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Local Recurrence of a Bronchial Carcinoid Tumor☆

Recidiva local de tumor carcinoide bronquial

Dear Editor,

A 74-year-old man presented in the emergency room in November 2012 with bloody expectoration, having expelled a solid "foreign body" of a fleshy appearance. He reported that in the days leading up to the event, he had experienced a sensation of self-limiting wheezing without dyspnea. The patient had no history of smoking or substance or alcohol abuse. In 2003, he required hospital admission for pneumonia and, in April 2008, underwent right upper lobectomy for a typical bronchial carcinoid tumor. At the time of presentation, he was attending regular check-ups and remained free of recurrence.

Physical examination revealed wheezing in the right hemithorax, with no other findings. Clinical laboratory tests showed hemoglobin 11.1 g/dl; all other parameters were normal. The chest X-ray revealed a loss of right hemithorax volume due to the right upper lobectomy, but was unchanged compared to previous images. Computed tomography (CT) of the chest and abdomen showed polypoid lesions in the right main bronchus and in the stump of the right upper lobar bronchus. On bronchoscopy, bloody remnants and several rounded, hypervascular, millimeter-sized lesions were observed in lower third of the trachea and right anterolateral and anterior wall of the right main bronchus, above the entrance to the middle lobe. The carina and left bronchial tree were normal. A lobulated mass was observed in the area of the right upper lobectomy stump, suggestive of carcinoid tumor (Fig. 1). The bronchial biopsy results reported a well-differentiated carcinoid type lesion with an organoid growth pattern and no necrotic foci that was determined to be a high grade carcinoma due to the 70% proliferation index. Immunohistochemistry showed positive Ki-67 expression in 70% of the intensely synaptophysin-positive tumor cells. The extension studies were completed with an octreotide scintigraphy that did not show any pathological radiotracer uptake.[1]

In the Chest Surgery Department, the tumor tissue was locally excised with argon gas cryoablation of the lesions, with the exception of the most distal infiltration of the right and intermediate bronchus. The patient then received systemic chemotherapy.[2]

Carcinoid tumor is a malignant neuroendocrine carcinoma originating in the glandular basal enterochromaffin cells ("Kulchitsky cells"). The most common locations are gastrointestinal (55%) and pulmonary (30%). In the lung, it occurs most frequently in endobronchial regions of the main or lobar bronchi (70%). Histological subtyping categorizes these tumors as typical carcinoid (very slow growth and 4 times more common) and atypical carcinoid, depending on the number of mitosis per field and the presence of necrosis.[3]

The clinical presentation is often asymptomatic or it can present with bleeding and obstruction, causing cough, wheezing, chest pain or recurrent pneumonia. In only 5% of cases is there secretion of the vasoactive substances responsible for the carcinoid syndrome. It is diagnosed by chest X-ray, CT and bronchoscopy. Magnetic resonance imaging and somatostatin receptor scintigraphy are used for staging.[4]

Treatment modalities include elective radical surgical, endobronchial excision by laser, somatostatin analogs, interferon alfa, chemotherapy and radiotherapy. Five-year survival rates for the

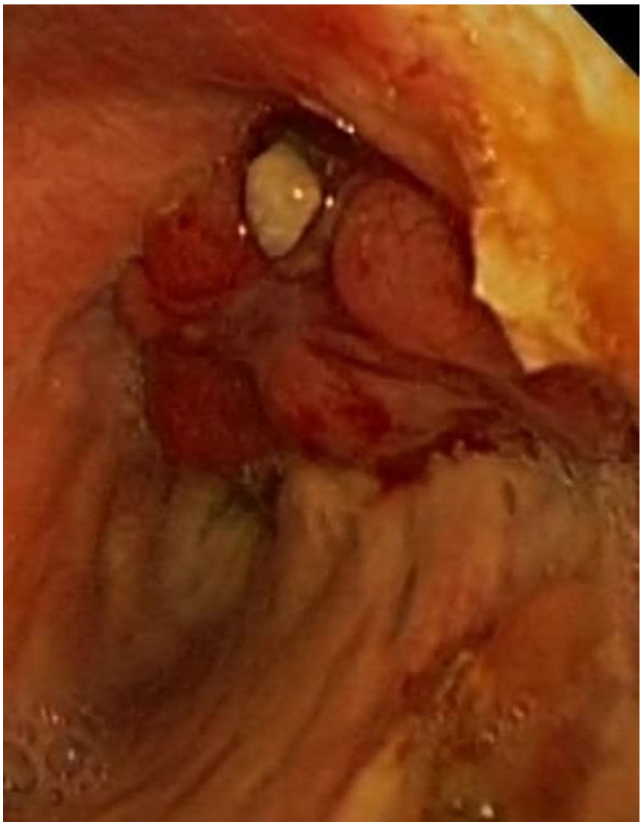

Fig. 1. Endoscopic image showing a polylobulated mass with areas of necrosis in the region of the right upper lobectomy stump.

