Empyema Necessitatis Presented as Breast Abscess

¹ Dr BM Singh

² Dr P Sayami

³ Dr GP Sharma

A twenty two years female attended the emergency department of TUTH with the features of left breast abscess. During the course of surgical management it turned out to be empyema necessitatis.

INTRODUCTION

Empyema necessitatis is the accumulation of pus in a small space in the pleural cavity, with subsequent rupture of the purulent material into the surroundings of soft tissue. Drainage may occur into the breast, bronchus, mediastinum, oesophagus, diaphragm, pericardium or retroperitoneum. Pus may even reach the flank, groin or thigh. Before antibiotics were available, empyema necessitatis was a complication of tuberculosis, fungal infection and various forms of pneumonia. Silent tuberculosis or fungal infection can still present as empyema necessitatis, even in healthy young adults.¹ A rare case of empyema necessitatis presented as breast abscess in a twenty two years female is reported here. This manifestation of empyema necessitatis was diagnosed during the course of surgical treatment of the patient.

CASE REPORT

A young lady of twenty two of age from Lumjung presented at the emergency department of Tribhuvan University Teaching Hospital with the complaint of painful swelling

of left breast, high fever, cough with expectoration of purulent sputum and seemingly shortness of breath.

The patient was apparently well two months ago when she developed low grade fever and productive cough, there was no rise of evening fever and night sweats. The patient had not received any treatment and her general condition deteriorated with the gradual swelling of the left breast with throbbing pain and shortness of breath.

On examination in the emergency room, patient's general condition was poor. She was running high fever with body temperature being 39.5 degree centigrade, her pulse rate was 100/min, blood pressure was 90/70 mm Hg and respiration rate was 20/min. She looked anaemic. On local examination, her left breast was enlarged, there were other signs of inflammation as redness, tenderness, raised local temperature at lower outer quadrant. One could elicit the fluctuation sign at the site as well. Regional lymphnodes were enlarged, mobile, and non tender. Aspiration of the swelling revealed thick yellow pus. Thus with the diagnosis of left breast abscess, patient was advised incision and drainage of the abscess.

-
1. Asst. Lecturer, TUTH
 2. Lecturer, TUTH
 3. Professor, TUTH.

Figure 1: Chest X-ray P/A view showing opacity at left lower zone; empyema thoracis.

Figure 3: Chest X-ray P/A view after chest tube insertion and drainage.

Figure 2: Chest X-ray left lateral view showing localized opacity at anterior anterior zone confirming loculated empyema.

Under local anaesthesia incision was given at the lower outer quadrant of the left breast using the Hilton's technique and about 200 ml of thick yellow pus drained. But the pus continued to drain out for quite sometime through the opening of the incised wound. After sometime air bubbles were seen coming out from the wound as well. Communication of the abscess with pleural cavity was suspected and immediate chest X-ray (fig No. 1 & 2) was taken which revealed empyema at lower and anterior part of the left haemothorax. A chest tube was inserted in the pleural cavity through the wound as well. Communication of the abscess with pleural cavity was suspected and immediate chest X-ray (fig. No. 1 & 2) was taken which revealed empyema at lower and anterior part of the left haemothorax. A chest tube was inserted in the pleural cavity through the wound and was connected to the water sealed bottle. Antibiotics (ampicillin, gentamycin) and metronidazole were prescribed. From the next day the pleural cavity was irrigated with 200 ml of 10 percentage providone iodine solution (50 ml of 100% providone mixed with 500ml of normal saline) every eight hours. Steam inhalation and chest physiotherapy was also started. Pus and sputum culture showed staphylococcus aureus. As a result of chest tube drainage and antibacterial treatment, patient's condition improved, she became afebrile. Her chest X-

ray (fig 3) taken next day after insertion of the chest tube, showed resolving pneumonia with reduced pleural collection at the left haemothorax. The pus drainage from the chest cavity gradually decreased. The chest tube was removed after seven days of insertion. The patient was discharged after ten days of admission with oral antibiotics (ampicillin and cloxacillin) for seven more days.

DISCUSSION

This case presents an empyema necessitatis secondary to staphylococcal pneumonia. Many times empyema necessitatis is mistakenly treated primarily as a case of abscess. But properly taken history and physical findings should help the doctor from committing blunder mistake. A chest roentgenography would be very helpful to confirm or rule out empyema thoracis.

Empyema necessitatis is a rare complication of empyema thoracis. This is caused by an empyema perforating through the chest wall and presenting with a subcutaneous collection of pus. Usually it is collected between 3rd and 6th intercostal space. The condition is seen either in a case of neglected or undiagnosed empyema or following aspirations of highly infective pus from an empyema.² In the latter case, the superficial tissues are infected by the seepage of pus through the needle track. The signs are those of a diffuse, fluctuant, tender swelling which may exhibit an impulse on coughing and is associated with the clinical and radiological signs of an underlying empyema. Treatment is primarily aimed at the empyema, which should be aspirated and drained. The superficial abscess may disappear as a result of aspirating the empyema, or may itself require separate aspiration or drainage.

In preantibiotic era, empyema necessitatis was a complication of tuberculosis, fungal infection, and various forms of pneumonia. In the countries like ours empyema thoracis is quite common due to untreated or improperly treated pneumonia and pulmonary tuberculosis. The complication of empyema as empyema necessitatis even though rare, is seen more frequently in developing countries than in developed countries. There are also case reports of empyema necessitatis in drug addicts and AIDS patients.³ Development of an empyema necessitatis under mechanical artificial respiration with high peak pressures is described in the basis of a case report on a patient in whom the phenomenon was the sequelae of pneumonia with abscess formation.⁴ Conventional X-ray diagnosis can merely yield fingers towards possible differential diagnosis, whereas CT scan supplies an unequivocal diagnosis, specially in a case of transdiaphragmatic empyema necessitatis.

CONCLUSION

Non lactating females, suffering concomitantly with breast abscess and chest infection should undergo chest roentgenography to rule out empyema necessitatis.

SUMMARY

We have briefly reviewed the literature regarding empyema necessitatis and report this rare case. Though empyema necessitatis is rare, it should be considered in the differential diagnosis of swelling in the chest wall with abscess formation.

REFERENCES

1. Haddad - C, Sim WK. Empyema necessitatis, American Family Physician, 1989 Oct, 40 (4), 149-52.
2. Bailey & Love's - Short Practice of Surgery, 21st edition, 1991. Chapman & Hall, London 831-32.
3. Hoover - EL, Hsu-HK, Minnard-E. Contained thoracic empyema presenting as

- an anterior chest wall abscess: empyema necessitatis revisited. *Journal of national medical association* 1989 Aug, 81 (8), 912-17.
4. Neukirch-R, Zocholl-G, Mendo-H, Empyema necessities - a differential diagnostic problem in ventilated patients in intensive care. *Aktuelle - Radiology* 1991 Sept, 1 (5), 262-65.
 5. Peterson-MW, Austin - JH, CT findings in transdiaphragmatic empyema necessitatis due to tuberculosis. *Journal of computer - Asst & Tomography* 1987 Jul-Aug, 11 (4), 704-6.