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Letters to the Editor

Pleural Effusion Formation in the Course of Myeloma☆

Formación de derrame pleural en el curso de un mieloma

To the Editor:

Multiple myeloma is the second most common hematological malignancy and usually presents with bone pain, pathologic fractures, and anemia.[1] It may affect the thorax as bone lesions, plasmocytomas, pulmonary infiltrations, and pleural effusion.[2] Pleural effusion is seen in 6% of the myeloma patients[3] but pleural effusion due to plasma cell infiltration is rare, with an incidence of 0.8% and less than 100 cases reported to date.

A 62-year-old man was diagnosed with MM (Ig G-kappa), stage IIIA, in June 2010. He was treated with two courses of bortezomib and autologous stem cell transplantation was performed in September 2010. He was given 50 mg/day cyclophosphamid as maintenance therapy. In August 2012, he presented with chest pain. A palpable mass in the left hemithorax was detected. X-ray showed multiple rib fractures. PET-CT showed expansive 8×9 cm mass located in the left hemithorax in the region of the ninth and tenth ribs (SUV max 15.5). The following were noted in laboratory studies: hemoglobin: 14.1 g/dL, white blood cells: 5×10^9/L, platelets: 242×10^9/L, creatinine: 0.8 mg/dL, uric acid: 6 mg/dL, calcium: 10.7 mg/dL, total protein: 7.4 g/dL, albumin: 4.9 g/dL, globulin: 2.5 g/dL, kappa: 217 mg/dL and β-2 microglobulin: 3668 ng/mL. Serum protein electrophoresis was normal, and the 17p13,1 (p53 gene) was negative by FISH. Bone marrow biopsy showed CD138 (+), kappa (+) plasma cell infiltration. The patient was administered lenalidomid–dexamethosone. After two courses, pleural effusion was detected in left hemithorax in November 2012 (Fig. 1). Thoracentesis was performed and revealed exudate with a protein level of 6 g/dl. Cytology revealed small lymphocytes, polymorphonuclear leukocytes, mesothelial cells and CD138, IgG and kappa positive atypical plasma cells. HHV-8 was negative in immunohistochemical stain. Bacterial and mycobacterial cultures were negative. Bortezomib treatment was added, but the patient died two months later due to respiratory distress after diagnosis of pleural involvement.

Malignant myelomatous effusion occurs due to infiltration of the pleura by the abnormal proliferation of plasma cells from an extramedullary plasmacytoma of the thoracic wall, lung, or bone. Diagnostic criteria of the myelomatous pleural effusion are: demonstration of a monoclonal protein in pleural fluid electrophoresis, detection of atypical plasma cells in pleural fluid,

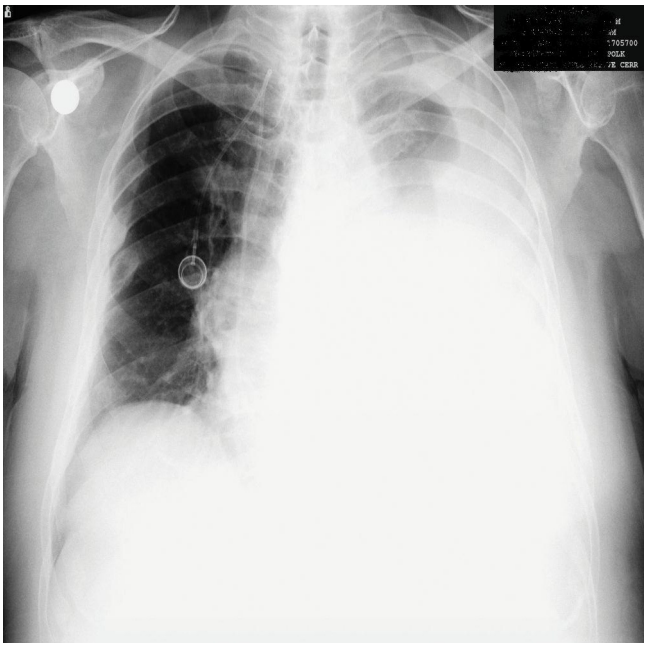

Fig. 1. Pleural effusion in left hemithorax, posteroanterior.

and histological confirmation by pleural biopsy.[4] Pleural cavity involvement has a poor prognosis. Systemic chemotherapy (interferons, bortezomib, thalidomide) radiotherapy, autologous stem cell transplantation, and direct injection of chemotherapeutics into the pleural cavity were administered. There have been only few cases of malignant pleural effusion in which bortezomib was effective, but pleural infiltration is fatal, with a median survival of 1.5–3 months. Thus, more aggressive chemotherapy regimens may be indicated in myeloma with pleural cavity involvement.

