Intrapleural Catheters (IPC) Related Infections

INITIAL ASSESSMENT

Patient suspected of having IPC-related infection

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

Is this a pleural space infection?

Yes

Pleural Space Infection
- Drain pleural space using IPC
- CT chest and ultrasound
- Thoracic Surgery and/or Pulmonary Medicine consult
- Infectious Disease evaluation

No

Tunnel 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

Exit Site Infection
- Continue IPC drainage protocol
- 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 IPC protocol

Management

Residual PF

See Page 2

No Residual PF

See Page 2

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 Pulmonary Medicine Patients education form

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.
PLEURAL SPACE INFECTION

RESIDUAL PF
- IPC to continuous wall suction while waiting new chest tube placement
- Place image guided chest tube(s) and remove IPC
- Start empiric IV antibiotic with MRSA coverage and adjust antibiotic therapy based on cultures and sensitivity results
- 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)
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NO RESIDUAL PF
- Remove IPC
- Start empiric IV antibiotic with MRSA coverage and adjust antibiotic therapy based on cultures and sensitivity results
- CT chest in 72 hours
- Consider ultrasound, if clinically indicated
- PF reaccumulation seen on diagnostic images?
- Yes
- No
- Continue antibiotic as long as clinically indicated or per the recommendation of the clinical service

VATS = video-assisted thoracoscopic surgery
SUGGESTED READINGS


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:

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