Empyema

CONSULT ID and Thoracic Surgery

EMPIRIC CHOICE

- Ceftriaxone 1g IV q24h + metronidazole 500 mg PO/IV q12h
  - Consider adding vancomycin 15 mg/kg IV q12h if MRSA suspected
- Piperacillin-tazobactam 4.5 IV q8h or other appropriate agent if known colonization with drug-resistant organisms (e.g. *P. aeruginosa*)
- Amoxicillin-clavulanate 875mg/125mg PO q12h if source control achieved and patient clinically stable

DURATION

- Duration guided by drainage and clinical resolution

ALTERNATIVES FOR ALLERGIES

- See β-lactam allergies
- β-lactam allergy: moxifloxacin 400 mg PO/IV q24h
- Vancomycin allergy – add linezolid 600 mg PO/IV q12h

COMMON ORGANISMS

- *S. anginosus* group organisms
- *S. pneumoniae*
- Anaerobes (*B. fragilis* group, *Prevotella* sp, *Fusobacterium* sp)
- *S. aureus* (including MRSA)
- *K. pneumoniae*

CURRENT RESISTANCE ISSUES

- MRSA – has emerged as the most commonly isolated pathogen in nosocomially-acquired bacterial empyema

IMMUNOCOMPROMISED HOST CONSIDERATION

- Fungal empyema in this patient population must be considered

ADDITIONAL DIAGNOSTIC AND THERAPEUTIC COMMENTS

- Antimicrobial therapy may be tailored in some cases presumed to be mono-microbial in nature
- Empyema is defined as the presence of pus or bacteria in the pleural cavity
- Bacteriology of empyema in adults complex – wide range of pathogens and mixed infections common; up to 40% of empyema specimens fail to yield an organism
- Surgical intervention is required for successful clinical outcome in most patients with complicated para-pneumonic effusions (including empyema) – e.g. VATS, thoracotomy, or open lung decortication