. Surgery is curative and should be considered for patients who have refractory pain, recurrent infections, hemoptysis, or symptoms that interfere with daily activities. Palliative treatment, using a compression bandage or corset, may be preferred for asymptomatic patients and for those in whom surgical repair is contraindicated. Advise patients that this approach poses the risk of hernia incarceration.

Outcome of this case
The patient's intercostal muscle tear probably occurred during an initial bout of coughing that was associated with the respiratory infection. Although the cough was better controlled after opioid therapy was prescribed, the patient still had some residual cough, which most likely worsened the tear. The cough probably then became more severe because the herniation irritated the pleura. The patient elected to pursue a conservative strategy and is currently doing well.

References:
REFERENCES

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