Case Report

A 31-year-old pericardial textiloma

Dong Kyu Kim, Su Kyung Hwang, Sang Cjeol Lee, Yong Jik Lee, Jong Pil Jung, Chang Ryul Park, Gwan Sic Kim

Abstract

Gossypibomas are uncommon but important complications of surgery. This case report is of a gossypiboma found accidentally 31 years after heart surgery. A 41-year-old man had lost 5 kg in the previous three months and suffered from intermittent epigastric discomfort. A computed tomography scan incidentally revealed a well-defined mass in the right lower anterior mediastinum. Given his history of previous cardiac surgery to repair a ventricular septal defect, the possibility of gossypiboma could not be excluded. Elective excision of the mass was performed through a median sternotomy, and a 5-cm ovoid mass consisting of a thrombus and gauze was removed. The postoperative course was uneventful. The patient's clinical findings were normal, with no abnormal findings on transthoracic echocardiogram performed one year later.

Keywords: textiloma, gossypiboma, gauzoma

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Gossypibomas are rare but can cause serious medicolegal issues after surgeries of the thorax, abdomen or pelvis. This complication occurs due to a counting error with regard to the materials used during surgery and tends to be under-reported. If an abnormal mass is found in a patient who has undergone surgery, the possibility of a gossypiboma should be considered. If diagnosed, surgical removal is the treatment. We report a case of a 41-year-old man who presented with epigastric pain and weight loss and was diagnosed with a gossypiboma caused by heart surgery carried out 31 years before.

Case report

A 41-year-old man had lost 5 kg in the previous three months and had suffered from intermittent epigastric discomfort. He presented to the emergency room with pain in the upper abdomen that began eight hours before his visit. He had undergone repair of a ventricular septal defect 31 years earlier.

The initial vital signs, simple radiography, 12-lead electrocardiogram and laboratory findings were unremarkable. An abdominal computed tomography (CT) scan incidentally revealed a well-defined mass in the right lower anterior mediastinum; no other abdominal findings were found. Subsequently, a chest CT scan showed a round, heterogeneous mass measuring $4.5 \times 4 \times 5$ cm situated adjacent to the right atrium. A transthoracic echocardiogram revealed a heterogeneous and echogenic mass with a slight mass effect on the right atrium, and increased right ventricular outflow tract velocity (peak velocity $= 2.46$ m/s). The size of the left ventricle and systolic function were normal.

An elective operation to remove the mass was performed, to eliminate compression of the right atrium and obtain accurate histological findings. A median sternotomy was performed and a 5-cm ovoid mass was observed, strongly adhered to the right atrium and pericardium (Fig. 1A). It was necessary to resect and reconstruct part of the right atrium to completely remove the mass. We started cardiopulmonary bypass through the aorta, superior vena cava and right femoral vein. The mass was completely removed under cardiopulmonary bypass support. After removing the mass, a $2 \times 3$-cm defect formed in the right atrium, which was reconstructed using bovine pericardium (Fig. 2).

The cross-section of the mass indicated an old thrombus and blood clots. We found that the thrombus and gauze were adherent (Fig. 3). Specimens were sent to the Pathology Department for diagnosis and formal histopathological examination confirmed a textiloma. The patient's postoperative course was uneventful and the clinical findings were normal, with no abnormal findings on transthoracic echocardiogram performed one year after the operation.

Discussion

Gossypiboma, also known as a textiloma or gauzoma, refers to a foreign body left in the body after a surgical procedure, which becomes a mass. It usually consists of surgical gauze and inflammatory tissue caused by the foreign body reaction.1

This disease poses medicolegal issues, so it tends to be under-reported. The prevalence of this disease is about one
Fig. 1. (A) A 5-cm ovoid mass (asterisk) was strongly adhered to the right atrium after a median sternotomy. (B) Right atrial injury (yellow arrow) occurred during dissection of the mass (asterisk). Right atrium is indicated by white arrows.

Fig. 2. (A) Schematic illustration of the right atrial reconstruction. (B) Intra-operative photograph. The right atrium (white arrows) was reconstructed using bovine pericardium (asterisk) after removing the mass. RV, right ventricle.
case per 3,000 surgeries.2 Emergent surgery has a greater risk of gossypiboma than elective surgery.3,4

Gossypiboma can occur in any part of the body with an inner space but the most common location is the abdomen, followed by the pelvis and thorax.5 Thoracic gossypibomas tend to be found in the lower third of the lung, with no difference in incidence between the left and right lungs.6 Pericardial gossypibomas are much rarer.

Symptoms differ according to the size and site of the mass, as well as the degree of inflammation. Abdominal gossypibomas can cause abdominal pain and a palpable mass, whereas thoracic gossypibomas often result in chest pain, non-productive cough and fever.7 Complications include adhesions, abscesses, fistulae and perforations, which require a surgical approach to remove the mass and control the inflammation. Despite the thoracic gossypiboma, the patient in this case showed non-specific symptoms such as abdominal pain and weight loss, probably due to prolonged inflammation.

Most cases of gossypiboma are detected on a CT scan. CT findings include well-encapsulated heterogeneous masses, often with calcification, gas and spongy or textured fragments.5 The majority of masses does not exceed 10 cm in diameter and usually involves the adjacent peritoneum, pleura or pericardium. Magnetic resonance imaging findings are less accurate than CT, and biopsy results are inconclusive as the mass consists of foreign material and inflammatory tissue.7 If a patient with a history of previous surgery shows non-specific symptoms and a CT scan reveals a mass at the operated site, a gossypiboma must be suspected.

Conclusion
The rate of gossypiboma cases is declining,10 however, since it can occur during any surgery, a strict protocol for keeping track of the materials used during surgery is needed. The use of radiopaque gauze during surgery is one option to diagnose gossypiboma quickly if prevention fails. After the disease is diagnosed, surgical exploration and resection is the treatment, and extreme care is needed to prevent a second gossypiboma caused by the exploration itself. This case emphasises that pericardial gossypiboma can cause non-specific symptoms such as abdominal pain and weight loss, and can emerge after a long time, over 30 years.

References

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**Fig. 3.** (A) Gross image of the mass. (B) Cross-section of the mass. (C, D) Contents of the mass: thrombus (asterisks) along with gauze (arrows).


