

DISORDERS OF THE UPPER RESPIRATORY TRACT

Shaman Rajindrajith

Spectrum

- Congenital Disorders
 - Coanal atresia
 - Laryngeal stridor
- Infections
 - Common cold
 - Pharyngitis
 - Epiglottitis
 - Croup
- Others
 - Epistaxis

Coanal Atresia

- Commonest congenital anomaly of the nose
- A septum/ membrane between nose and pharynx
- Nearly 50% associate with other congenital anomalies (CHARGE syndrome)

Coanal Atresia Clinical Picture

- Newborn
 - May be asymptomatic
 - Severe respiratory distress
 - Improve with ventilation
 - Difficult to wean off from ventilator
- Infancy
 - Often with a common cold
 - Out of proportion respiratory distress
 - Cyanosis while feeding
 - Unilateral nasal discharge

Coanal Atresia Cont..

- Diagnosis

- Passing a NG tube
- Contrast study
- Fiberoptic rhinoscopy

- Management

- Oropharyngeal airway
- Intubation
- Surgical dissection
- Dilatation if restenosed

Congenital Laryngeal Stridor

The background is a solid dark blue. A light blue curved line starts from the left edge, about one-third of the way down, and sweeps downwards and to the right, ending near the bottom right corner. This line divides the background into two main areas. The area below the line is a lighter shade of blue, while the area above is the darker blue. The text 'Congenital Laryngeal Stridor' is positioned in the upper right area, above the curve.

Pathophysiology

- Abnormally floppy
 - Arytenoid cartilage
 - Epiglottis
 - Aryepiglottic folds
- Weak airway cartilages
- Collapsing of airway in inspiration
- Inspiratory stridor

Clinical Picture

- Generally no symptoms during first few days
- Inspiratory stridor develop gradually
- May present in late infancy
- In severe cases significant respiratory distress
- Chest deformities may occur
- Poor weight gain
- Often become worse in first few months
- Then gradually improve

Differential Diagnosis

- Laryngeal web
- Chondromalacia of the larynx
- Branchial cyst
- Mandibular hypoplasia
- Subglottic haemangioma
- Vocal cord palsy

Management

- Diagnosis by direct laryngoscopy
- In most cases no specific therapy is necessary
- Parents should be reassured
- Prone posture
- Manage feeding difficulties
- Severe cases need tracheostomy

Acute Nasopharyngitis

A decorative graphic element consisting of a large, curved, blue gradient shape that starts from the left edge and extends towards the bottom right corner of the slide.

Few Facts

- Most frequently occurring illness in children
- On average 3-8 URTI/ year in children
- Most common cause for school absenteeism
- Environmental factors predispose to cold are
 - Low income groups
 - Over crowding
 - Passive smoking

Aetiological Agents

- Rhinovirus
- Parainfluenza virus
- Respiratory syncytial virus
- Coronavirus
- Adenovirus
- Enterovirus
- Influenzavirus
- Mycoplasma

Clinical Picture

- Children

- Nasal discharge
- Sneezing
- Sore throat & cough
- Mild temperature
- Purulent nasal discharge in 3-4 days
- Symptoms lasts 5-7 days

- Infants

- Irritable
- Restless
- Feeding difficulties
- Vomiting

Managment

- No specific investigations or treatment
- Explain the natural history to parents
- Good hydration
- Parents ceasing smoking
- Control temperature
- Drugs serve no purpose
 - Antibiotics
 - Vit-C
 - Antihistamines
 - Expectorants

Acute Pharyngitis

- Generally caused by viruses
- Group-A β haemolytic streptococcus is the commonest bacterial pathogen
- Uncommon in < 1 year
- Peak in 4-7 years

Clinical Picture

- Viral pharyngitis
 - Start with a cold
 - Mild temperature
 - Conjunctivitis
 - Diarrhoea
 - Inflamed throat
 - Small discrete ulcers
 - Cervical lymphadenopathy
 - +/- exudate on tonsils

- Bacterial Pharyngitis
 - > 2 years of age
 - High fever (40 C)
 - Throat pain
 - Abdominal pain
 - Vomiting
 - Diffusely red tonsils
 - Pharyngeal exudate
 - Cervical lymphadenopathy

Complications

- Otitis media
- Retropharyngeal abscess
- Peritonsillar abscess
- AGN
- Rheumatic fever

Management

- Most are viral so need no treatment
- Streptococcal pharyngitis is best treated with oral penicillin
- Duration of therapy- 10 days
- Other supportive measures

Acute Epiglottitis

A decorative graphic element consisting of a large, curved, blue gradient shape that starts from the left edge and extends towards the bottom right corner of the slide.

