How do I manage difficult cases of Pneumonia ?

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What factors should be considered in children who fail to improve ?

- If remain fever or unwell 48 hrs after treatment
- Re-evaluation is necessary, concerning:
  - Appropriate drug, adequate dose, co-pathogens
  - Complication of pneumonia : parapneumonic effusion, empyema, lung abscess
  - Complication in the host : immunosuppression, HIV, neurological problems with aspiration pneumonia

(Thorax 2011;66:ii1-23)

Management guideline in Non-response CAP

- If remain fever or unwell 48 hrs after treatment
- Non-responder ≈ 15% of CAP
- Management guideline:
  - Repeat CBC, inflammatory markers (Procalcitonin, CRP)
  - Repeat sputum C/S
  - Repeat CXR : PA, lateral

    -Pleural effusion: Lat decubitus or ultrasound

    -Chest mass, abscess: CT scan

(Chest 2007; 132:1348-55.)

Etiologic study of Non-response CAP

-Bacteria: Hemo C/S , pleural fluid C/S and Ag detection, PCR

: FOB with BAL

-Virus: Sputum for PCR, Rapid test: Flu, RSV

-Atypical pathogens: Serology, Sputum for PCR

-Unusual pathogens: TB, fungus, parasite

-Hospital acquired pneumonia (admitted > 48hrs)

-Ventilator associated pneumonia (VAP)

-In very severe pneumonia with ARF: broad spectrum ATB to cover Bacteria, Virus, Atypical pathogens

Empiric Therapy for Severe CAP in Pediatrics

To cover bacterial CAP	To cover atypical CAP	To cover flu CAP
Ceftriaxone/cefotaxime plus vancomycin/clindamycin for suspected MRSA alternative for cephalosporins: Levofloxacin	Azithromycin alternative • Other macrolide • Levofloxacin	Oseltamivir Zanamivir

(Clin Infect Dis 2011;53:e25-76.)