COMMUNITY ACQUIRED PNEUMONIA

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Introduction

- Common problem in childhood
- High morbidity and mortality
- Incidence unknown in Sri Lanka
- Most common in < 5 years

Aetiology

- Common Viral Agents
  - Respiratory syncitial virus
  - Adenovirus
  - Parainfluenza virus
  - Influenza virus
- Common bacteria
  - Streptococcus pneumoniae
- Others
  - Chlamydia
  - Mycoplasma
  - Pertussis
  - Staphylococcus aureus
  - Mycobacterium tuberculosis

Aetiology cont…

- Viral aetiology is common under 5 years
- Bacterial aetiology is common in children >5 years
- RSV common during infancy
- Strep. pneumoniae commonest cause of bacterial pneumonia in children
- Mycoplasma- commoner in older children
- Staph. aureus- commoner in infancy

Aetiology Cont…

- B.pertussis
  - Good immunization coverage
  - Still causes pneumonia in younger children
- Chlamydia
  - Generally acquired at birth
  - Sticky eyes in neonatal period
  - Cough is the most prominent feature
- Tuberculosis
  - Causes lober involvement in severe cases

Clinical Features

- Variable
- Fever, Tachypnoea and Cough
- Fever
  - > 38.5°C - sign of bacterial pneumonia
  - May present as PUO
- Cough
  - Non productive in infancy and young children
  - Yellow sputum may be seen in other respiratory diseases

Clinical Features Cont…

- Tachypnoea
- Sensitivity 74% and specificity 67%
- Poor indicator during first 3 days
- WHO definition of tachypnoea
  - < 2 months >60 breaths/minute
  - 2-12 months >50 breaths/minute
  - >12 months >40 breaths/minute

Clinical Features Cont…

- Nasal flaring
- Chest indrawing
- Physical signs of consolidation
  - Reduced chest expansion
  - Dull on percussion
  - Bronchial breathing
  - Increased vocal resonance

Clinical Features Cont…

- Atypical Presentations
  - Abdominal pain
  - Chest pain
  - Diarrhoea
  - Wheezing
  - Generalised sepsis

Admission to Hospital

- Tachypnoea
- Sign of severe Breathing difficulty
  - Chest indrawing
  - Nasal flaring
  - Grunting
  - Apnoea
- Feeding difficulties
- Signs of dehydration
- Oxygen saturation <92% in air

Investigations

- WBC/DC
- ESR
- CRP
- Blood cultures
- PCR
- Nasopharyngeal aspirate
- Mycoplasma antibodies

Chest X-ray

- The gold standard
- WHO classification of X-ray changes
  - No changes
  - Alveolar infiltrates
  - Alveolar type consolidation
- ??Pneumonia with normal CXR

Chest X-Ray Cont…

- CXR To assess the aetiology
  - ? Can it differentiate bacterial from viral
- Finally….
  - Not helpful in determining aetiology
  - Not useful in ambulatory children >2 months
- Indications for CXR
  - < 5 years with temp.>39 C
  - If complications
  - Atypical symptoms
  - Unresponsive to treatment
  - Follow-up for collapse and round pneumonia

Management

- The clinician faces following problems
  - Narrow or broad spectrum antibiotics
  - Oral or intravenous antibiotics
  - Length of treatment
  - Admit or not
  - Follow up

Management Cont…

- Antibiotics
  - Uncomplicated mild disease can be treated with oral antibiotics (amoxycillin, co-amoxyclav, macroloids)
  - Children with severe disease need IV treatment (penicillin, cefuroxime)
  - Mycoplasma needs macroloids
  - IV treatment - at least till temperature is settled and no respiratory difficulty for 24 hours. Then converted to oral
  - Altogether duration is 5-7 days

Management Cont…

- Indications for Hospital Admission
  - Severe disease
    - Needing supportive treatment e.g. needing oxygen
    - Intensive care/ High dependency unit
  - Not tolerating oral antibiotics
  - Social concerns

Management Cont…

- Other aspects
  - Control temperature
  - Hydration
  - Nutrition
  - Look for complications

Complications

- Pleural effusion
- Empyema
- Lung abscess
- Septicaemia
- Metastatic infections e.g. osteomyelitis