IN THE NAME OF ALLAH
THE MOST BENEFICENT AND
MERCIFUL
BRONCHIOLITIS

Presented by
Dr Shahid Ishaq
Case scenario

- 2 months old baby has a 3 days H/O coryzal symptoms with progressive tachypnea (100/min), difficulty in feeding and gross hyperinflation, fine crepts all over the chest with occasional rhonchi.
BRONCHIOLITIS

- Inflammation of bronchioles
- More common in infants aged 1-3 months.
- By 2 years nearly all children have been infected.
- Seasonal, peak activity in winter & early spring.
Etiology & Epidemiology

- RSV >50% cases
- Adeno virus
- Para influenza virus
- Mycoplasma
- No evidence of bacterial pathogen but bronchiolitis leads to super added bacterial infection
- Common in males, top fed, living in crowded conditions & with older family members
Risk factors

- Prematurity
- Bronchopulmonary dysplasia
- Cystic fibrosis
- Immunodeficiency
Pathogenesis

- All infected infants don’t develop bronchiolitis
- Infants e pre-existent smaller airways & decrease lung function leads to severe disease
- Complex immune response
- Eosinophils degranulate & release of eosinophil cationic proteins
- IgE lead to wheezing
- Other mediators: IL-8, MIP1-alpha, RANTES & gamma interferon
- Bronchiolar obstruction with edema,
- Mucous & cellular debris leads to increased resistance (resistance is inversely proportional to the 4th power of radius)
- Smaller radius during expiration leads to air trapping, over inflation & atelectasis
Clinical manifestations

- Sneezing
- Rhinorrhea
- Loss of appetite
- Fever (38.5-39°C)
- Paroxysmal wheezy cough
- Respiratory distress
- Irritability
- Tachypnea
- Reluctance to feed
- Apnea (early in course of disease in younger infants)
- Cyanosis
Examination

- Wheezing
- Tachypnea
- Inc. work of breathing
- Nasal flaring
- Retractions
- Hyper resonant note
- Fine crackles & wheeze with prolonged expiration
- Palpable liver & spleen
Investigations

- CXR PA view shows hyperinflation, patchy atelactasis
- WBC & differential counts Normal
- Immuno fluorescence of nasopharyngeal aspirate
- Viral culture
- PCR
Differential diagnosis

- Early asthma
- Bronchial pneumonia
- CCF
- Pertusis
- Foreign body
- Cystic fibrosis
Treatment

- Mainly supportive
- Cool humid oxygen
- Prop up
- NG feeding
- IV fluids
- Correction of respiratory acidosis & electrolytes imbalance
- Avoid sedation
- Antibiotics if super added infection
- Steroids have no role
- Ribavirin in infants with CHD & chronic lung disease
- No role of Immunoglobulins in acute episodes
Prevention

- Effective hand washing
- Good nursing care
- High dose RSV immunoglobulins (RespiGam)
- Palivizumab (synagis) 15mg/kg I/M for 5 doses at 30 days interval
Complications

- Pneumonia
- Pneumothorax
- Dehydration
- Respiratory acidosis
- Respiratory failure
- Heart failure
- Obliterative bronchiolitis
- Macleod syndrome
Prognosis

- Case fatality rate < 1%, death occurs due to apnea, air hunger, respiratory acidosis & severe dehydration.
- Poor prognosis in chronic conditions like BPD, Cystic fibrosis, prematurity & immunodeficiency.
Thanks