

STRIDOR

Stridor is noisy respiration produced by turbulent air flow through the narrowed air passages. It may be heard during inspiration, expiration or both (Fig. 57.3).

- Inspiratory stridor is often produced in obstructive lesions of supraglottis or pharynx, e.g. laryngomalacia or retropharyngeal abscess.
- Expiratory stridor is produced in lesions of thoracic trachea, primary and secondary bronchi, e.g. bronchial foreign body, tracheal stenosis.
- Biphasic stridor is seen in lesions of glottis, subglottis and cervical trachea, e.g. laryngeal papillomas, vocal cord paralysis and subglottis stenosis

Aetiology

Stridor may arise from lesions of nose , tongue, mandible, pharynx, larynx or trachea and bronchi. Common causes of stridor in infants and children are given below

Stridor

Congenital

- Laryngomalacia
- Laryngeal web
- Sub glottic stenosis
- Haemangioma
- Vocal cord paralysis
- Tongue and jaw Abnormalities

Acquired

Afebrile

- Papillomatosis
- Injury
- Foreign body
- Laryngeal oedema
- Adenotonsillar hypertrophy

Febrile

- Epiglottitis
- Acute laryngitis
- Laryngotracheitis
- Diphtheria
- Retropharyngeal abscess
- Infectious mononucleosis
- Peritonsillar abscess

(a) Nose. Choanal atresia in newborn

(b) Tongue. Macroglossia due to cretinism, haemangioma or lymphangioma, dermoid at base of tongue, lingual thyroid.

(c) Mandible. Micrognathia, Pierre-Robin syndrome. In these cases, stridor is due to falling back of tongue.

(d) Pharynx. Congenital dermoid, adenotonsillar hypertrophy, retropharyngeal abscess, tumors

(e) Larynx.

- congenital: Laryngeal web, laryngomalacia, cysts, vocal cord paralysis, subglottic stenosis.
- Inflammatory: Epiglottitis, laryngotracheitis, diphtheria, tuberculosis.
- Neoplastic: Haemangioma and juvenile multiple papillomas. carcinoma in adults.
- Traumatic: Injuries of larynx, foreign bodies, oedema following endoscopy. or prolonged intubation.
- Neurogenic: Laryngeal paralysis due to acquired lesions.
- Miscellaneous: Tetanus, tetany, laryngismus stridulus

(f) Trachea and bronchi

- (i) Congenital: Atresia, stenosis, tracheomalacia.
- (ii) Inflammatory: Tracheobronchitis.
- (iii) Neoplastic: Tumours of trachea.
- (iv) Traumatic: Foreign body, stenosis trachea
(e.g. following prolonged intubation or tracheostomy).

(g) Lesions outside respiratory tract

- (i) Congenital: Vascular rings (cause stridor and dysphagia). oesophageal atresia, tracheoesophageal fistula, congenital goitre, cystic hygroma.
- (ii) Inflammatory: Retropharyngeal and retrooesophageal abscess .
- (iii) Traumatic: FB oesophagus (secondary tracheal compression) .
- (iv) Tumours: Masses in neck

Management

History

- Time of onset to find whether cause is congenital or acquired.
- Mode of onset. Sudden onset (foreign body, oedema), gradual and progressive (laryngomalacia, subglottic haemangioma, juvenile papillomas).
- Duration. Short (foreign body, oedema, infections), long (laryngomalacia, laryngeal stenosis, subglottic haemangioma, anomalies of tongue and Jaw).
- Relation to feeding. Aspiration in laryngeal paralysis, oesophageal atresia, laryngeal cleft, vascular ring, foreign body oesophagus.
- Cyanotic spells. Indicate need for airway maintenance.
- Aspiration 01" ingestion of a fo1"eign body.
- Laryngeal trauma. Blunt injuries to larynx, intubation, endoscopy.

Physical Examination

(a) Stridor is always associated with respiratory distress. There may be recession in suprasternal notch, sternum, intercostal spaces and epigastrium during inspiratory efforts.

(b) Note whether stridor is inspiratory, expiratory or biphasic which indicates the probable site of obstruction.

(c) Note associated characteristics of stridor.

(i) Snoring or snorting sound-nose or nasopharyngeal cause.

(ii) Gurgling sound and muffled voice-pharyngeal cause.

(iii) Hoarse cry or voice- laryngeal cause at vocal cords. Cry is normal in laryngomalacia and subglottic stenosis.

(iv) Expiratory wheeze-bronchial obstruction

(d) Associated fever indicates infective condition, e.g. acute laryngitis, epiglottitis, laryngo-tracheobronchitis or diphtheria.

(e) Stridor of laryngomalacia, micrognathia, macroglossia and innominate artery compression disappears when baby lies in prone position.

(f) Sequential auscultation with unaided ear and with stethoscope over the nose, open mouth, neck and the chest helps to localise the probable site of origin of stridor.

(g) Examination of nose, tongue, jaw and pharynx and larynx can exclude local pathology in these areas. In adults, indirect laryngoscopy can be done easily while infants and children require direct laryngoscopy.

Radiography

- (a) X-ray of chest and soft tissue neck both in anteroposterior and lateral views.
- (b) Fluoroscopy to see chest movements both during inspiration and expiration.
- (c) Tomography of chest for mediastinal mass.

- (d) Oesophagogram with lipoidal for atresia of oesophagus, tracheobronchial fistula or aberrant vessels.
- (e) Angiography, if aberrant vessels are suspected.

- (f) Xeroradiography is useful to show soft tissue lesions in the neck.
- (g) CT scan

- Direct Laryngoscopy Without Anaesthesia
- General Anaesthesia Followed by Bronchoscopy, Laryngoscopy and Oesophagoscopy

Treatment

Once the diagnosis has been made, treatment of exact cause can be planned