Authorship

Department of Hematology +90 232 3903504. Data collection and preparation of manuscript.

Conflict of Interest

The authors declare that they have no conflict of interests.

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Pleural Effusion Secondary to *Actinomyces* Infection as a Late Complication of Laparoscopic Cholecystectomy☆

Derrame pleural secundario a infección por Actinomyces *como complicación tardía de una colecistectomía laparoscópica*

To the Editor,

Cases of intra-abdominal actinomycosis have been described years after cholecystectomy, although it is a rare complication. Due to the slow growth of *Actinomyces*, symptoms can present months or even years after surgery.[1,2]

We present the case of a 71-year-old patient who underwent delayed laparoscopic cholecystectomy for acute cholecystitis. Four years later, he presented with dyspnea, cough, asthenia and pleuritic pain in the right hemithorax. On physical examination he was found to have a hard, painful swelling on the lateral region of the right hemithorax (Fig. 1A), with absent breath sounds. Acute phase reactants were elevated, and the chest radiograph showed right pleural effusion. Computed tomography (CT) revealed thickening of the pleura of the right posterolateral costophrenic angle (2.5-cm in thickness) and a hypodense area inside with extrapleural fat involvement, muscle thickening and pleural effusion (Fig. 1B). Thoracocentesis was performed and a fluid consistent with an exudate with predominantly polymorphonuclear cells was obtained, which later became mononuclear cell-predominant. Microbiology and cytology were negative. Needle biopsy of the pleural thickening reported an inflamed abscess. Ultrasound of the rib region showed a 3-cm hypoechoic mass, with multiple echoes, consistent with an abscess. This was aspirated and purulent matter was extracted; subsequent culture revealed *Actinomyces israelii* and *Escherichia coli*. From that time, the patient presented a chest wall fistula. Intravenous (i.v.) amoxicillin/clavulanic acid treatment was started for 14 days, followed by a further 4 weeks of i.v. penicillin. After 6 weeks of i.v. antibiotic, clinical improvement was observed and the fistula closed. Oral amoxicillin was continued until the patient had completed 12 months of treatment. A follow-up CT scan performed after the patient had been on antibiotics for 5 months showed a reduction in the effusion, with no changes in the pleural thickening.

A. israelii inhabits the oral cavity and upper gastrointestinal tract. Infection can occur when the mucosal barrier is damaged due to endoscopic manipulation, surgery or immunosuppression. Sulfur granules are characteristic on histological examination, but definitive diagnosis is made with microbiological isolation.[3] The infection is usually found in middle-aged men with poor dental hygiene, and is most often located in the cervicofacial area (50%), followed by the abdomen (20%) and chest (15%–20%).[2]

The most common cause of chest involvement is aspiration of secretions,[2] and it can present as empyema, pneumonia that progresses to cavitation, and pericardial or diaphragmatic involvement.[4]

Symptoms are variable and non-specific, and the patient may be asymptomatic. Acute phase reactants are generally elevated.[3]

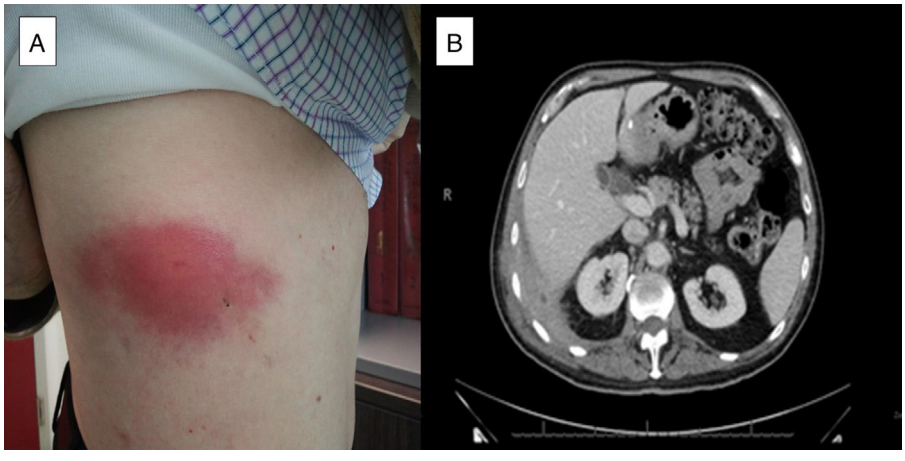

Fig. 1. (A) Image of the lesion in the lateral region of the right hemithorax. (B) Chest CT slice showing thickening of the pleura of the right posterolateral costophrenic angle with a hypodense area inside, with extrapleural fat involvement, muscle thickening and pleural effusion.

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