Few Facts

- A Paediatric emergency
- Potentially lethal if not recognise early
- Caused by H. Influenzae
- Common in 2-7 years
- Incidence less after Hib immunization

Clinical Picture

- High temperature
- Throat pain and dysphagia
- Irritable and restless
- Drooling
- Characteristic posture
 - Hyperextended neck
 - Sitting
 - Leaning forward
 - Protruding tongue

Clinical Picture Cont...

- Mild stridor initially and gradually disappear as the disease progress
- Respiratory distress
 - Tachypnoea
 - Dyspnoea
 - Retractions
- Cough is NOT a prominent feature
- May progress to respiratory arrest

Emergency Management

- Do not
 - Examine the throat
 - Cannulate
 - X-ray
- Keep the child in a comfortable position
- Give oxygen
- Call
 - Consultant anaesthetist
 - ENT surgeon

Emergency Management

- Arrange
 - Theatre
 - ICU
- Transport the child to the theatre carefully
- Establish the airway
 - Intubation
 - Trachyostomy
- Do
 - Throat swab
 - Blood culture
 - Blood gas
- Start antibiotics (Cefotaxime for 7 days)
- Manage initially in ICU

Clinical Picture Cont...

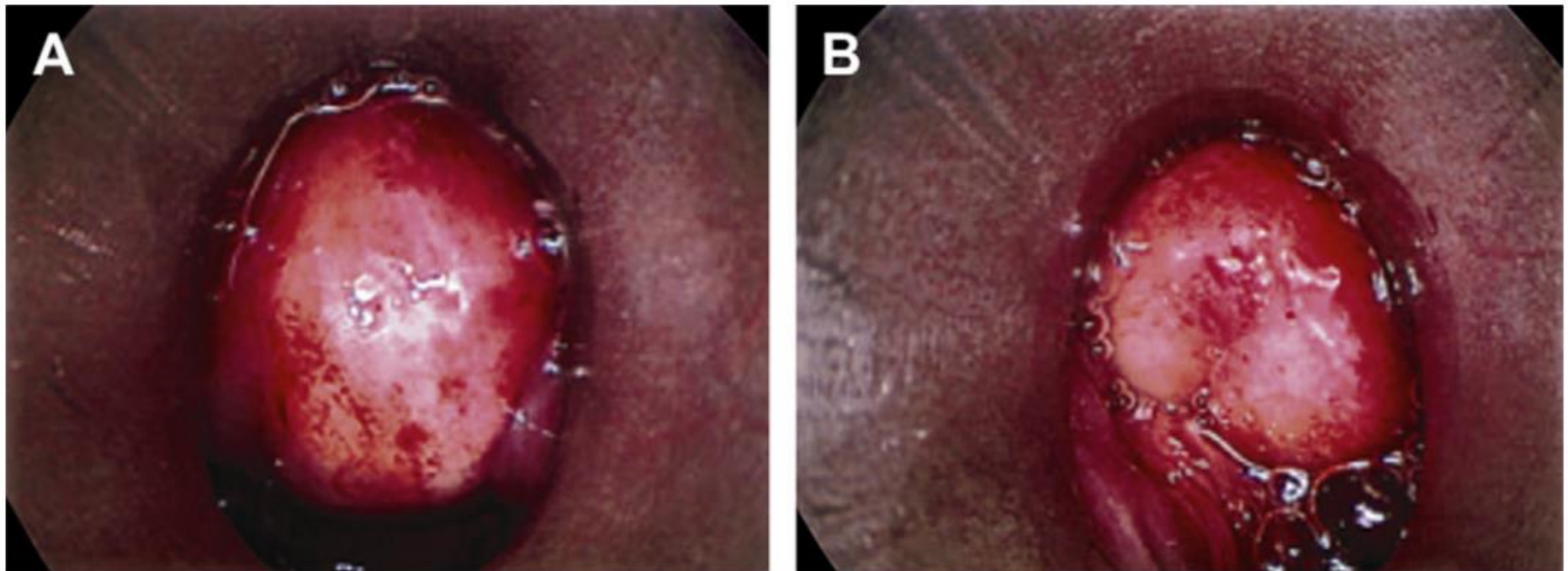


Fig. 2. Acute epiglottitis with views of the cherry red epiglottis on direct laryngoscopy. (*Courtesy of M. Bitner, MD, Atlanta, GA*).

