

# A Right Breast Abscess Extending into the Chest, that Required Chest Wall Debridement, Empyema Drainage and Pericardial Window and Reconstruction

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## Introduction

- Empyema usually develops after pneumonia and contiguous spread from skin and soft tissue infection is very uncommon.
- This case report is to describe a case with *Mycobacterium abscessus* surgical site infection after breast biopsy, that was complicated by *Streptococcus constellatus* chest wall abscess and empyema, then *M. abscessus* and *Pseudomonas aeruginosa* diaphragm patch infection and empyema.

## Case Presentation

- A 53-year-old female with history of stage IB pT3N0M0 biphasic mesothelioma diagnosed in 2020 status post (s/p) right open pleurectomy, decortication, chest wall resection, partial diaphragm resection s/p diaphragm reconstruction with prosthesis, adjuvant chemotherapy and radiotherapy, developed a right breast mass in early 2024.
- She developed a non-healing wound (Figure 1A/B) after the biopsy, while CT guided needle biopsy did not reveal malignancy or infection.
- The size was 1.3x1.2x2.9cm and it drained purulent discharge every day.
- Many deep swab cultures grew *Mycobacterium abscessus*. Her wound became deeper, measuring 4cm, despite oral antibiotics including omadacycline and linezolid, daily wet and dry dressing, and weekly amikacin injections at wound clinic.

Referred to  
thoracic  
surgery

Purulent  
discharge  
continued to  
drain likely  
because of  
infected  
prosthetic  
diaphragm

Wound  
dehiscence

## First Surgery (12/12/2024)

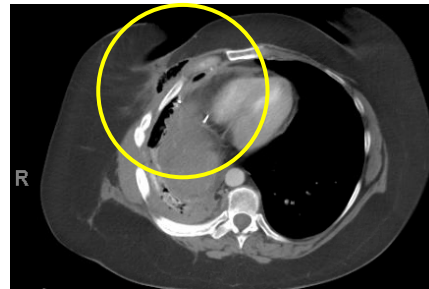


Figure 2: CT prior to the first surgery showed air from right breast wound to chest wall

### Procedures

- Right chest wall debridement (12x3cm) including intercostal muscle, pleural, subcutaneous tissue
- Right empyema drainage
- Pericardial window
- R extrathoracic sharp debridement
- Right pectoralis major muscle flap
- Ryan flap

### Findings

- Right breast abscess cavity extending into the chest
- Sinus tract through the intercostal muscle
- Purulent material along the pericardium

### Surgical cultures

- *Streptococcus constellatus*

### Post operative antibiotic management

- IV Cefoxitin, IV tigecycline and linezolid for *S. constellatus* and *M. abscessus*

## Second Surgery (2/24/2025)

### Procedures

- Right thoracotomy
- Resection of prosthetic diaphragm (13.5x6.5x1.0cm)
- Sharp excisional debridement of the right chest wall and breast
- Right pedicled latissimus dorsi/ serratus anterior muscle flaps

### Findings

- Abscess cavity under the breast communication to the right thoracic cavity
- Grossly infected prosthetic diaphragm (Figure 3)

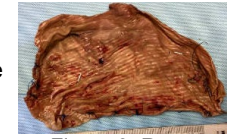


Figure 3: Removed prosthetic diaphragm

### Surgical cultures

- *Pseudomonas aeruginosa*
- *Mycobacterium abscessus* complex

### Post operative management

- Negative pressure wound therapy
- Levofloxacin for *P. aeruginosa*
- IV Amikacin, linezolid and clofazimine for *M. abscessus*

## Third Surgery (4/7/2025)

### Procedures

- Thoracic wound debridement

### Findings

- Wound dehiscence (under R breast)
  - Track into the chest anteriorly
  - Purulent material, air leak



Figure 4A: Prior to surgery, 4B: Surgical finding

- Wound dehiscence (R back)
  - Purulent material, fat necrosis

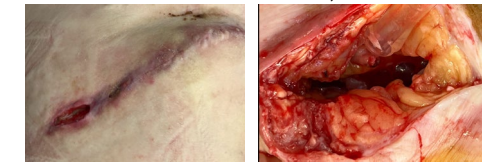


Figure 5A: Prior to surgery, 5B: Surgical finding

## Discussion

- *Mycobacterium abscessus* complex is one of the most aggressive rapid-growing mycobacteriums requiring combination antibiotic therapy and surgical resection.
- A simple surgical site infection due to *M. abscessus*, could be complicated by extensive infection like this case.
- It is very difficult to cure infection without infected prosthesis removal.
- Multidisciplinary team approach is warranted when non-healing surgical wounds do not improve with medical management in outpatient settings.



Figure 1A: Location of the wound 1B: Tunneling wound