

Spontaneous expulsion of aspirated teeth in left lung following maxillofacial trauma: Case Report

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Citation

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Abstract

Aspiration of teeth secondary to maxillofacial trauma is uncommon and its spontaneous removal after coughing is a rare clinical condition. Hereby we report such type of case in fifty years old male.

INTRODUCTION

Foreign body inhalation is an acute emergency and it is more frequent in children than adults₁. In adults with impaired airway protective mechanisms, such as patients with neurologic disorders or head or face trauma, may also aspirate foreign bodies. Tooth aspiration is one of the rare sequelae of maxillofacial trauma₂. When this does occur, the right bronchus is usually involved in adults due to the anatomical configuration. But in this unusual case, a tooth was aspirated in the left lung. Most Foreign body are usually removed by rigid bronchoscope and it remains the method of choice but now the flexible bronchoscopy is being used more and more frequently for removing foreign bodies from the bronchial tree especially in the adult patients. But in this unusual case, the aspirated tooth was expelled through left lung spontaneously after severe bout of coughing.

CASE REPORT

Fifty years old male smoker (Pack Year-24) was came to us as part of anesthesia clearance with the complaints of cough and breathlessness for last 15 days. The resting pulse rate was 110 /min and his respiratory rate were 24 /min. His general examination revealed no abnormality. Respiratory system examination was within normal limits. His medical history revealed multiple injuries and a major maxillofacial injury after beaten by some antisocial elements, 10 days back(Fig: 1).

Figure 1

Figure 1: Revealed major maxillofacial trauma in present case.



His oral cavity examination revealed that his right upper 2 incisor teeth were missing. So his chest x-ray was done that revealed irregular heterogenous opacity in left lung middle zone (Fig: 2).

Figure 2

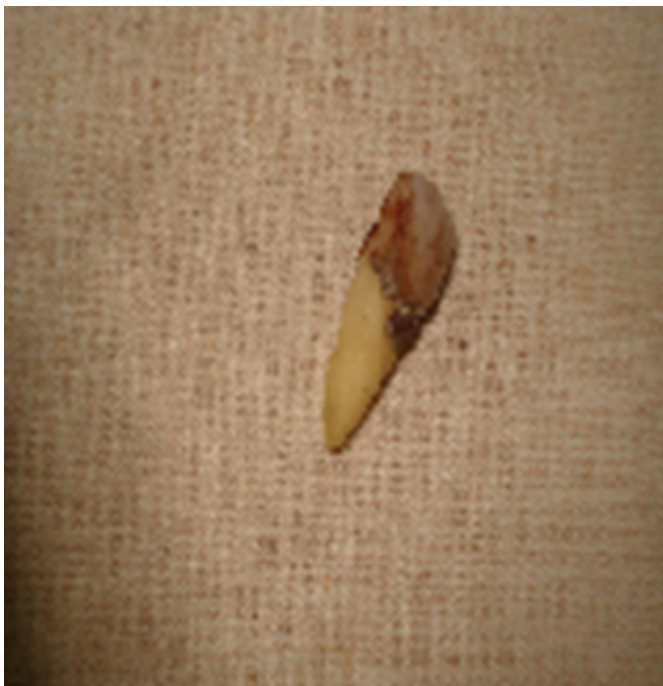
Figure 2: Chest x-ray revealed irregular heterogenous opacity in middle zone of left lung



So the suspicion of foreign body arose due to missed tooth and history of maxillofacial injury. Next day his fiberoptic bronchoscopy was planned but before that, during the act of severe bout of coughing, a single tooth (about 11 x 3 centimetre sized) came out from the left lung (Fig: 3).

Figure 3

Figure 3: A single tooth (about 11 x 3 centimetre sized) , came out from the left lung during the act of severe bout of coughing.

