

Empyema Thoracis with Breast Abscess and Surgical Blade in Thorax

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ABSTRACT

Introduction: ICD placement in fatty patients and, females with heavy breasts is difficult Here we describe a case of empyema thoracis with breast abscess in whom surgical blade was slipped into thoracic cavity during ICD insertion.

Case report: 28 yr. lady presented with breathlessness, heaviness in right chest, fever with history of intra uterine foetal death. Incision and drainage of breast abscess, twice was done in another hospital. Inter costal drain (ICD) was attempted for empyema, but it failed and blade accidentally slipped in pleural cavity. X-ray chest and CECT thorax showed metallic foreign body (surgical blade) in the thoracic cavity with empyema for which exploratory thoracotomy and decortication was done.

Conclusion: Care should be taken during the insertion of ICD especially in obese patients and female, female with heavy breasts. The blade should not be loosely fitted to the handle. Proper lighting of the operating field is necessary and if some mishappening occurs then patient should be timely referred to higher centre so that complications can be prevented.

Keywords: Empyema Thoracis, Breast Abscess, Surgical Blade, Thorax

INTRODUCTION

Our patient, a pregnant female, had pleural effusion with minimal fluid collection and symptoms, when she also developed chest wall inflammation with breast abscess. There was no communication between the two. She underwent incision and drainage for breast abscess twice in another city. When her pleural effusion became more symptomatic she was advised ICD. During attempt to place ICD the surgical blade slipped in thoracic cavity. She was then referred to us for further management. In fatty patients and females with heavy breasts this procedure is difficult. There are case reports showing sucking of surgical blade into the thoracic cavity during ICD placement.¹

CASE REPORT

28 yr. lady came to our OPD with complain of breathlessness for 1 month, heaviness in right side chest for 1 month and fever for last 10 days. Patient had h/o incision and drainage, twice, of right breast abscess 40 days back outside. CECT thorax at that time showed right sided minimal effusion with inflamed right chest wall and breast. patient had 7 months pregnancy and intra uterine death occurred. After incision and drainage, the breast abscess resolved but she developed above mentioned complaint for which she was investigated. X-ray chest PA view showed gross right sided pleural effusion, CECT thorax showed gross right empyema for which ICD insertion was tried outside. During

chest tube insertion the surgical blade was sucked into the thoracic cavity. For which the patient was referred to us. On examination patient was febrile (101 F). No pallor, icterus, cyanosis, lymphadenopathy, pedal oedema found. On examination of chest, right side chest movement less, trachea central, stony dullness in the right side in the intrascapular and infrascapular area. On auscultation right side decreased air entry found, no added sound. X ray of the chest showed gross pleural effusion with a metallic foreign body in the right thoracic cavity. CECT thorax showed empyema thoracic along with the thickened pyemic membrane causing compression of the lower and middle lobe and part of upper lobe. The metallic foreign body was there in the empyema cavity. Blood investigation showed raised leukocyte count with neutrophilia. Then thoracotomy was planned, right posterolateral thoracotomy was done through the 5th intercostal space and the debris were drained. Thickened pleura was excised. Surgical blade was removed from the pleural cavity. It was lying in costo-phrenic angle near the 9th inter costal space in mid axillary line embedded in thickened pleura. Decortication performed. Intraoperatively lung expanded well. Post operatively patient did well. There was minimal air leak. On serial x-rays lung was found to be expanded well and drainage amount decreased and air leak stopped. Drain taken out and then patient was discharged on 15th post-operative day.

