

Prolonged Impacted Laryngeal Foreign Body

Parmod Kalsotra*, G.B. Kohli, Sudha Kohli, Monica Manhas

Abstract

A unique presentation of laryngeal foreign body (meat bone) in a four year old girl is presented. She had prolonged impaction of meat bone in the larynx (22 days) and presented with sudden onset of hoarseness but was managed conservatively, outside, on the line of treatment of bronchial asthma. Foreign body was removed by direct laryngoscopy, under general anaesthesia, uneventfully. The presentation and management of airway foreign bodies are discussed in general.

Key words

Larynx, Foreign-body

Introduction

Choking on foods has been the cause of between 2500-3900 deaths per year in USA (1). It is the sixth most common cause of accidental deaths. Approximately 55% of aspirated foreign bodies involve the respiratory tract in children of 6 months to 4 years of age (2), boys more likely to aspirate than girls by almost 2:1 ratio (2,3). The peak incidence of inhaled foreign bodies in early childhood is because of two reasons, namely:

i) The exploring nature of the young child who is often partially edentulous and has a tendency to place any object in the month, the solid object entering the pharynx elicits a startle response permitting the foreign body to enter the open larynx during forced inspiration (2).

ii) High incidence of upper respiratory tract infection makes the young children mouth breathers. Also due to the presence of coughing, the inhalation of food particles may easily occur with the sharp intake of breath following a bout of cough (4).

Majority of inhaled foreign bodies in adults lodge in right bronchial tree because of its width which is more than the left bronchus and the interbronchial septum which projects to the left (4). But in the young children, there is equal distribution of foreign bodies between right and left bronchi because the above mentioned anatomical differences are less pronounced (5). A minority of foreign bodies (<4%) impact in the larynx (6), that too if they are too large to pass through or if they are of an irregular

From the Postgraduate Departments of ENT* and Anaesthesia, Govt. Medical College, Jammu(J&K), India.

Correspondence to : Dr. Parmod Kalsotra, Lecturer, ENT, SMGS Hospital, Govt. Medical College Jammu India.

shape or have sharp edges which can catch on the laryngeal mucosa, the offenders being egg shells, glass fragments or plastics (4).

Case Report

A four year old girl presented with hoarseness of sudden onset, of 3 weeks duration. Parents gave a positive history of sudden choking following swallowing of meat-bone during dinner, followed by coughing and hoarseness. Child was treated by local doctor as a patient of sudden onset bronchial asthma and was managed by cocktail of bronchodilators, steroids and antibiotics, all injectable for 3 weeks.

X-ray soft tissue neck (Fig. 1) revealed a large radio-opaque foreign body (bone) shadow, fitted in the laryngeal lumen with irregular margin facing superiorly towards laryngeal inlet. Indirect laryngoscopic examination in otherwise cooperative girl revealed the irregular, superior margin of bone in the glottic chink, lying sagittaly and allowing the free passage of air along its both sides into the tracheobronchial tree, with no stridor.

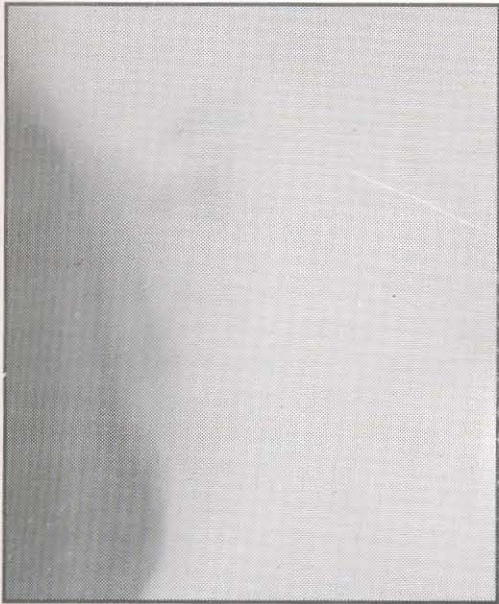


Fig 1. X-ray soft tissue neck (lateral view) showing triangular shape radiodense foreign body in the laryngeal airway.

Patient underwent direct laryngoscopic examination under general anaesthesia, and the foreign body (Fig. 2) (meat bone) was removed using long crocodile forceps. Post-operative period was uneventful. Steroids were tapered off and the child was kept on one week antibiotics. This episode has converted the muslim family to a strict pure vegetarians.

