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Bilateral Pneumothorax in a Patient With Rheumatoid Nodules Colonized by *Aspergillus fumigatus*

To the Editor: Rheumatoid arthritis (RA) is a chronic inflammatory joint disease that preferentially affects hands in a symmetric manner, although it can affect other organs such as the lungs. Therefore, we found interesting to share the case of a patient with pulmonary affection as a complication of RA. He was a 67 year-old male, allergic to metamizole and aspirin, with seropositive RA and rheumatoid nodules that appeared 30 years ago, treated with indomethacin and steroids during the exacerbations of the inflammatory activity, without receiving any remission-inducing treatment. He was an ex-smoker, having consumed 10 packs-year.

He had a personal history of left hidropneumothorax in 2002 that was possibly secondary to a ruptured ampoule, requiring thoracic drainage. In the thoracic computer tomography (CT) there was bilateral, predominantly subpleural nodules (interpreted as ampoules) and a pleural effusion whose microbiologic and cytologic analysis resulted negative. He was hospitalized in August 2006 due to intense right thoracic pain and dyspnea. A chest x-ray showed a practically complete right pneumothorax and a partial left pneumothorax which led us to think once again in a ruptured ampoule as had occurred in 2002. A thoracic drainage was put into place on the right pneumothorax, with an appropriate lung reexpansion, but the pneumothorax reappeared after 48 hours. A mechanical obstruction of the drainage was discarded as the reason for this and the rupture of a new, cavitated nodule was confirmed and merited drainage once more. The pleural effusion turned out to be an exudate according to Light's criteria, with a pleural protein/serum protein coefficient over 0.5, a pleural LDH /serum LDH of over 0.6, with a value of LDH of 2014 U/L, ADA of 54.3 units and a negative culture for mycobacteria. However, there was growth of *Aspergillus fumigatus*, meriting the immediate initiation of antifungal therapy. The laboratory analysis showed an elevation of rheumatoid factor with the rest of the parameters being normal. A clinical worsening of the patient, manifested by intense bilateral thoracic pain,

Figure. Thoracic computerized tomography. A pneumothorax and hidropneumothorax as well as small lung nodules can be seen.

dyspnea, and respiratory insufficiency, with an O₂ saturation of 79% took place. A new thoracic CT was carried out; it showed a left hidropneumothorax that had evolved with respect to the radiographic image, with almost complete atelectasia of the underlying lung and a right pneumothorax, which was reduced to a fine sheet, with an image of associated subcutaneous emphysema (Figure). Parenchymal lung nodules could be seen, mostly subpleural and less than 1 cm in diameter, as well as nonspecific lymphadenopathy, with a fatty core and benign aspect in the axillary, paratracheal, and subcarinal chains. Due to the lack of other clinical data, after a week of treatment with assisted ventilation, thoracic drainage tubes, and antifungal treatment, the patient underwent immediate thoracic surgery. In the samples obtained for analysis, cultures were positive for *A. fumigatus* and the biopsy of the nodules described in the CT corresponded histologically to rheumatoid nodules, with the exclusion of ampoules. In conclusion, the relapsing bilateral pneumothorax can be a complication found in patients with RA and subpleural lung nodules. Just as it was described by Adelman et al,¹ a communication or pleuropulmonary fistula due to necrosis of the nodule leads to a cavity susceptible of undergoing superinfection by *A. fumigatus*.

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