DISCUSSION

Empyema necessitans is a rare long-term complication of poorly or uncontrolled empyema thoracis characterized by the dissection of pus through the soft tissues and skin of the chest wall.² The pus collection bursts and communicates with the exterior, forming a fistula between the pleural cavity and the skin.² In our case the empyema was apparently asymptomatic. She presented as a breast abscess with empyema without any communication in between. So there may be a possibility that breast abscess was developed first and then due to chest wall inflammation reactive effusion developed and after incision and drainage the empyema got flared up. This situation would be a very rare condition. In

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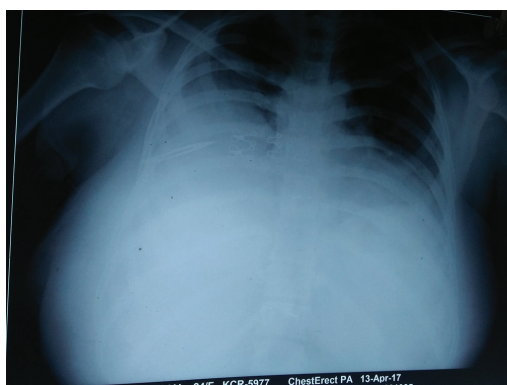


Figure-1: X Ray chest PA view showing metallic blade with right lower zone haziness



Figure-2 and 3: CECT Thorax showing metallic blade with empyema and thickened pleura

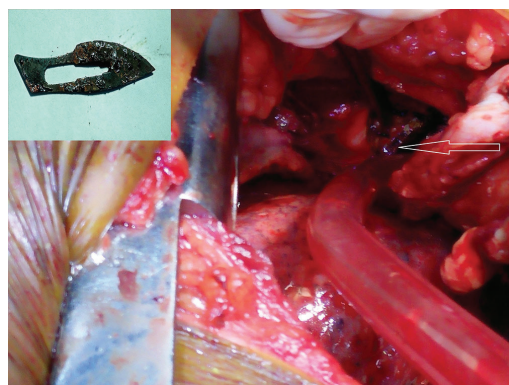


Figure-4: Intra operative photograph showing surgical blade embedded in the thickened parietal pleura with retrieved blade

literature also there is no case report regarding chest wall abscess causing empyema.

Foreign body in the oesophagus and tracheobronchial tree is a very common condition to be found but foreign body in the pleural cavity is very uncommon. These can be blunt or sharp. Various catastrophic complications of sharp foreign bodies have been reported like pericardial tamponed, arrhythmias, pericarditis, false aneurysm, aorto-pulmonary fistulae, pneumothorax and haemoptysis.^{3,4} These are similar to that of penetrating chest trauma.⁵ Chronic complications include clotted haemothorax, chronic traumatic diaphragmatic hernia, aortic pseudo aneurysm, empyema^{5,6} and bronchoesophageal fistula.⁵

X ray chest is the first investigation of choice and Computed tomography is important in the preoperative evaluation. CECT can exactly tell about the size, shape, position,

associated pathology, relation to nearby structures. In our case CECT showed that there was presence of metallic foreign body along with the empyema. Both X-ray chest and CECT can be used during follow-up of the patient.⁶

All the pleural cavity foreign bodies don't require intervention. The small and clean objects like bullets retained in the chest typically do not need to be removed unless they are greater than 2 cm in length.⁷ In cases of asymptomatic patients, most authors do not recommend the removal of these objects. The foreign body, lying in proximity to the artery bears the potential risk of bleeding and embolization, surgical therapy is indicated in such patients in spite of the fact that patient is asymptomatic.⁸ Surgical intervention is also indicated in symptomatic cases like bleeding, pneumothorax, empyema thoracis. Usually sharp foreign bodies are notorious and they require intervention.

Here in our case the foreign body was sharp, associated with empyema thoracic and the patient was symptomatic. So intervention was done.

Surgical intervention could be either open or thoracoscopic.⁷ Video-assisted thoracoscopy is a less invasive method, replacing, in some cases, extensive thoracotomy.⁹ Compared to thoracotomy, VATS is reported to have fewer postoperative complications, better postoperative pain control, fewer wound and pulmonary complications, shorter time to resumption of normal activity and shorter chest tube duration time.¹⁰ Open thoracotomy wide incision gives the surgeon excellent exposure and allows removal of the object under direct vision.¹¹

In our case open thoracotomy was performed due to associated complicated empyema.

CONCLUSION

Care should be taken during the insertion of ICD especially in obese patients, female with heavy breasts. The blade should not be loosely fitted to the handle. Proper lighting of the operating field is necessary and if some mishappening occurs then patient should be timely referred to higher centre so that complications can be prevented.

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