

Where Is the Heart after Left-Sided Pneumonectomy?

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Knowledge of anatomical changes that can occur after pneumonectomy is of utmost importance while treating such patients, especially when this treatment includes invasive diagnostic procedures of the postpneumonectomy space. We present a case of extreme mediastinal shifting in a female patient after left-sided pneumonectomy.

CASE REPORT

A 64-year-old woman with a history of pneumonectomy for non–small cell lung cancer, 102 months previously, presented without severe complaints of dyspnea or cough for a routine follow-up examination at our hospital. Chest radiography revealed extreme shifting of mediastinal structures to the side that was operated on (although it had been somewhat

stable for the past few years) (Figure 1). Exact localization of the heart was not possible by chest radiography alone, which is often the case after pneumonectomy. For research purposes (written informed consent was obtained), we obtained a computed tomographic scan (Figure 2), which revealed a very unusual localization of the heart, where the left ventricular free wall was placed against the left dorsal chest wall. Despite these extreme anatomical changes, she was functioning adequately without severe dyspnea on exertion. Lung function testing showed a forced vital capacity of 91% and a forced expiratory volume in 1 second of 79% of predicted values, and she was not ventilatory limited. No overt signs of cardiac dysfunction were observed.

Changes in anatomy of the postpneumonectomy space places these patients at risk of injury to the liver, spleen, or heart in case of blind percutaneous needle and/or chest tube insertion.¹ Direct visual guidance with ultrasonography or computed tomography is recommended when placing chest tubes in such patients to prevent serious complications.²

Presenting case reports like this, we believe, once more shows the need for knowledge on these extreme anatomical changes and the importance of careful localizing of thoracic structures in postpneumonectomy patients before invasively entering the postpneumonectomy space for any reason.

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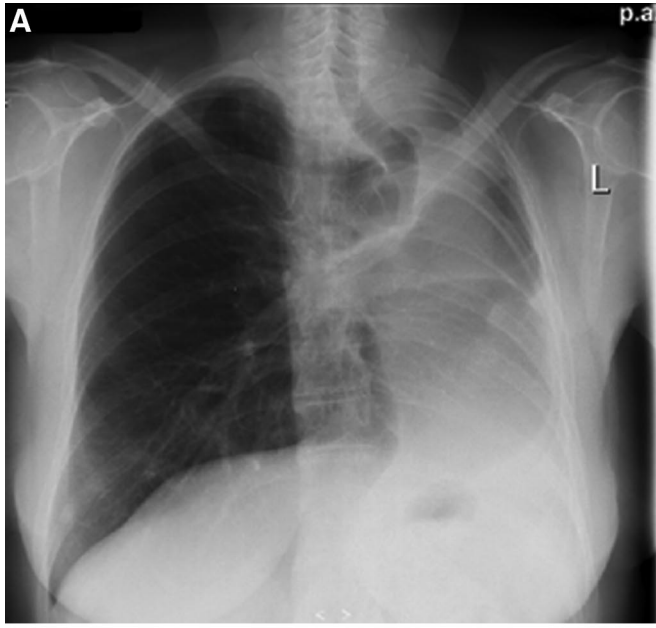


FIGURE 1. The patient's posteroanterior (A) and lateral (B) chest radiographs 102 months after left-sided pneumonectomy demonstrating extreme left-sided mediastinal shifting.



FIGURE 2. The patient's axial computed tomographic image. Notice that the left ventricle is repositioned and placed against the left dorsal chest wall. L, left side of patient; LV, left ventricle; RV, right ventricle.