



Scientific letters

Metalloptysis: A New Case With Another Cause?☆

Metaloptisis: ¿un nuevo caso con otra causa?

The expectoration of surgical staples during a fit of coughing after thoracic surgery is an unusual occurrence. We present the case of a postoperative metalloptysis episode after a procedure for recurring pneumothorax, in which a linear endostapler was used, with no staple-line reinforcement.

The patient is a 29-year-old woman who had undergone surgery for right pneumothorax. She came to our consultation reporting fever of 38 °C for several days. Chest radiograph revealed a lung consolidation in the apical region of the right hemithorax, and empirical antibiotic therapy was initiated.

30 days after the procedure, computed tomography was ordered due to the persistence of the apical opacity on follow-up radiographs. CT showed evidence of a consolidation in the upper right lobe that coincided with the area of the surgical staple line. Possible diagnoses were pneumonia in the post-surgical area or reaction to a foreign body. After tomography and during a coughing fit, the patient expectorated a chain of surgical staples that was approximately 3 cm long. After this episode, the patient's condition progressed favorably, and her infectious symptoms disappeared spontaneously.

After discharge, the patient was followed-up in the outpatient setting and presented improved symptoms and radiology results.

Metalloptysis is defined as the expectoration of metal materials that were previously used for treatment in either the bronchi or lung parenchyma.

In 1999, Aggarwal reported an episode of expulsion of metal fragments from endobronchial prostheses¹ used for the treatment of tracheobronchomalacia.

The first cases of metalloptysis originating from the parenchyma were published approximately 10 years ago. In 2001, Waller² published a series of 3 cases of surgical staple expectoration after lung volume reduction surgery. Furthermore, it was Waller who coined the term metalloptysis to describe the expectoration of metallic materials. Simultaneously, Ahmed³ published a case report involving the expectoration of surgical staples one year after lung volume

reduction surgery in a patient who presented recurring lung infection.

Later, Shamji et al.⁴ presented a new case of metalloptysis and hypothesized that it may have been caused by an inflammatory reaction to the bovine pericardium reinforcement of the staples used in volume reduction surgery and in pulmonary bullectomy. Like Waller and Ahmed, Shamji used an endostapler with bovine pericardium reinforcement; the pathology study of the surgical specimen reported an important inflammatory component. In all the published cases until that time, endostaple-line reinforcement with bovine pericardium was used. This material is widely used as an animal graft in other procedures and had been used as a means to try to reduce postoperative air leak in emphysema patients,⁵ which prolonged hospitalization and increased morbidity and mortality. It was argued that the presence of bovine pericardium in the lung parenchyma induced an *in vivo* immunological response that was consistent with a graft-versus-host reaction. In addition to other complications published in the literature,^{6,7} there is a case of hemoptysis due to pulmonary hematoma surrounding the surgical staple line in a patient with a history of surgery for spontaneous pneumothorax 3 months before, which required resection of the lobe involved.⁸

Although the reports published to date have been isolated cases of expectoration of a foreign body, Hadley and Rees⁹ reported a case of metalloptysis with expectoration of a total of 12 surgical staples on several different occasions and at regular intervals. As in previous cases, lung resection was performed with endostaplers reinforced with bovine pericardium. Therefore, they concluded that metalloptysis can be self-limiting or can persist over time.

It is also important to analyze the indications for lung resection surgery in the published cases. The most frequent indication was severe emphysema, involving lung volume reduction surgery. Nonetheless, there were also infectious causes (hemoptysis due to pulmonary aspergilloma⁹) and

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mixed causes¹⁰ (chronic necrotizing aspergillosis and sarcoidosis).

In spite of everything, certain questions remain unanswered. First of all, only 10 cases have been published worldwide, including our own, and there is no registry for these cases. This suggests that the incidence may be low due to underreporting, especially since it is not uncommon to hear of personal experiences with this sort of cases in surgical groups. Secondly, the immunological process that is responsible for metalloptysis has not been determined. Even though most cases are secondary to severe emphysema, there are also infectious cases and those secondary to collagen diseases. Last of all, and unlike previous reports, staple-line reinforcement with bovine pericardium was not used in our patient, and the time between surgery and metalloptysis was shorter (1 month, compared with 4–20 months in the cases reported to date). This raises doubt about the previously hypothesized causes and opens the possibility for other origins or causes, until new theories are developed.^{2,10}

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Mycotic Aneurisma of the Abdominal Aorta Caused by *Campylobacter fetus*[☆]

Aneurisma micótico de aorta abdominal por *Campylobacter fetus*

Infected aneurysms are associated with a high mortality rate (approximately 44%)¹ and require early surgical treatment due to their rapid growth and possibility of systemic sepsis.²

Staphylococcus, *Streptococcus* or *Salmonella* are classically involved, although there are more and more reports of cases with atypical microorganisms, like *Campylobacter fetus*¹ (*C. fetus*). Potentially susceptible patients are those with underlying diseases, such as diabetes, cardiovascular disease or some type of immunodeficiency.³ The first case was reported in 1971 by Dolev, and the first successful repair was done in 1983 by Marty.¹

We present the case of a 62-year-old male with a history of arterial hypertension, diabetes mellitus, ischemic cardiopathy, hepatic steatosis, splenectomy for Hodgkin's lymphoma and transurethral resection due to bladder cancer. He came to the Emergency Department with pain in the mesogastrium, accompanied by liquid stools during the previous 3 days, but no fever or systemic involvement. Lab work-up was nonspecific, and the patient was diagnosed with viral gastroenteritis. Seven days later, he once again came to the ER with intense abdominal pain. Abdominal-pelvic CT scan revealed a saccular infrarenal aortic aneurysm measuring

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