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CASE REPORT

Medical thoracoscopy in MALT lymphoma causing pleural effusion: A case report

Sabrina Arondi[1], Alberto Valsecchi[1] & Giampietro Marchetti[2]

1 Scuola di specializzazione in malattie dell'apparato respiratorio, Università degli studi di Brescia, Brescia, Italy
2 Divisione di Pneumologia, Spedali Civili di Brescia, Brescia, Italy

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Correspondence
Valsecchi Alberto, via Greppi, 6, 23899, Robbiate (LC), Italy.
Tel: +39 3404193918
Fax: +39 039513363
Email: dr.valsecchi@yahoo.it

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Abstract

Mucosa-associated lymphoid tissue (MALT) lymphoma is a form of low-grade malignant B-cell extranodal non-Hodgkin's lymphoma. It is classified as marginal-zone lymphoma and represents less than 1% of all lung cancer. We describe a case of MALT lymphoma limited exclusively to the lung that came to our attention with infective pleural effusion and concomitant lung consolidation of the left lower lobe. Our case demonstrates that MALT can begin with an acute clinical presentation. The clinical scenario, with fever, parietal chest pain, and leukocytosis, suggested an infective process. Radiological and sonographic examinations and the endoscopic aspect during medical thoracoscopy (MT) were typical of an infective etiology. The histological outcome of non-specific inflammatory pleuritis confirmed our suppositions. However, the missing resolution of lung consolidation after several weeks led us to an alternative diagnosis. Parenchymal biopsies obtained by bronchoscopy allowed us to reach the correct diagnosis: MALT lymphoma limited to the lung.

Introduction

Mucosa-associated lymphoid tissue (MALT) lymphoma is a form of low-grade malignant B-cell extranodal non-Hodgkin's lymphoma.[1]

We describe a case of MALT lymphoma limited exclusively to the lung that came to our attention with infective pleural effusion and concomitant lung consolidation of the left lower lobe. To our knowledge it is the first report in literature of a MALT lymphoma commencing with a pleural infective scenario.

Case report

A 58-year-old woman came to our division from a peripheral hospital for persistent pleural effusion and lung consolidation after antibiotic therapy. Chest computed tomography (CT) performed the day before the transfer of the patient displayed pleural effusion of the left side, and consolidation with air bronchogram of the left lower lobe and partially of the lingular segment. Clinically, the patient reported fever, ingravescent dyspnoea, and pain in correspondence of the left caudal hemithorax, exacerbated by deep inspiration or movement. No cough was present. Moreover, the patient had complained of diffuse arthralgias and myalgias associated to asthenia for three weeks. The patient's medical history was essentially negative.

We initially studied the patient via a chest sonographic examination that revealed complex pleural effusion filled with multi septa of fibrin. Echographic examination and the clinical presentation were suggestive for parapneumonic pleural effusion (Fig 1). We decided to drain it immediately with a chest tube. Corpuscolated yellow-citrine fluid was collected, which resulted in exudative pleural effusion. Microbiological and cytological examinations were negative. The serological examination revealed elevated inflammation markers (erythrocyte sedimentation rate, C-reactive protein [CRP], fibrinogen, $\alpha 1$ and $\alpha 2$ globulin), leukocytosis with neutrophilia, a lower level of gamma globulin, and moderate normochromic and normocytic anaemia.

In the following days, the clinical and sonographic scenario did not improve. The fever persisted with no decline of the inflammation markers. A chest X-ray showed persistent hydro-pneumothorax with consolidation of the left lower lobe. Five days after admission to our division, we decided to perform a medical thoracoscopy (Fig 2). Multiple parietal and diaphragmatic pleural samples were performed, fibrin septations, and pleural adhesions were removed. Histological

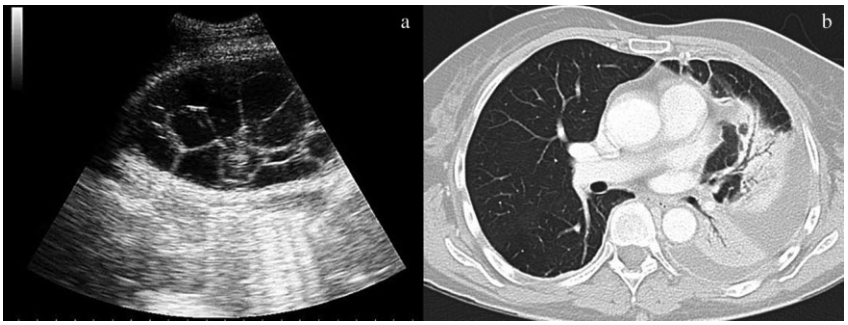

Figure 1 Imaging at the admission of the patient. (**a**) Chest ultrasound. Complex pleural effusion: anechogenic liquid with multiple septations of fibrin. The lung appears collasped and consolidated with air bronchogram beyond the pleural cavity. (**b**) Chest computed tomography. Lung consolidation with air bronchogram of the left lower lobe and lingular segment. Moderate left pleural effusion is also evident.