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typical subtype is 82%–87% and that for the atypical subtype is 56%–75%.[5]

This case is of interest because, despite the advanced age of onset (69 years) and a diagnosis of typical carcinoid tumor, there was local recurrence after the patient was disease-free for more than 4 years. The tumor showed no necrotic element but the mitotic index was high, so the final diagnosis was atypical carcinoid carcinoma. The central location of the recurrence prevented radical treatment. The patient is currently asymptomatic, leading a normal life and attending regular check-ups.

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Empyema Necessitatis Following Chest Trauma☆

Empiema necessitatis *tras traumatismo torácico*

Dear Editor,

Empyema necessitatis is a rare complication that can occur when pleural infections are treated late or inadequately. It consists of the penetration of pus from the pleural cavity through the adjacent tissues to form an abscess in the chest wall, sometimes even forming a skin fistula.[1] Chest trauma is a very rare cause of empyema necessitatis, so a case recently treated at our center is of interest.

A morbidly obese 49-year-old male, current smoker, with poorly controlled diabetes mellitus type 2, presented due to left costal blunt trauma caused by an impact from the horn lateral surface of a charging bull, 30 days before his admission to the hospital. The patient did not attend emergency services at the time of trauma. He had a hematoma in the left chest wall and chest pain, which did not improve with standard analgesia. On arrival to the emergency room, blood pressure was 140/86 mmHg, heart rate 110 bpm, oxygen saturation 96%, and temperature 36.5 °C. Physical examination revealed a hematoma in left lateral chest wall with no surrounding cellulitis and decreased breath sounds in the left hemithorax. Blood tests showed leukocytosis of 32,400/mm^3 with neutrophilia (92.2%), hemoglobin 10 g/dl, glucose 487 mg/dl, and C-reactive protein 40.3 mg/dl. Left pleural effusion was detected on the chest X-ray and no rib fractures were observed. A computed tomography (CT) scan completed the study, revealing left pleural effusion that connected with a collection in the left anterolateral chest wall (Fig. 1). Empiric antibiotic therapy with piperacillin-tazobactam was initiated (4/0.5 mg IV every 8 h) and both collections were drained by percutaneous puncture of the chest wall and a chest tube, from which abundant purulent material was obtained. Good lung re-expansion was observed on X-ray. After 72 h of admission, multiple orifices were observed in the left lateral thoracic wall, surrounded by purulent necrotic areas without muscle involvement, so debridement and lavage were performed under general anesthesia. Microbiological results from both the pleural fluid and thoracic abscess were positive for *Streptococcus agalactiae*, that was sensitive to the prescribed antibiotic. The patient was hospitalized for 40 days, during which surgical wound care continued without the need for additional interventions.

The most common location of an empyema necessitatis is, as in this case, the anterior chest wall between the midclavicular and anterior axillary line. Other locations less frequently described are the abdominal wall, the paravertebral space, the mediastinum, the breast or the diaphragm.[1,2] Before the antibiotic era, most cases were caused by *Mycobacterium tuberculosis* and the mortality rate was 66%. The incidence has fallen significantly since antibiotics were introduced, and the most common etiologic agents have become *Actinomyces israelii*, *Streptococcus pneumoniae*, *Staphylococcus aureus* or *Pseudomonas cepacia*.[3,4] In our case, the causative agent was *Streptococcus agalactiae*, occurring secondary to chest trauma, features that are both rare in these circumstances. The clinical presentation can vary widely and includes chest pain, soft tissue mass, cough or dyspnea. Depending on the age of the patient and his/her morbidity, it may progress to septic shock. Our case was an obese patient with poorly controlled diabetes. Both of these conditions are favorable for the development of infections with atypical etiologies and locations, due to changes in the immune system response to invading microorganisms, principally fungi and bacteria. Diagnosis is based on imaging techniques, mainly CT, revealing the continuity between the pleural collection and the abscess in the chest wall. The differential diagnosis must consider other diseases such as lymphoma, mesothelioma or endocarditis.[4] Although treatment should be tailored for each patient, both antibiogram-

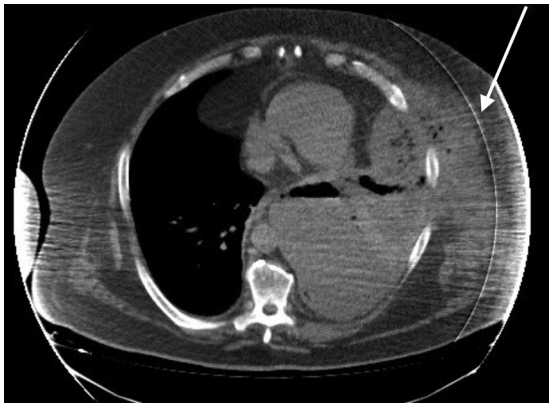

Fig. 1. Computed tomography: left pleural effusion communicating with collection in the left anterolateral chest wall.

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