



SILENT LARYNGEAL FOREIGN BODY WHICH WAS MISSED

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ABSTRACT

Laryngeal foreign body is rare as most of the foreign body usually passed down the airway tract. But once it struck in larynx it become dire emergency and rarely remain symptomatically silent producing little or no symptoms. We are reporting a case in which a laryngeal foreign body with little symptoms was missed in initial evaluation because of other severe injuries and caused delayed symptoms of obstruction. Laryngeal foreign body and obstruction was managed successfully in ICU setting only. High index of suspicion should always be kept in all accident cases to prevent missing out of such foreign bodies.

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INTRODUCTION

Airway management is a priority in the trauma patient. The foreign bodies in respiratory tract of adults post trauma usually presents as an emergency. Laryngeal impaction of foreign bodies is a rare phenomenon, as most aspirated foreign bodies pass down through laryngeal inlet and get lodged lower down in the airway. Laryngeal foreign bodies cause either complete obstruction leading to sudden death if not intervene quickly or they may cause symptoms of obstruction. Diagnosis is made by clinical and radiological examination. Due to delay in intervention, most of the complications including death may occur. We are reporting a case in which a laryngeal foreign body was missed in initial evaluation as it was silent producing minimal symptoms, neglected and caused delayed symptoms of obstruction.

Case report

A 63-year-old male patient of RTA presented to our trauma department with severe oral and nasal bleed, blunt trauma chest and abdomen resulting in retro peritoneal hematoma and liver laceration and fractures of long bones of lower limbs. Patient was resuscitated and kept for stabilization of general condition in trauma ICU. Nasal and oral bleed stopped after some time with conservative management. Ryle's tube aspirate showed around 2 liters of blood mixed fluid. Patient was conscious, oriented and irritable. ENT referral done after stabilization of patient revealed nasal injury, hard palate laceration and mild hoarseness of voice but no stridor or respiratory difficulty. Bilateral air entry seems to be normal.

Chest x ray was normal and CT head showed minimal intraventricular bleed with multiple contusions in brain. Plan of flexible laryngoscopy for evaluation of hoarseness was differed after discussion with intencivist in view of recent heavy bleed from nose and oral cavity, irritability of patient and no apparent respiratory difficulty. Patient was put on low dose steroids keeping laryngeal edema as possible explanation for hoarseness. Patient showed improvement in hoarseness with in 24 hours. For next three days patient was apparently well with regards to laryngeal symptoms with only mild hoarseness and no apparent respiratory difficulty. On fourth day, patient showed mild stridor, hoarseness along with conducted sounds in bilateral chest, however air entry seemed to be normal. ENT and pulmonologist reference was again sought, a bed side fiberoptic laryngoscopy was done which revealed a linear foreign body in larynx in midline in antero-posterior direction just at true vocal cords level causing partial obstruction, minimal edema over interarytenoid region where the posterior end of foreign body rested, the anterior part of foreign body was obscured by epiglottis. The appearance was suggestive of blood clot. Surprisingly, the patient was extremely comfortable breathing through narrowed glottis for past 4 days!! As general condition of patient was not good so a bed side laryngoscopy was planned in ICU. Removal was first attempted by anesthetist using intubating laryngoscope and macgills forcep under IV sedation but foreign body could not be retrieved. Tracheostomy set was kept ready and foreign body was removed under visualization using direct laryngoscope and straight grasping crocodile micro laryngeal forcep under IV sedation, short acting muscle relaxant and bag

mask ventilation. Need for tracheostomy did not arise. Post FB removal check rigid bronchoscopy was normal and no other FB found in lower airway. Foreign body was a piece of denture which patient was wearing at the time of accident. It was only in retrospective evaluation that patient relatives revealed that patient do wear dentures. Post foreign body removal patient showed improvement in voice and hoarseness although patient succumb to other injuries after 3 days.

DISCUSSION

FB impaction in larynx in an adult is a rare phenomenon (1) as larynx is well protected by sphincteric action at three levels to protect the lower respiratory airway. The larynx and the cough reflex is an important defense mechanism which prevents entry of a foreign body into respiratory tract hence, most of the foreign bodies are seen in the hypo pharynx or they go past the glottis into the bronchus. FB lodges in the larynx only if it is too large to pass through or if it is of an irregular shape with sharp edges that can catch on the laryngeal mucosa. Impaction in adults is thus seen mostly in trauma with unconsciousness, convulsion, general anesthesia, intoxication with alcohol, sedative and hypnotic drugs, and traumatic intubation (1).

A foreign body present in the larynx can be divided into asphyxiating and non- asphyxiating. Former is generally noted as a dire emergency, which needs immediate intervention. Clinical diagnosis of such entities is easier as alarming obstructive symptoms like choking, gagging, stridor, pain, hoarseness are present which may prove fatal (2).

The clinical presentation of non-asphyxiating foreign bodies in the airway in adults is variable, often missed or delayed. The most important single diagnostic factor is a high clinical index of suspicion (3). The common cause for delay in diagnosis are due to absence of a choking history and invisibility of the foreign body on chest films, due to patient's ignorance, due to physician's ignorance, and due to previous unsuccessful retrieval attempts. It was concluded that the most important diagnostic factor is a high clinical index of suspicion. In our case the diagnosis was missed or delayed because of two reasons. Firstly the ABC of primary evaluation of traumatic patient was restored. Secondly, other severe injury and poor general condition of patient were given more priority over non alarming hoarseness and did not allow us to perform laryngoscopy.

In adult patients fibreoptic bronchoscopy is a safe procedure for the initial diagnosis and removal of foreign body in experts hands up to 100% (3). Even just localization of the foreign body during the initial fibreoptic bronchoscopy allows subsequent rigid bronchoscopy to be shorter in duration with fewer complications (4). In our case the diagnosis was established after bedside laryngoscopy by flexible diagnostic laryngoscope in absence of flexible bronchoscope. The position and extent of obstruction by foreign body was noted.

A major controversy in the anesthetic management of patients undergoing bronchoscopy for FB removal is whether to do control ventilation or to maintain spontaneous ventilation. There are few studies to justify one technique over the other. The risk of controlled ventilation is forcing the FB deeper into the small airways, and the risk for the spontaneously-breathing patient is his unexpected movement or cough. (5).

We had administered IV sedation for laryngoscopy and given short-acting depolarizing muscle relaxant- succinylcholine, after ensuring that the patient could be ventilated with bag mask giving short period of apnea to surgeon for the removal of the FB under visualization. Marks et al summarized the indications of tracheostomy for tracheobronchial FBs as acute airway obstruction from a subglottic FB or a FB too large to be removed through the glottis without risking dislodgement and sudden distal obstruction, as well as in avoiding laceration and potentially permanent injury to the vocal cords and sub glottis in case of sharp impacted foreign bodies. (6) In our case tracheostomy set was kept ready and planned in the event of difficulty in ventilation of patient or bypassing the FB obstructed airway but the need for tracheostomy did not arise and foreign body removal was done uneventfully. Subsequently stridor resolved and hoarseness improved in immediate postoperative period.

CONCLUSION

Any sudden onset of pulmonary or airway tract sign or symptom should raise the suspicion of inhaled foreign body and warrants an endoscopy. Although rare, tracheobronchial foreign body aspiration in adults can occur in various clinical settings. High clinical suspicion is necessary for diagnosis. Removal of foreign bodies can usually be accomplished with flexible bronchoscopy and all ICU setting must have this facility. Foreign body aspiration should be considered even in conscious patient with little symptoms.

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