ACUTE BRONCHITIS

Department of pediatrics

Definition

- Acute bronchitis is acute infection of the bronchial mucosa, without obstruction

ETIOLOGY:

- Respiratory viruses – parainfluenza, adenoviruses, Rarely pneumococci, H.influenzae, staphylococi and streptococi may be isolated from the sputum

Clinical manifestation

- Dry, hacking, unproductive cough
- within 4-5 days the cough becomes productive
- often preceded by an upper respiratory tract infection
- afebrile patient or low grade fever
- auscultation – rough high pitched rhonchi

Treatment

- Infants pulmonary drainage is facilitated by frequent shifts in position
- Keep well hydrated, humidified air if possible
- Nasopharyngeal lavage with isotonic solution (normal saline or Ringer lactate)
- Treat fever: Paracetamol in t°> 38, 5 30 mg/kg/d: 4 doses
- No antibiotics, antihistamines
- Expectorants in irritating and paroxysmal coughing: Bromhexin (suspension, tabl.) , Ambroxol, Stoptussin (drops)

Evaluation of patients

- Onset of dyspnea: stridor, wheezing
- Onset of general danger signs: convulsions or abnormally sleepy
- Not able to drink, stopped feeding keel
- Patient don't improve better after 5 days

Refer to hospital

- Presence of general danger signs
- Fever > 39°C resistant to antipyretic treatment
- Acute respiratory distress and cardiac failure
- Chronic cough > 30 days duration
- Hemoptysis

Acute bronchiolitis

Definition:

- acute viral infection, characterized by inflammation of bronchioles, causing severe dyspnea and wheezing.
- more common in infants a peak incidence at 6 mo of age

Etiology:

- The respiratory syncytial virus (50%)
- Adenovirus, parainfluenza virus
- Mycolplasma pneumoniae

Risk factors

- Artificial feeding
- Age between 3-6 mo
- Preponderance of males
- Passive tobacco smoking – smoking parents in the home

Pathophysiology

- Bronchiolar edema
- Hypersecretion and accumulation of mucus and cellular debris
- Bronchiolar obstruction during expiration
- Air trapping and over inflation
- Hypoxemia hypercapnia (CO_2 retention, $PaCO_2$>45mmHg, PaO_2 <90mmHg)

Clinical manifestations

- **Respiratory signs**
  - Disease starting with signs of acute viral nasopharyngitis.
  - Severe tachypnea >70-80 breaths/min
  - Spasmoid cough
  - Chest in drawing, intercostal, subcostal and xyphoid retractions
  - Expiratory dyspnea, gasping, emphysematous chest, on percussion – hyperresonance, very loud intensity
  - Diminished breath sound
  - Crepitations, rhonchi, wheezing
  - Respiratory distress – dyspnea, cyanosis, flaring of the nostrils

General signs

- Fever (38-39°C)
- Febrile convulsions
- Vomiting, less appetite, dehydration
- Cyanosis, acrocyanosis
- Tachycardia, toxic myocard
- Diver and spleen below the costal margins – result of depression of diaphragm in over inflation of lungs

Diagnosis

- Blood gas analysis – respiratory or mixt acidosis
- White blood cell usually normal, rarely eosinophilia, ↑ESR
- X- ray – hyperinflation of the lungs
- Small atelectasis secondary to obstruction or to alveoli inflammation
- Pneumothorax
- Pleural reaction without fluid

Treatment

- Refer urgently to hospital
- Keep young infant to intensive care unite
- Humidified oxygen relieve hypoxemia
- Bronchodilating drugs – Salbutamol, Atrovent, Terbutalin
- Oral intake and parenteral fluids to combat dehydration

Antiviral drugs

- Ribavirin
- (virazole) – continuons inhalation of a small particle mist “SPAG-II” for 12-20 hr/24 hr for 3-5 days. It is contraindicated for ventilators patients (blockage of expiration)
- Antibiotics in secondary bacterial pneumonia

Corticosteroids

- in severe sequel i/v; i/m 3-5 mg/kg
- local corticosteroids: Beclometazon, Budesonid, fluticazon
- Electrolyte balance and pH monitoring
- Refer to pneumolog and alergolog in the recurrent wheezing