ETIOLOGY

Stridor is noisy breathing because of disordered respiration due to airflow changes in the larynx, trachea and or bronchi, whereas croup is characterised by fever and barking cough due to subacute viral illness. The latter is also known as laryngotracheitis indicating the site of pathology. Laryngeal stridor occurs due to various conditions. The classification given in 1952 still holds true. Inclusion of diseases like bilateral vocal cord palsy and subglottic edema makes it a most comprehensive one. The common conditions producing acute symptoms are acute epiglottitis (syn. supraglottitis) acute laryngotracheitis, acute laryngotracheobronchitis (LTB), staphylococcal or pseudomembranous crop, bacterial tracheitis, foreign body in air passage, angioneurotic edema and in our country laryngeal diphtheria.

Acute laryngotracheitis is a croup preceded 12-72 hours by cough, coryza and often accompanying fever. Acute epiglottitis usually has a shorter history of less than 24 hours and the child is obviously toxic, flushed and febrile. The characteristic triad is drooling of saliva, agitation and absence of spontaneous cough. The age old dictum of Jackson of febrile stridor is due to laryngeal diphtheria and afebrile stridor is due to foreign body, still holds true for our country. Congenital subglottic stenosis is one of the commonly encountered congenital lesion and is 2-3 times more common than the acquired type. Juvenile laryngeal recurrent papillomatosis is the commonest neoplastic condition in children below 5 years of age. Congenital subglottic stenosis and laryngeal papillomatosis may remain asymptomatic and suddenly present with stridor during an episode of upper respiratory tract infection.

MANAGEMENT

The problem in the management of acute laryngeal stridor are threefold; over-enthusiastic examination; performance of laboratory investigations and underestimation of respiratory distress.

Examination of the child. This is best carried out from a distance without disturbing the child, and once the confidence of the child is gained auscultation can be done. Stridor is an important symptom in infancy and early childhood. It is high pitched noisy respiration that may be either inspiratory...
(laryngeal obstruction), inspiratory and expiratory (tracheal obstruction) or only expiratory (bronchial obstruction). Hearing of respiratory sounds by keeping ear next to the mouth of the child can give useful information. It is important not to change the child's position or force the child to lie down, as the child assumes the position of maximum comfort. Forcing the child to lie down in case of acute epiglottitis results in complete airway obstruction and death. One must preferably withhold throat examination in cases of stridor with dysphagia, drooling of saliva, and absence of spontaneous cough as these physical findings are associated with acute epiglottitis. Children assuming a sitting posture during stridor are also likely to have acute epiglottitis. The examinee must be cautioned that vigorous or repeated oropharyngeal examination may precipitate a vasovagal response, which could lead to immediate and irreversible cardiorespiratory collapse. Recently, a solitary study advocated the examination of oropharunx in a series of 155 cases of stridor, without any complication. However, only 6 of these cases were of acute epiglottitis. Hence, the general view is that examination of an unknown pediatric airway problem needs utmost preparation in the form of wide bore aspiration needle, laryngeal biting forceps, proper size endotracheal tube, a fully assembled and functioning laryngoscope, bronchoscope, tracheostomy set and ventilator so as to combat an unforeseen emergency.

**Estimation of respiratory distress.** The clinical evidences of upper airway obstruction are increased respiratory rate, flaring up of the alar nas, increased suprasternal and intercostal recession and change in voice or cry of the child. Tachycardia, anxiety and restlessness are an early indication of cerebral hypoxia. There is good correlation between the severity of respiratory airway obstruction and respiratory rate. It correlates well with lower arterial oxygen tension rather than with pCO₂, but pCO₂ of more than 40mm of Hg, is a strong indication of assisted respiration. Pulse rate is less reliable and has no correlation with the degree of airway obstruction, stridor or degree of air entry. Cyanosis is not a good parameter and is a late and grave sign. It is highly variable since it depends upon the colour and thickness of the skin, hemoglobin level and pigmentation. For the purpose of management, respiratory distress had been graded as mild, moderate and severe, depending upon the score of various signs and symptoms encountered at time of presentation.

**Investigation.** They are best deferred till airways are secured. As such they make the child apprehensive, uncomfortable and respiratory distress may worsen. Later skiagram, hemogram, blood culture, electrolyte and acid base balance can be done. Skiagram of the neck AP and lateral view have not been found to be of much diagnostic value either in acute epiglottitis or in LTB, nor are they helpful in differentiating between these two conditions on skiagram. In one study 60% of the radiographs of LTB were reported as normal. In another series, 70% of the skiagram of acute epiglottitis revealed normal epiglotis and the only significant indicator was the presence of hypopharyngeal dilatation. The latter is also seen in cases of upper oesophageal obstruction in children due to impacted foreignbody. Almost one third of the skiagram of the neck, may be reported as false positive by attending physician on emergency. Even the 'steeple sign' considered to be diagnostic of LTB is not specific and was encountered in 28% of