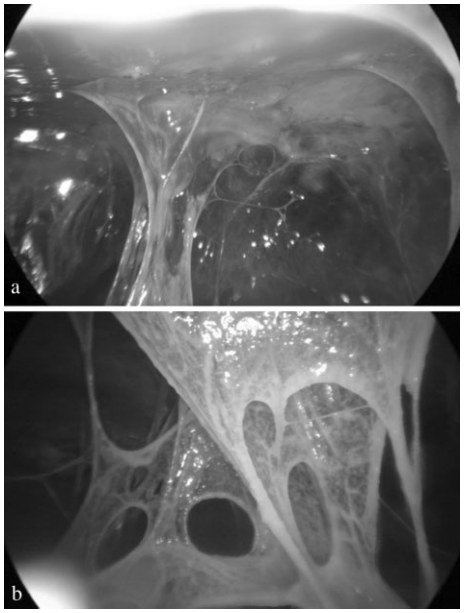

Figure 2 Medical thoracoscopy showed pleural effusion with septations and pleural adhesions formed by fibrin, diffuse thickenings of the parietal and diaphragmatic pleura with fibrin pannus and hyperemia. The lung was collapsed without macroscopic abnormalities. (**a**) Diffuse thickening and hyperemia of parietal pleura with fibrin pannus and septations. (**b**) A close up of fibrin septations.

examination of the parietal pleura showed a nonspecific pleuritis. The microbiological investigation of the pleural effusion and the samples of fibrin were negative.

When the pneumothorax was resolved, the chest tube was removed (5 days after MT). After 15 days of admission, the patient was discharged from the hospital. The fever was absent and the chest pain resolved. The CRP level had more than halved and no leukocytosis was present. Nevertheless, the consolidation was not resolved and little pleural effusion remained.

We then followed up the patient in our pleural disease surgery. In the following months, the patient began to feel better. Chest ultrasound showed a gradual reduction of the pleural effusion and a persistence of the consolidation of the lower lobe with air bronchogram. Diffuse B-lines, such as in the presence of non-specific lung disease, were apparent in the adjacent lung; the apical zone appeared normal.

Four months after discharge, a new chest CT was performed: the pleural effusion was totally resolved and parenchimal consolidation was stable, but a new ground glass area (about 12 mm) appeared periferically in the middle lobe (Fig 3). Therefore, we decided to perform bronchoscopy: macroscopic examination revealed only chronic non-specific bronchitis. Histological study of the lateral and posterior

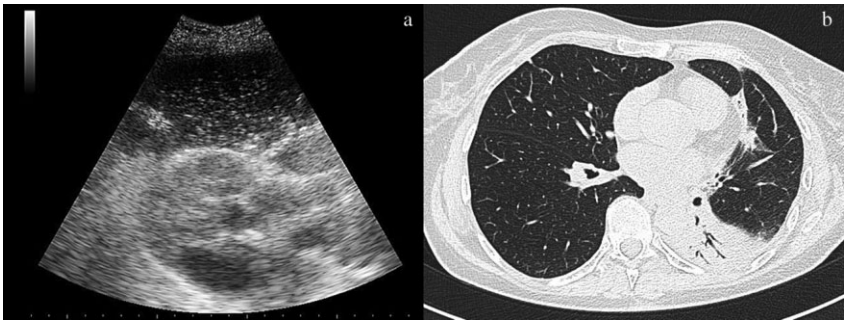

Figure 3 (**a**) Sonographic image: up the pulmonary consolidation with air bronchogram (typical white spots), down the heart, on the left the diaphragm. (**b**) Chest computed tomography: persistent lower lobe and lingular (partial) consolidation in the absence of pleural effusion.

basal bronchus biopsies (left B9 and B10) led to a diagnosis of mucosa-associated lymphoid tissue lymphoma (MALT). In particular, immunohistochemical examination showed many lymphocytic cells CD20+, CD5- and CD10- with some germinative centers CD21+ and anti-Ck-pan. An inferior lingular segmental bronchus (left B5) assay achieved a non-specific result.

Thus, the patient was entrusted to the hematologic division. Bone marrow and peripheral blood cell examination results were negative and positron emission tomography showed no evidence of extrapulmonary disease. The patient was treated with six Rituximab-Cyclophosphamide-Prednisone cycles. A complete response to chemotherapy was observed, with no evidence of disease recurrence up to six months after the end of chemotherapy. The last CT chest scan exhibited a replacement of the lower lobe consolidation with a reticular pattern and diffuse micro cysts, manifestations of fibrotic reparative process. Lingular consolidation and the middle lobe ground glass area were totally recovered.

Discussion

To our knowledge very few cases in literature describe pleural implication as initial presentation in MALT.[2–5] Our case demonstrates that MALT can begin with an acute clinical scenario and that lung consolidation associated to organizing pleural effusion can be induced by a rare form of lymphoma. Thus, we recommend considering causes other than infection when you observe a persistent lung consolidation, even after recovery of pleural effusion.

Disclosure

No authors report any conflict of interest.

References

1 Graham BB, Mathisen DJ, Mark EJ, Takvorian RW. Primary pulmonary lymphoma. *Ann Thorac Surg* 2005; **80**: 1248–53.
2 Bachuwa G, Naik P, Campe J, Lecea N, Congdon D. Ninety-one year old: oldest patient reported with pulmonary mucosa-associated lymphoid tissue lymphoma and rare association with pleural effusion. *Geriatr Gerontol Int* 2012; **12**: 149–51.
3 Motta G, Conticello C, Amato G *et al*. Pleuric presentation of extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue: A case report and a review of the literature. *Int J Hematol* 2010; **92**: 369–73.
4 Kawahara K, Sasada S, Nagano T *et al*. Pleural MALT lymphoma diagnosed on thoracoscopic resection under local anesthesia using an insulation-tipped diathermic knife. *Pathol Int* 2008; **58**: 253–6.
5 Mitchell A, Meunier C, Ouellette D, Colby T. Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue with initial presentation in the pleura. *Chest* 2006; **129**: 791–4.

