

PNEUMONIA

- ▶ It is a consolidation of alveoli or infiltration of the interstitial tissue with inflammatory cell or both
- ▶ TYPES
 - *Lobar
 - *Lobular
 - *Bronchopneumonia
 - *Interstitial pneumonia

- ▶ Chlamydia and mycoplasma cause community acquired pneumonia
- ▶ Pneumocystis jiroveci, histoplasmosis and coccidioidomycosis cause pneumonia in immunocompromised children

ETIOLOGY

- ▶ In the 1st 2 months the common agents causing pneumonia include Gram neg bacteria such as Klebsiella, E.coli and Gram pos organisms like pneumococci and staphylococci
- ▶ b/w 3months and 3yrs: S.pneumoniae, H.influenzae and staphylococci
- ▶ After 3yrs: pneumococci and staphylococci
- ▶ Viral pneumonia caused by respiratory syncytial virus, influenza, parainfluenza or adenovirus

- ▶ Risk factors :Low birth wt, malnutrition, vit A deficiency ,lack of breast feeding, passive smoking, large family size, family h/o bronchitis , advance birth order,over crowding, young age and air pollution
- ▶ Symptoms include high grade fever,dyspnoea and grunting respiration.
- ▶ o/e ,there is flaring of alae nasi,retraction of lower chest and intercoastal spaces
- ▶ Signs of consolidation are present in the lobar pneumonia

PNEUMOCOCCAL PNEUMONIA

- More common in winter months
- Overcrowding and diminished host resistance predisposes the children to infection with pneumococci
- Bacteria multiply in the alveoli and an inflammatory exudate is formed
- Scattered areas of consolidation occur which coalesce around the bronchi and become lobar or lobular
- There is no tissue necrosis
- Pathological stages are stage of congestion, red and grey hepatisation and stage of resolution

CLINICAL FEATURES

- ▶ IP : 1 to 3days
- ▶ Onset is abrupt with headache chills, cough, high fever
- ▶ Cough may be associated with thick rusty sputum
- ▶ Child may develop pleuritic chest pain, rapid respiration, grunting ,chest indrawing, difficulty in breathing and cyanosis
- ▶ Percussion note impaired ,air entry is diminished
- ▶ Crepitation and bronchial breathing heard over areas of consolidation

DIAGNOSIS

- ▶ Based on history, physical examination, X-ray findings, leukocytosis, sputum examined by Gram staining and culture and polysaccharide Ag demonstrated in urine.

TREATMENT

- ▶ Treatment of choice PENICILLIN
- ▶ Alternative : AMOXYCILLIN with or without CLAVULANIC ACID
- ▶ The need for oxygen administration is guided by signs of resp distress(rapid breathing chest retraction nasal flare), presence of cyanosis or hypoxemia
- ▶ Fever managed with PARACETAMOL
- ▶ If dehydrated IV fluids given

STAPHYLOCOCCAL PNEUMONIA

▶ RISK FACTORS

Primary infection of the parenchyma, secondary to generalised staphylococcal septicemia, measles or influenza, cystic fibrosis, malnutrition and diabetes

- ▶ In infants the illness is characterised by formation of multiple pneumatocele
- ▶ Staphylococcal abscesses may erode into the pericardium causing purulent pericarditis

CLINICAL FEATURES

- ▶ Usually follows upper respiratory tract infections, pyoderma or purulent d/s.
- ▶ Patient is toxic and ill looking.
- ▶ Cyanosis may be present
- ▶ Progression of the symptoms and signs is rapid

DIAGNOSIS

- ▶ Characteristic complications of pyopneumothorax and pericarditis are highly suggestive
- ▶ Pneumatocoeles are present in X-ray films
- ▶ Staphylococci can be cultured from the blood

TREATMENT

- ▶ The child should be hospitalised and isolated
- ▶ Fever is controlled with antipyretics
- ▶ Oxygen is administered to relieve dyspnoea and cyanosis
- ▶ Empyema is aspirated and pus is sent for culture and sensitivity
- ▶ antibiotic therapy initiated with coamoxiclav or combination of cloxacillin and a 3rd generation cephalosporin
- ▶ If the symptoms are not improved within 48hrs start with vancomycin, teicoplanin or linezolid

HAEMOPHILUS PNEUMONIA

- ▶ Occurs between the age of 3 months and 3 yrs
- ▶ Nearly always associated with bacteremia
- ▶ Usually begins in the nasopharynx and spreads locally or through the blood stream
- ▶ As the infants have transplacentally transferred Abs during the first 3 to 4 months of life, infections are relatively less during this period

CLINICAL FEATURES

- ▶ Gradual onset with nasopharyngeal infection
- ▶ Certain viral infection such as Influenza virus acts synergistically with H.influenzae
- ▶ Child has moderate fever, dyspnoea, grunting respiration and retraction of the lower intercostal spaces

COMPLICATIONS

- ▶ Bacteremia
- ▶ Pericarditis
- ▶ Empyema
- ▶ Meningitis
- ▶ Polyarthrititis

TREATMENT

- ▶ Ampicillin 100mg/kg/day or Co amoxiclav
- ▶ Cefotaxime 100mg/kg/day
- ▶ Ceftriaxone 50–75mg/kg/day