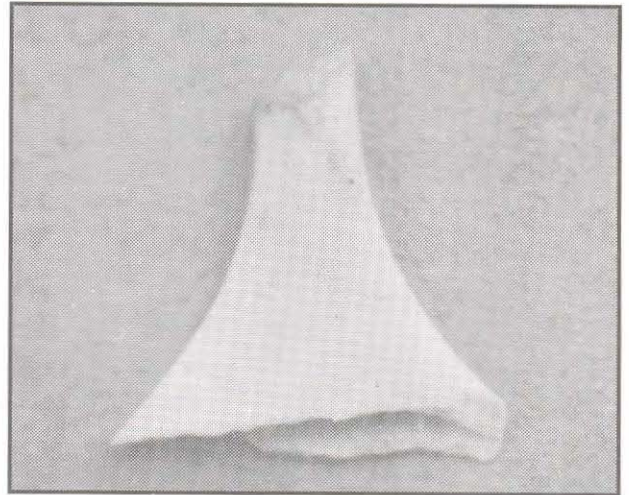


Fig 2. Removed Foreign Body (Bone).

Discussion

Majority of patients of inhaled foreign bodies give a definite history of choking, followed by paroxysmal coughing (2). After the initial paroxysm of cough, the tracheobronchial mucosa becomes tolerant of foreign body and the cough ceases, delaying the diagnosis (2,5). Approximately in 1/3 of children, the accident of aspiration is neither observed nor suspected, leading to increased morbidity (5). Other common features are wheeze, predominantly unilateral, unexplained persistent fever, persistent or recurrent lobar pneumonia (4). Acute respiratory distress is uncommon but most alarming presentation, seen mainly in laryngeal foreign body (2), which may also manifest as pain in root of neck or over the larynx (4). But the most common difficulty

encountered in laryngeal foreign body is the delay in diagnosis (7).

Prolonged impacted foreign bodies may complicate into bronchial suppuration, bronchial ulceration and granulation tissue formation, bronchial stenosis, peribronchial and peritracheal lymphadenopathy with compression of the bronchi, pneumonitis, atelectasis, obstructive emphysema, pneumomediastinum, pneumothorax, hemoptysis and variable degree of airway obstruction (5).

In the removal of foreign bodies, there is no substitute for open rigid endoscopes. Other techniques like pounding the throat and Heimlich's procedures are dangerous, because they may cause further impaction and possible total obstruction not present prior to these attempts (5).

Laryngeal or large tracheal foreign bodies are dealt as dire emergencies with facilities for emergency tracheostomy, these may have to be delivered through the tracheostoma (8). Laryngeal foreign bodies are usually removed by direct laryngoscopy (4), without any problem, in majority of cases but in few cases during the induction of anaesthesia, foreign body may cause total respiratory obstruction and may warrant emergency tracheostomy. While small tracheal and bronchial foreign bodies are removed using the rigid bronchoscopes and may be taken as elective

procedures, in the absence of any respiratory distress. Rarely a foreign body may require thoracotomy and bronchotomy.

Conclusion

Aspiration of the foreign bodies should be avoided by keeping the play area of small children clean and safe. Any sudden onset of pulmonary or airway tract sign or symptom should raise the suspicion of inhaled foreign body and warrants an endoscopy.

References

1. Eller WC, Haugen RK. Food asphyxiation. *N Engl J Med* 1973; 81:289.
2. Rothmann BF, Boeckmann CR. Foreign bodies in the larynx and tracheobronchial tree in children-a review of 255 cases. *Ann Otol Laryngol* 1980; 89:434-436.
3. Brown TC, Clark CM. Inhaled foreign bodies in children. *Med J Australia* 1983; 2:322-326.
4. Evans JNG. Foreign bodies in the larynx and the trachea. In: Adams DA, Cinnamon MJ (eds) *Scott-Brown's Paed. Otolaryngology* (6th Ed.) Butterworth, 1997; pp. 1-11.
5. Svensson G. Foreign bodies in tracheobronchial tree. Special reference to experience in 97 children. *International J Paediatr Otolaryngol* 1985; 61:5-17.
6. Cohen SR, Herbert WI, Lewis GB Jr, Geller K. Foreign bodies in the airway. 5 year retrospective study with special reference to management. *Ann Otol Rhinol Laryngol* 1980; 89:437-42.
7. Moskowitz D, Gardiner LJ, Sasaki CT. Foreign body aspiration-potential misdiagnosis. *Arch Otolaryngol* 1982; 108: 806-07.
8. Swensson EE, Reh KH, Kim MC, Brooks JW, Salzberg AM. Extraction of large tracheal foreign bodies through a tracheostoma under bronchoscopic control. *Ann Thorac Surg* 1985; 38 : 251-53.