X- ray



Fig. 3. Lateral neck film demonstrating thumb sign with edema of the epiglottis.

Acute Laryngotracheobronchitis

- Usually caused by Parainfluenza virus
- Common form of Upper airway obstruction
- Inflammation of laryngeal, tracheal and bronchial mucosa leading to gradual airway obstruction
- Common age group 3-7 years

Clinical Picture

- Start with URTI and cough
- Cough gradually become worse
- Intermittent stridor often worsen at night
- Stridor become continuous as airway obstruction progresses
- Mild temperature
- Respiratory distress in severe cases
- Improve in few days

Management

- Indications for hospital admission
 - Severe stridor at rest
 - Progressive stridor
 - Respiratory distress
 - Hypoxia
 - Restless
 - Reduced sensorium
 - Uncertain diagnosis

Neck X-ray (steeple sign)

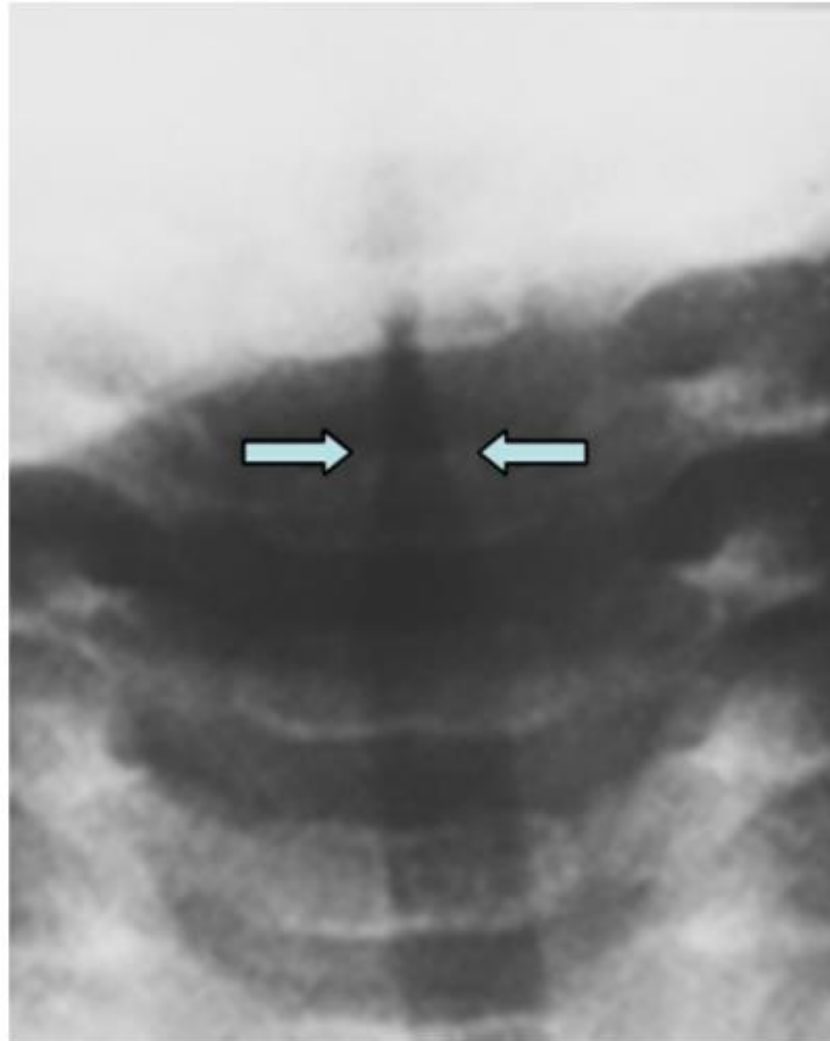


Fig. 1. Anteroposterior neck film demonstrating steeple sign (*arrows*).

Neck X-ray (steeple sign)



Management Cont...

- Severe cases

- Oxygen
- Racemic adrenaline nebulization
- Maintain the airway
- Intensive care with respiratory support
- Feeding/ nutrition

- Mild cases

- Supportive measures
- Oral dexamethasone

