Intrapleural Catheter (IPC) Related Infections

INITIAL ASSESSMENT

Patient suspected of having IPC-related infection

- History and physical exam
- Chest x-ray (PA/lateral) and chest ultrasound
- Consider thoracentesis
- Examine IPC tunnel and exit site
- Gram stain and culture of any exudate
- Sample obtained using IPC is adequate only if pleural fluid (PF) is definitively purulent
- Consider consult to Pulmonary Medicine

EVALUATION AND MANAGEMENT

Is this a pleural space infection? Yes / No

Pleural Space Infection

- Drain pleural space using IPC
- CT chest with contrast and chest ultrasound
- Thoracic Surgery and/or Pulmonary Medicine consult
- Infectious Diseases consult

Exit Site Infection

- Remove IPC after drainage of pleural fluid
- Empiric antibiotics orally for 10 days (MRSA coverage)
- Adjust antibiotic therapy based on culture and sensitivity results
- Consider options to palliate symptomatic residual PF
- Follow-up in one week or sooner, as clinically indicated

Tunnel Infection

- Instruct patient to continue IPC draining per Post Procedure Education Packet
- Empiric antibiotics orally for 10 days (MRSA coverage)
- Adjust antibiotic therapy based on culture and sensitivity results
- Follow-up weekly for two weeks, and then as per Post Procedure Education Packet

See Page 2 for evaluation and management of pleural space infection

MRSA = methicillin-resistant staphylococcus aureus

1 Purulent pleural fluid present or bacteria found on gram stain or cultures
2 Erythema, tenderness and induration overlying tunnel tract, extending greater than 2 cm from exit site
3 Erythema, tenderness and induration only at the IPC exit site
4 Refer to Intrapleural Catheter Post Procedure Education Packet: Pulmonary Medicine Patient

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient’s care.
Intrapleural Catheter (IPC) Related Infections

EVALUATION

- Residual PF
  - IPC to continuous wall suction while waiting for new chest tube placement
  - Place image guided chest tube(s) and remove IPC

- No Residual PF
  - Remove IPC

MANAGEMENT AND FOLLOW-UP

- Start empiric IV antibiotic with MRSA coverage and adjust antibiotic therapy based on cultures and sensitivity results
- For patients with ongoing signs of infection, consider alternatives to drain loculated PF (VATS, additional chest tubes, ultrasound guided thoracentesis, alteplase plus dornase alfa)

PF reaccumulation seen on diagnostic images?

- Yes
  - Place image-guided chest tube
  - For patients with ongoing signs of infection, consider alternatives to drain loculated PF (VATS, additional chest tubes, ultrasound guided thoracentesis, alteplase plus dornase alfa)

- No
  - Continue antibiotic as long as clinically indicated or per the recommendation of the clinical service
  - Follow-up within one month of discharge or sooner, as clinically indicated

VATS = video-assisted thoracoscopic surgery

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient’s care.
SUGGESTED READINGS


Intrapleural Catheter (IPC) Related Infections

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.

DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Pulmonary Department experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

Saadia Faiz, MD (Pulmonary Medicine)
Clara S. Fowler, MLS (Research Medical Library)
Wendy Garcia, BS*
Bruno P. Granwehr, MD (Infectious Diseases)
Horiana B. Grosu, MD (Pulmonary Medicine)
Alexandra Hacker, MSN, APRN, FNP-BC†
Carlos A. Jimenez, MD (Pulmonary Medicine)†
Ariel D. Szvalb, MD (Infectious Diseases)
Alda L. Tam, MD (Interventional Radiology)
Garrett L. Walsh, MD (Thoracic & Cardiovascular Surgery)
Steven M. Yевич, MD (Interventional Radiology)
Kathleen R. Zavalla, MSN, APRN (Pulmonary Medicine)

† Core Development Team Lead
* Clinical Effectiveness Development Team