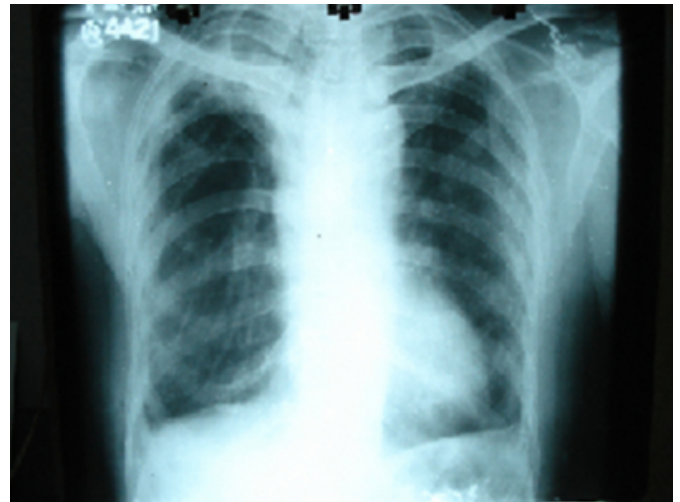


Immediately his chest X-ray was repeated that revealed a

normal left lung (Fig: 4).

Figure 4

Figure 4: Chest X-ray that revealed a normal left lung



Four days after his bronchoscopy was done to examine the bronchial tree but it does not revealed any significant structural abnormality. Thus the diagnosis of Spontaneous expulsion of aspirated intact teeth in left lung following maxillofacial trauma was made.

DISCUSSION

Foreign body accidents in adults leading to airway obstruction are also common. Careless, hasty eating and drinking, without chewing properly contribute to these accidents³. Failure of the dentist to isolate the operative field from the rest of the oral cavity while performing dental treatment increases the risk of aspiration of filling materials, tooth fragments, denture and prosthetic materials. Thus in adults teeth or dental materials are the commonest foreign bodies to lodge in the bronchi⁴. Tooth aspiration is one of the rare sequel of maxillofacial trauma (as seen in present case). Similar foreign body accidents can occur during various intraoral maneuvers by anesthetists, endoscopists, ENT and other oral surgeons resulting in loss of atomizer tip or the suction tip or a tooth may be inadvertently dislodged and subsequently aspirated into the bronchial tree.

Symptoms of tooth aspiration may be immediate and continuous; there may be an intervening period of months or years before the symptoms appear⁵. The most constant and characteristic immediate symptoms are cough, dyspnea, wheezy respiration, and pain in the chest. The late symptoms of tooth aspiration varying in number and degree. Teeth, because of their shape, often do not completely obstruct a bronchus. Therefore, lobar shrinkage distal to the foreign

body rarely occurs. Radio-opaque foreign bodies can be easily diagnosed by plain chest x-rays₆.

Management of Obstructed Airway — airway obstruction by a foreign body can be partial or complete. In case of partial obstruction with “good air exchange”, the victim can cough forcefully; the patient should be encouraged to continue with spontaneous coughing and breathing efforts while arrangements are being made for urgent expert help in a hospital. In case of partial airway obstruction with “poor air exchange” or if there is complete airway obstruction the patient is unable to cough or breathe. In such a situation attempts should be made to expel the foreign body by such maneuver as “abdominal thrust” or “chest thrust” in adults and “back blows” in children; back blows are not as effective as the abdominal thrust in adults. A subdiaphragmatic abdominal thrust (Heimlich maneuver), by elevating the diaphragm, can force air from the lungs in sufficient quantity to produce an artificial cough intending to move and expel the foreign body ⁷. It may be necessary to repeat the thrust several times. One should be aware that it is possible to damage internal organs during these maneuvers.

In case of Complete airway obstruction by a foreign body can be removed by rigid bronchoscopy and it remains the method of choice for removal of foreign bodies from the bronchial tree. The flexible fiberoptic bronchoscope potentially offers better and greater range of visibility. The flexible bronchoscopy is being used more and more frequently for removing foreign bodies from the bronchial tree especially in the adult patients ₈. Its use is preferable in certain situations, e.g. patients with head and neck injury, patients with tracheostomy and for retrieval of foreign body from segmental bronchus. Spontaneous expulsion is always doubtful if foreign bodies are small, irregular, and of high specific gravity. But in present case the tooth (sized 10x2centimetre) was came out spontaneously. To the best of our knowledge, no such instance of natural extrusion of large teeth has been reported in the literature.

Complications of dental origin foreign body in lungs are abscess formation, bronchiectasis, empyema thoracis and occasionally complicated by tuberculosis.

CONCLUSION

If the accident is discovered at the time it happens, the foreign body should be removed if possible. If the foreign body cannot be removed at the time of the accident, the patient and the relatives should be informed about the accident. The patient should be admitted to hospital if already not in hospital and further management planned.

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