Acute Respiratory Tract Obstruction in Children

Zahoor Ahmad,
Consultant Otolaryngologist,
National Iranian Oil Hospitals, Ummeidiya, Khuzistan, Iran.

Abstract

35 cases of acute respiratory tract obstruction in paediatric age group who needed surgical intervention in the form of bronchoscopy, tracheostomy or both are reviewed here. All these patients were seen and managed at National Iranian Oil company Hospital Ummeidiya Khouzestan Iran, from April 1985 to April 1988. The results obtained with a review of use of instruments is described. Most of the patients presented with foreign body inhalations, some due to allergic oedema and one case had laryngeal cyst causing respiratory tract obstruction.

Acute respiratory tract obstruction is one of the most frequent and important causes which leads the patient to the emergency rooms of the hospitals. The most frequent causes of such obstruction being foreign body inhalation. In the past the mortality rate in such cases was very high, but with the advent of modern instruments and specialized techniques the mortality rate is greatly reduced. Fibreoptic endoscopes have not much role to play in these cases especialy in removal of foreign bodies, these endoscopes serve to fulfill the diagnostic purpose. Use of proper sized bronchoscopes with proper catching forceps have also reduced the
incidence of thoracotomy in removal of foreign body from bronchial tree.

**Material and Methods**

35 cases of acute respiratory tract obstruction were seen in the department of otolaryngology of N. I. O. C. Hospital Ummeidiya Khouzistan Iran, who needed surgical intervention for the relief of their respiratory tract obstruction. This is a 130 beded hospital with a catchment population of 300,000 having a fully equipped otolaryngology department. All these patients were brought in the emergency room except ten patients who were referred from paediatricians either from their clinics or from the wards. The patients referred from the wards (6 in number) were kept under observation by the consulting paediatricians and they subsequently developed acute respiratory embarrassment and three of them had cyanosis while they were being observed by the consulting doctors.

All the patients were in paediatric age group, the youngest being 22 days old and the eldest was of 12 years of age. The male : female ratio was 3 : 4. All were muslims and ethnic group was as under:

- Arabs :- 20, Persian :- 15

The cause of acute respiratory tract obstruction was as follows:

1. Foreign bodies : 20
2. Laryngeal Oedema : 14
3. Supra Laryngeal Cyst : 1

**Symptomatology**

The following findings were seen in these patients isolated or in combination:

(Presented in order of frequency)

1. History of foreign body inhalation.
2. Acute respiratory embarrassment.
3. Cough.
4. Wheezing
5. Cyanosis.
6. Signs of consolidation and or atelectasis.
7. Convulsions.

Radiography was helpful only in 57% of cases. Out of 20 cases with foreign bodies 6 cases (30%) showed either radio-opaque foreign bodies or radiographic signs of consolidation or atelectasis.

All the cases of laryngeal oedema showed reduced airway space, two cases were not subjected to radiological pre-operative diagnosis because of their critical conditions as both of them were cyanosed and were having convulsions. The decision to perform tracheostomy and or bronchoscopy was made by the concerned otolaryngologist in all the cases 21 cases of respiratory obstruction were subjected to bronchoscopy, out of which 20 cases were foreign bodies and one case was of laryngeal oedema in whom decanulation was difficult after tracheostomy and the patient had developed right lower zone consolidation.

14 cases of laryngeal oedema were subjected to tracheostomy as in all these cases the conservative treatment either in the form of i. v. steroids, local vasoconstrictor sprays and oxygen inhalation had failed to relieve the obstruction and had in fact become worse during the course of observation. In all these cases of laryngeal oedema the smallest size of endotracheal tube was also tried to relieve the obstruction but could not be negotiated.

The single case of laryngeal cyst underwent aspiration of the cyst through direct laryngoscope and then at later stage when the baby was in better condition and had gained some weight, at the age of three months, the cyst was excised.

During the procedures of bronchoscopy, the tracheostomy tray was kept ready but in none of the cases the tracheostomy was required and the procedure was performed without any complications. The Karl Storz bronchoscopes with appropriate sized forceps were used. All the instruments were checked before use. General anaesthesia was used in all the cases of bronchoscopies, this was done without endotracheal intubation as the anaesthesia tube was connected to the side of the bronchoscopes. In tracheostomies either local anaesthesia, I. V. Ketalar or no anaesthesia was used. In all the cases strong suction was always kept at hand. All the foreign bodies were removed by forceps (cupped, crocodile, or others). Fogarty catheter was not used in removal of foreign bodies.

The following types of foreign bodies were found in the tracheo-bronchial tree:-

IJO & HNS. Vol. 51 No. 3, July-September, 1999 □ 33