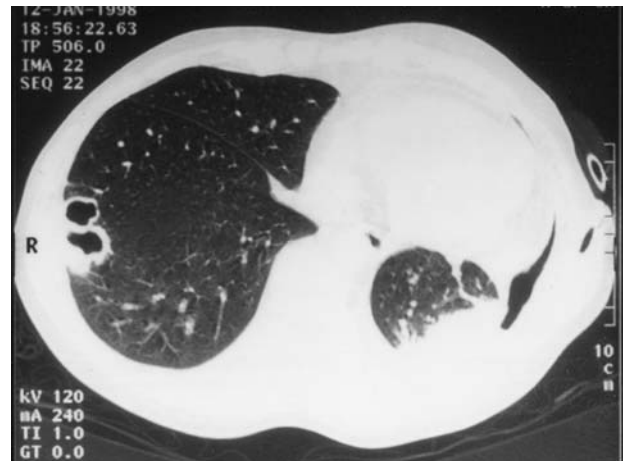


Recurrent Pneumothorax Due to Rheumatoid Arthritis

To the editor: Rheumatoid arthritis (RA) is a systemic disease that affects synovial joints. Respiratory manifestations are frequent and varied, pleural alterations and interstitial disease being the most common. Pulmonary involvement occurs most often in men and is associated with positive rheumatoid factor and other extra-articular manifestations, which are usually discovered by chance or are suggested by mild symptoms. Manifestations that require urgent treatment are rare.¹ We report the case of advanced RA in a patient who presented with spontaneous pneumothorax that eventually required surgical pleurodesis.

The patient was a 40-year-old man with a history of seropositive RA—functional class II, structural class III—under treatment with indomethacin and corticosteroids, with symmetric polyarthritis in hands and feet. He presented at the emergency department of our hospital due to an exacerbation of chronic pain in his left knee. Physical examination revealed markedly diminished breath sounds on the left side with a tympanic sound on percussion. A chest x-ray revealed significant left-sided pneumothorax. A chest tube was therefore inserted. During the interview the patient reported having suffered acute chest pain accompanied by transient dyspnea 1 month earlier. The patient was admitted for tests and evaluation. While hospitalized he presented persistent air leak. Radiographs showed a collapsed lower lobe, pleural thickening, and a small pleural effusion. A computed tomography scan of the thorax showed a left pneumothorax and round subpleural cavitory lesions on both sides (Figure). Owing to the persistence of the air leak and the lack of radiographic improvement, we performed video-assisted thoracoscopic surgery. The left lung was seen to be affected by pronounced pachypleuritis, necessitating conversion to left posterolateral thoracotomy and lung decortication. On the lower lobe we observed an area of hepatocytic necrotic tissue, which was removed by wedge resection. Pathologic findings were consistent with RA: extensive necrotic foci affecting the pulmonary parenchyma and pleura. Microbiologic analysis of the pleura and the lung were negative for Koch bacilli and other bacteria. Postoperative course was favorable and without complications; the patient was transferred to the rheumatology ward for monitoring of his primary disease. Months later he was readmitted with a right pneumothorax caused by another rheumatoid lesion that had perforated the pleura. This lesion also required surgical treatment.

Figure. A computed tomography scan of the thorax showing a left pneumothorax and multiple subpleural cavitory lesions.



RA is a multisystemic disease that can give rise to various respiratory system complications, the foremost of which are pleural alterations, lung infections and inflammation, interstitial lung fibrosis, bronchogenic carcinoma, arteritis with pulmonary hypertension, bronchiolitis obliterans, bronchiectasis, and amyloidosis.² Another complication of rheumatoid nodules is spontaneous pneumothorax, which can be recurrent if communication between the lung and the pleural cavity develops because of a necrotic rheumatoid nodule.³ Nodular opacities are observed more frequently when the patient is a smoker and presents subcutaneous nodules predominantly at the lung bases.⁴

The majority of such patients are corticosteroid-dependent—a condition that complicates treatment of pneumothorax. In the present case it is worth mentioning that the patient failed to take note of the acute episode that produced the left pneumothorax, such that the diagnosis was established by chance while examining him for another complaint. Also noteworthy was the contralateral pneumothorax, this time clinically evident and again requiring surgical treatment. In such cases simple drainage is usually insufficient owing to the persistence of the fistula caused by the rheumatoid nodule. When our patient first presented, we considered the possibility of pneumothorax due to septic metastasis by staphylococci, and radiographic images were consistent with that diagnosis. However, analysis of the pleural fluid showed that it was consistently aseptic. The literature contains descriptions of similar

cases requiring differential diagnosis to rule out other entities, such as bronchogenic carcinoma or tuberculosis.⁵ Therefore a histologic diagnosis is needed to assure that images correspond to rheumatoid nodules.⁶ In conclusion, treatment of pneumothorax in this type of case is complex. Treatment by surgical pleurodesis is frequently the final option; however, risk of failure and recurrence is high.

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