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Letters to the Editor

Resected Asymptomatic Intrathoracic Textiloma 37 Years After Thoracotomy

Textiloma intratorácico asintomático resecado 37 años después de una toracotomía

To the Editor:

Textiloma is a foreign material which provokes an inflammatory reaction. It is a rare post-surgical complication with potentially serious consequences. We present the case of a 46-year-old woman who was treated for hepatopulmonary hydatidosis as a child. A pulmonary mass was found in a radiographic image, which proved to be a material body.

The patient is a 46-year-old female, with a 20 pack-year smoking history. At 9 years of age she was treated for hepatopulmonary hydatidosis. A left hepatic and pulmonary resection was performed, registered in her records as "lower left lobectomy". An intrathoracic mass was found during a routine radiological examination in the posterior basal region of the left hemithorax. The patient did not present any respiratory conditions, except for occasional mild dyspnoea and shoulder pain. The physical examination only found an old left thoracotomy scar and left basal hypophonesis.

The thoracic CT (fig. 1) showed a 6.5 x 5.7cm mass in contact with the posterior wall with mixed calcification inside it. After contrast perfusion it showed intense focal uptake inside it, with no other significant findings. A PET scan showed a deposit in the left pulmonary parenchyma, measuring a maximum diameter of 9cm and a maximum uptake index of 4.4. It had an increased ^{18}FDG metabolism in the peripheral area with little change to the centre. Both the metabolic pattern and the patient history considered a hydatid cyst as first possible diagnosis and the second was a neoplasm.

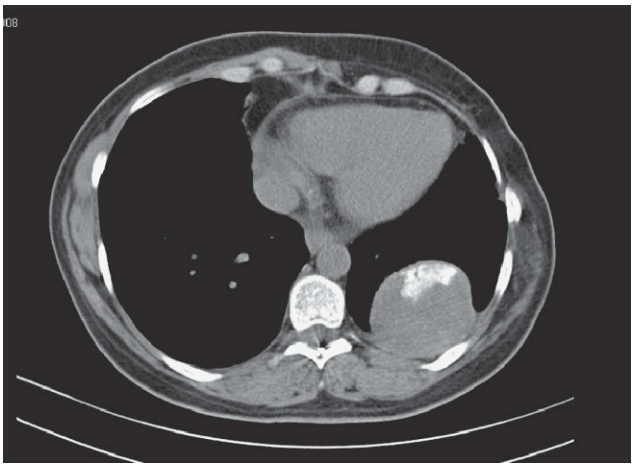

Figure 1. Computerised tomography which shows a mass in contact with the posterior wall of the left hemothorax, with mixed calcification and intense focal uptakes of contrast inside it.

A posterolateral thoracotomy was performed. A mass was found in the left lung base surrounded by a thick inflammatory component, with partly-absorbed material content (gauzes or compresses). Once the item had been removed, it could be observed that a lobectomy had not been performed (although it was registered as such on the first surgical procedure report). The lower left lobe was affected by atelectasis. Over time the lobe almost completely re-expanded after the bronchial tube became unclamped. The patient presented a favourable post-operative outcome, currently being stable and generally in a good condition.

The words "textiloma" or "gossypiboma", describe a foreign material body, as well as the inflammatory reaction that is caused while it is present. This complication is rare in thoracic surgery (more frequent in abdominal surgery), and can have legal repercussions.[1] Clinically, textiloma can be presented in acute form, with a range of symptoms, secondary to the intense inflammatory reaction caused to the area. However, it most commonly occurs in sub-acute form with cough, fever, coughing up blood, etc. It can also be asymptomatic for months or years, as in our case. In radiological studies, they normally appear as an intrathoracic mass usually located in the pleural cavity. Some authors consider as specific a CT scan which finds a thick-walled heterogeneous mass, which is strengthened after contrast is injected, with bubbles in the centre.[2] However, this pattern can be confused with a haematoma or abscess, especially in immediate post-operative stages.[3] In long-developing cases they can take on the appearance of hydatid cysts or aspergillomas.[3,4] They can become imbedded into the lung parenchyma, creating a false radiological image, being a intrapulmonary lesion similar to bronchiectasis. The presence of a linear radiopacity should alert the diagnosis, however at times it is confused with a line of sutures or calcifications[5] but this is not always present. PETs can show false positives[1] due to the high inflammatory activity. Differential diagnosis includes intrathoracic abscesses, complicated hydatidosis, aspergillomas[6] and neoplasms. In our case, we did not have previous thorax radiographs, which would have been greatly helpful in the differential diagnosis.

Textiloma are rare complications that are potentially serious in thoracic surgery. They can go unnoticed and should be included in the diagnostic algorithm for intrathoracic masses, especially if there has been previous thoracic surgery recorded.

