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UNUSUAL AIRWAY FOREIGN BODY IN AN ADULT FOLLOWING DENTAL PROCEDURE: A CASE REPORT

Abstract:

Foreign body in tracheobronchial tree is common in children, but rarely can happen to adults as well. Sharp pointed foreign body inhalation is further rare and can pose therapeutic difficulties. Anaesthesized pharynx and larynx increases its chance by blunting the reflex. Hence care should be practiced in dental procedures where local anesthetics applied should not spill down and no loose instruments should be used that may slip off at the end being foreign body in the airway. Simple X-rays can detect and locate radio-opaque foreign body. Rigid bronchoscopy by an experienced surgeon can tackle these rarities and open procedures can be avoided in most of the cases.

Keywords: Airway, Foreign body, Tracheobronchial tree.

Introduction

Foreign body in airway is an emergency and demands a fast-track management in all suspected cases. Foreign body can be solid/semi-solid, organic/inorganic, sharp/blunt. Depending upon the age of the patients, the foreign body varies. The common foreign bodies in children are peanut, peas, seeds, grains, plastic beads, toys, and buttons. Plastic whistle being the commonest inorganic foreign body of the tracheobronchial tree at our center. Though the foreign body airway is common in children,[1,2,3] in adults it may occur in unconscious patient or patient under anesthesia or psychiatric patient or sometimes accidentally during dental procedures.[4]

Clinical features differ according to the size, nature of foreign body, site of lodgment and stage of presentation. In earliest stage, immediately after aspiration of foreign body, there can be cough, cyanosis or spontaneous expulsion with cough. In other cases, patient may be symptomless and this happens when size of foreign body is small, inorganic, blunt and below the carina.

To diagnose a case of foreign body, most important is the history of choking; the symptoms of difficulty in breathing, cyanosis and chest discomfort further strengthen the diagnosis. On examination, there can be diminished air entry on one or both sides of chest depending upon the size of foreign body and the site of lodgment. There can be other chest findings such as wheeze or crepitation. In other cases, the chest examination can be completely normal. There can also be diminished oxygen saturation or cyanosis may be evident.

Initial investigation needed are X-ray neck and chest in which foreign body itself can be seen if it is radio-opaque or may show supportive features like mediastinal shift, obstructive emphysema or collapse. Some cases may require further imaging like high resolution CT scan for detecting or locating foreign body prior to therapeutic bronchoscopy. Rigid bronchoscopy and foreign body removal is performed in all suspected cases as a first treatment modality and this is the definitive modality in most cases. Only few cases may require thoracotomy for foreign body removal.

Case presentation

23 years female was referred from another hospital with the history of accidental inhalation of syringe needle while she was undergoing a dental procedure. She immediately had cough followed by chest discomfort. The missing needle was searched in the oral cavity and oropharynx failing which she was referred to our center. At presentation, she had mild chest discomfort and decrease air entry on left side. All other findings on examination were normal. Chest and neck X-ray AP and lateral were advised in which radiopaque linear shadow was clearly visible in the left main bronchus as shown in Fig. I a and 1b. Rigid bronchoscopy under general anesthesia was performed, where needle was visible in the left main bronchus. However retrieval was not easy because needle was bent and impinging upon wall

of bronchus. So needle was carefully dislodged and the foreign body was held with its plastic end so that pointed end directed proximally and foreign body was removed successfully without further trauma to the airway. (Needle is shown in Fig. II). Post-operatively patient was absolutely asymptomatic. Post-procedural examination and imaging were also normal.

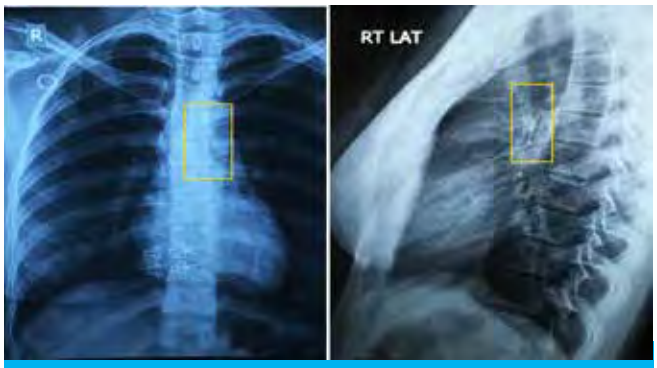

Fig I a: AP view (needle in the rectangle)
Fig 1b: Lateral(needle in the rectangle)

Fig II: Syringe needle after retrieval

Discussion

Foreign body aspiration in adults are rare to encounter, it may happen due to altered neurological status or in psychiatry patients. Aspiration during dental procedure is not often seen. Foreign body aspiration if unwitnessed may sometimes remain undiagnosed for a long time that may impose diagnostic and therapeutic challenges along with carrying significant morbidity and mortality. A series of 60 adult airway foreign body was reported by Limper et al.[3] Syringe needle in an adult male was reported but he was under influence of heroine during the incidence.[6]

Our case was rare in sense that the patient was adult, mentally sound, neurologically fit and without under influence of any drug or alcohol. She aspirated it when local anesthesia was being injected into her gums during dental procedure. The needle dissembled off the syringe and patient aspirated it. Spillage of local anesthetic over pharyngeal and laryngeal muscles might have blunted the local protective reflexes in this case.

Aspirated foreign body usually lodge in the right main bronchus, mostly the bronchus intermedius in adults.[6] Rigid bronchoscopy is preferred over flexible bronchoscopy for intraluminal evaluation as manipulation and definitive treatment could be achieved in the same setting. The foreign bodies managed by rigid bronchoscopy which, in experienced hands, is very simple, almost free of complications and usually successful. The success rate of flexible bronchoscopy is also progressively increasing but we, otolaryngologists are less acquainted with it. Moreover rigid bronchoscopy stands advantageous in the presence of respiratory failure where it may act as a conduit for oxygen supply.

Conclusion

Foreign body aspiration in adults is very rare. Sharp foreign body like syringe needle in airway is dangerous. Accidental aspiration during any therapeutic procedure creates medicolegal issue. So a medical personnel should always be careful during any sort of procedures.

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