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Intrathoracic gossypiboma after cardiac surgery: Case report

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Abstract

Background: Gossypiboma is a surgical complication resulting from sterile cotton material being left inside anatomical regions, leading to increased risks of postoperative complications, reoperations, and rehospitalizations.

Methods: A 63-year-old male patient underwent surgery for an aortic valve replacement with a metal prosthesis. Five years later, he presented with pain on the left side of his chest, fatigue, and slight breathing difficulties, and a thorax CT scan revealed a unilocular cystic lesion in the lower lobe of the left lung. A left thoracotomy was performed.

Results: As we removed the lesion, it secreted thick yellow pus; in the left hemithorax, a gauze/compress of 25 x 10 cm had been forgotten, presumably left during the replacement of the aortic valve.

Conclusion: We recommend implementing rigorous counting procedures for pre- and post- operation surgical materials, as well as marking the gauses/compresses with a radiopaque line to reduce postoperative complications.

Keywords: Thoracic gossypiboma, encapsulated intrathoracic abscesses

Introduction

Gossypiboma is a surgical complication resulting from sterile cotton material being left inside anatomical regions or cavities. Gossypiboma increases the risk of postoperative complications and the number of reoperations and rehospitalizations.

Case report

We present the case of a 63-year-old male patient who was admitted for surgery. According to the CT of the thorax, the patient had radiological signs of a unilocular left thoracic cystic lesion. 5 years prior, he had gotten an aortic valve replacement surgery with a metal prosthesis in the cardiac surgery center of a neighboring country.

Given the symptoms of pain on the left side of his chest, fatigue, and slight difficulty breathing, the CT of the thorax revealed a unilocular cystic lesion in the lower lobe of the left lung.

The patient uses cardiological therapy: Sintrom, Atenolol, Atorvastatin, Spironolactone.

Tab.1 Preoperatory / post-operatory laboratory findings

RBC	5.7… 4.40 x 10 12/L
WBC	6.4…5.0 x 10 9/L
Hb	140…130 g/L
Platelets	128…195
Urea	8.5mol/L
Creatinine	96.1 mmol/L
ALT	58 U/L
AST	73 U/L
Total Protein	71.8 g/L
Alb	47.5 g/L
CRP	3.4…29.1 mg /L
APTT	19.9
PT	19.2
INR	1.6
Bleeding time	1.45
Coagulation time	6.15
FEV1	78%

The CT of the thorax (Fig.1) revealed a heterogenous unilocular cystic lesion in the lower lobe of the left lung. The unilocular cystic lesion had the dimensions of 106 x 130 x 112 mm. This showed no contrast enhancement and no diffusional restriction (Echinococcosis?). The cardiologist emphasized that the cardiovascular system was stable and compensated for his age.

A left thoracotomy was performed. As we prepared to remove the cystic formation, it began to secrete thick yellow pus, which was aspirated. The textile material was found (Fig. 2) blackened with pus. A gauze/compress of 25 x 10 cm, (Fig. 3) was omitted in the left hemithorax during a sternotomy intervention (replacement of aortic valve) 5 years ago.

After the operation, the chest X-ray (Fig. 4) showed that the left diaphragm was slightly relaxed (slight phrenic paresis?). The patient was released on the 8th day after the operation without any relevant complaints.

Conclusion: This report suggests counting the gauses before and after the surgery. In addition, we recommend marking the gauses and compresses with a radiopaque line to reduce early and late postoperative complications.

Fig.1 CT of the thorax (lower lobe of the left lung with unilocular cystic lesion)