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Multiple Pulmonary Embolisms caused by Acrylic Cement after Vertebroplasty

Embolismo pulmonar múltiple por cemento acrílico tras vertebroplastia

To the Editor:

The number of vertebral fractures related with osteoporosis has become more frequent in developed countries given the increase in population age. Percutaneous vertebroplasty with acrylic cement is one of the palliative therapies available. A rare complication provoked from this technique is cement embolism. We present the case of a multiple pulmonary embolism caused by acrylic cement observed in our radiodiagnostic department.

The patient is an 85-year-old woman with history of osteoporosis and fracture of the dorsal vertebra treated with vertebroplasty. Multiple hyperdense, branching linear opacities were identified in a chest x-ray, necessary according to pre-anaesthetic protocol to perform a new vertebroplasty procedure. The opacities were discovered in both pulmonary fields and were in line with vascular structures (fig. 1). The findings described above were not found in previous radiological tests, considering the diagnosis to be a pulmonary embolism caused by cement leaking into the circulation system. Multiple linear hyperdense structures (cement) were found inside the segmental pulmonary arteries of several lobes during the high resolution CT (HRCT).

Vertebroplasty with acrylic cement is an alternative to conventional vertebral fracture treatments. Its main function is to alleviate the pain associated with the fracture, given that the cement used in the solidification process is extremely hot, damaging the nerve endings of the fracture's focal point. Secondly, it achieves functional stabilisation by increasing the vertebra's resistance to compression, ensuring that the fracture does not evolve into vertebral collapse.[1]

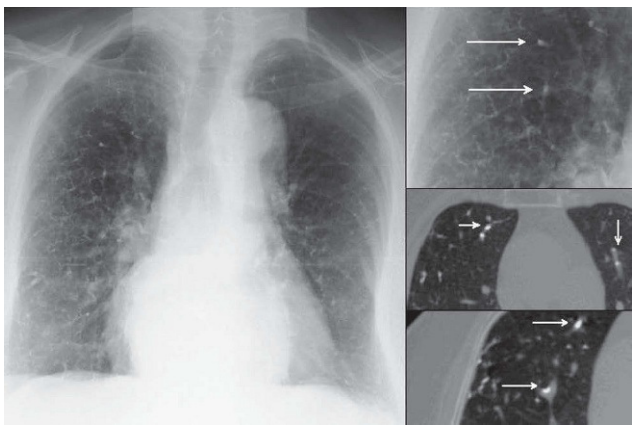

Figure 1. Multiple branching linear opacities in both pulmonary fields (top right, arrows). *Bottom right:* Close-up of the high resolution CT showing cement emboli (arrows) inside the pulmonary artery branches.

The acrylic cement is mixed with a radioopaque substance so that it is visible during the procedure[2] and injected into the vertebral body through the skin. It is usually controlled by CT or biplane fluoroscopy.

Pulmonary embolism is considered as one of the rarest possible complications associated with vertebroplasty (0-4.8%).[3] It is caused by accidental leakage of acrylic cement emboli into the circulatory system through perivertebral venous plexus and through the inferior vena cava to the pulmonary vascular network.[2] This complication is more frequent if the cement has not solidified enough when it is injected into the vertebral body.[2] Furthermore, the exothermic reaction, which is associated with the cement hardening, increases the intramedullary pressure.[4] Both of these factors make it more likely for material to come away and for emboli to migrate. This complication is also more frequent when the treated vertebra has hypervascularised injuries.[2]

Our case is similar to others published as the patient showed no usual symptoms of pulmonary embolism during or after the procedure.[3-5] Krueger et al conducted a literature review which included 76 asymptomatic cases and 43 with pulmonary embolism symptoms (the most common being dypsnoea). Of the 43 patients with pulmonary embolism symptoms 5 died.[5] Given that most cases are asymptomatic, some authors recommend a chest x-ray to be performed 24 hours after the intervention to ensure that emboli are not present.[3,5]

No agreement has been reached regarding the therapeutic strategy to be used for pulmonary embolism caused by cement. Krueger et al recommend that asymptomatic peripheral embolisms are not treated and that only a clinical follow-up is necessary.[5] Recommendations for symptomatic embolisms indicate that pulmonary thromboembolism therapy protocols are to be followed, although other authors suggest for centrally located embolisms to be surgically removed.[6] Anticoagulant treatment for longer than 6 months has not been indicated.[5]

Although authors have described that emboli caused by cement could gradually cause the pulmonary arteries to become occluded, and that anticoagulant therapy leads to embolisms being endothelised, minimising this risk.[5] Patients that have undergone 12-month follow-up with CT have not shown significant after effects or delayed reactions to cement in the arteries.[3]

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