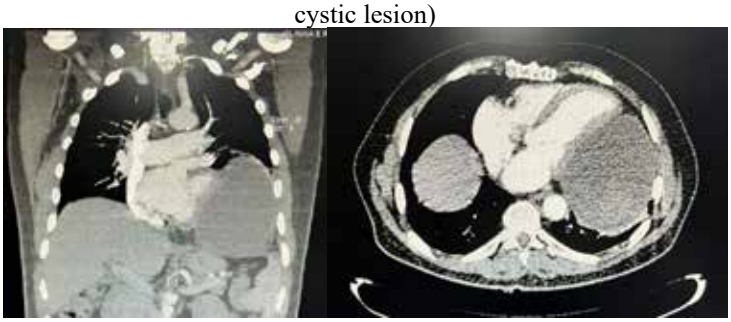
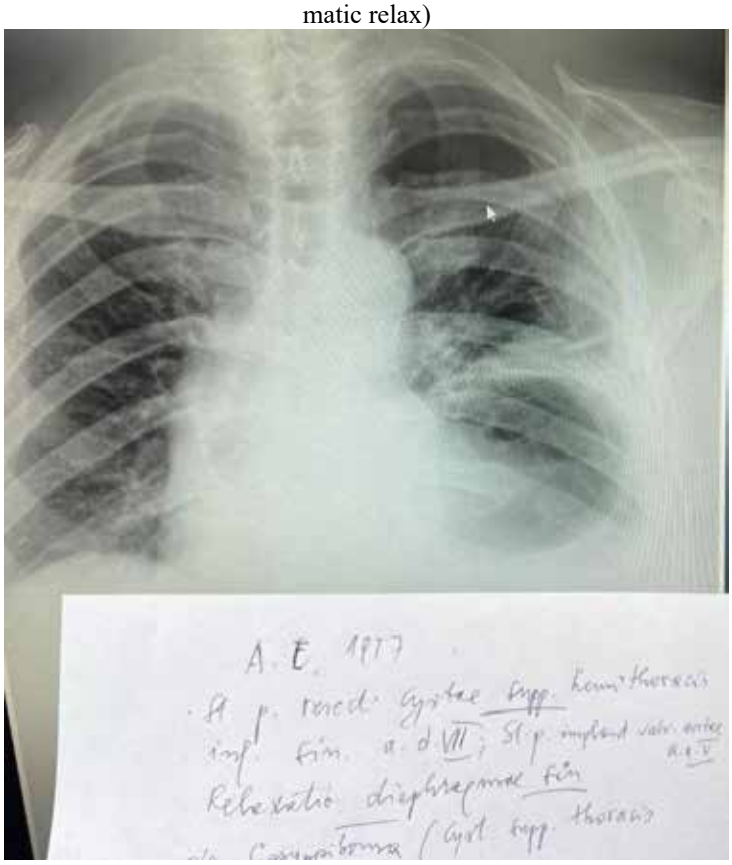


Fig.2 Removal of the gauze/compress from the left hemithorax and pericystic yellowish puss

Fig.3 Retained textile gauze

Fig.4 Chest X-ray, 7-th day after the operation (slight left diaphragmatic relax)



Discussion

Gossypiboma (also called textiloma or cottonoid) is a term used to describe a mass in the body that is composed of a cotton matrix surrounded by a foreign-body reaction. [1,2]

Multiple factors may lead to gossypibomas, such as operations involving multiple teams with a lengthy duration, emergency surgeries, and improper counting of materials at the end of procedures, any of which may result in serious complications and legal issues. In the United States, hospitalization due to retained medical objects is estimated to cost more than US$ 60,000. Gossypiboma may be present in any body cavity but most commonly in the abdomen, pelvis, and thorax.[3]

Various reports in the literature describe radiologic findings of gossypibomas, especially in the abdomen (1). CT is the method of choice in the evaluation of the gossypibomas. (2) Of the potential sites in the thorax where a sponge may be left, the pleural space seems to be the most likely one.[4]

Diagnosis of retained surgical material may not be possible if the marker is misinterpreted as a calcification or surgical suture.[5]

In patients with a history of abdominal surgery, the foreign body was located in the parenchyma of the right lower lobe. In the other patients, the foreign body was either intrapleural or mediastinal.[6]

Retained intrathoracic sponges do not have the characteristic radiologic appearances found with retained intraabdominal sponges, it may not be easy to recognize them. Even in a patient with a history of surgery, a physician may find it difficult to make a preoperative diagnosis. However, the findings of a transthoracic core biopsy may be helpful by showing the characteristic cotton fibers.[5]

On the basis of clinical evidence and radiological appearance, the location and chronicity of intrathoracic gossypiboma is ascertained, with the most common sites of gossypiboma in the thoracic cavity being the pleural and pericardial cavities. The longer it remains in situ, the greater the risk of developing either internal or external fistulas.[7]

A retained sponge typically causes an abscess in the area because of granulation and exudative reaction, adhesions, and a fibrous response. As it is made of cotton, it does not activate any biochemical reaction, but the risk of secondary bacterial infection progressing to fistulas increases with time. Unfortunately, gossypiboma is often misdiagnosed, leading to unnecessary interventions and surgical procedures. It is important to consider this entity as a diagnosis in any case with an unexplained or unusual presentation during the postoperative period.[8]

They often lead to serious complications resulting in rehospitalization, reoperation, and even mortality in unresolved cases. A differential diagnosis of gossypiboma should always be considered in the case of an intrapleural opacity after surgery, and a complete history including mass timing can provide a clue to its origin, which in turn would help guide a management pathway.[9]

Conclusion: This report suggests counting the gauses before and after the surgery. In addition, we recommend marking the gauses and compresses with a radiopaque line to reduce early and late postoperative complications.

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