



Inadvertent Expulsion of an Intra-Bronchial Metallic Foreign Body

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ABSTRACT

Foreign bodies in respiratory tract continue to pose challenges to otolaryngologists. Presentation may vary from sudden death due to respiratory obstruction to asymptomatic accidental finding. However, incidence of spontaneous expulsion of bronchial foreign body is only 2 - 4%. We report a rare case of a 7 year old boy who presented with metallic foreign body in right bronchus which was spontaneously expelled out, while preparing the patient for bronchoscopy.

KEY WORDS : Bronchial Foreign Body, Bronchoscopy, Spontaneous Expulsion

Introduction

Foreign body inhalation in tracheo-bronchial tree is a common but serious situation requiring emergency intervention. This is due to its potential life-threatening consequences [1] including sudden death due to choking of the airways. It presents commonly although not exclusively in the paediatric age group. Harboyan and Nasif have reported that the majority of foreign bodies of tracheobronchial

tree are found in children between the ages of 1 & 2 years [2]. Bronchoscopic visualisation and removal remains the mainstay of treatment.

Spontaneous expulsion of intra-bronchial foreign body is relatively rare with very few cases being reported. Negus has given an incidence of about 2% of spontaneous expulsion of foreign body from air passage while it has been quoted to vary between 2 to 4% by Chevalier Jackson [3]. We report a case of a metallic foreign body inhaled in right bronchus with spontaneous expulsion after 6 hours.

Case Report

A 7 year old male child brought by parents to emergency department with history of foreign body ingestion while playing. Immediately the child had a bout of excessive coughing and right sided retrosternal chest pain. This was not associated with dyspnoea, haemoptysis or vomiting. General physical examination showed no stridor, intercostal retraction or

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any other abnormality. On auscultation, he was found to have decreased air entry with conductive sounds on the right side. Chest roentgenogram was done which revealed a radio-opaque shadow suggestive of foreign body in the right bronchus (Fig. No. 1). Bronchoscopic removal of foreign body was planned next morning and intravenous antibiotics and corticosteroids were started. In the night, child had bout of severe cough during which the foreign body was expectorated spontaneously. It was a small cylindrical piece of metal with small grooves at both ends, probably part of some toy. It was 1.6cm long with central diameter of 0.3 cm and the grooves had diameter of 0.1 cm.(Fig. No. 2)

Chest auscultation showed marked improvement in air entry on right side. Post-expectoration period was uneventful with no dyspnoea, hemoptysis or chest pain. Repeat chest roentgenogram revealed normal study (Fig. No.3). The child was kept for 24 hours under observation following which he was discharged.

Discussion

A foreign body in respiratory tract is a medical emergency. Spontaneous extrusion of an intra-bronchial foreign body range from 2 – 4 %. Gupta and Sood reported two cases of spontaneous expulsion of metallic foreign body from air passage. One was a 2 years old male child who spontaneously expelled out about 3 x 0.7 cm sized cycle tube metallic valve from right bronchus 4 days after inhalation. The other was a 20 years old male who spontaneously expelled out a four anna metallic coin from trachea, few hours after its inhalation [3]. Jaiswal and Garg reported a case with spontaneous extrusion of a sewing machine needle just prior to its planned removal [4].

Swain and Mishra in 2014 reported a case of a 2 year old child who spontaneously coughed out an iron nail 1 day after inhalation [5]. Another case of spontaneous extrusion of a nail 2 hours after inhalation was reported by Hadi et al [6].

In our case diagnosis was obvious because of reliable history by child's parents. But sometimes it may be missed out especially when history is not reliable. Hence, suspicion of an inhaled foreign body should always be kept in mind while encountering a child with recent onset of severe cough, dyspnoea or chest pain. Chest roentgenograms are mandatory in all such cases for establishing the diagnosis, locating the site of foreign body and demonstrating the presence of any chest complication [6]. This may be aided by CT scans if required.

It is inadvisable to wait for spontaneous expulsion of such foreign bodies. Since subglottis is the narrowest part in the upper respiratory tract in children, there is always an obvious risk during spontaneous expulsion of a tracheo-bronchial foreign body that it may lodge into subglottis and may impose a life threatening emergency. Secondly, delay in intervention can make subsequent removal of foreign body even more difficult. Once the diagnosis is established, immediate removal of foreign body by rigid bronchoscopy remains the mainstay of treatment in all such cases.

Conclusion

Spontaneous extrusion of a foreign body in respiratory tract is a rare entity. Although it saves the patient from complications of endoscopic removal but imposes a great danger of lodgement in the sub-glottic region. Hence, it is imprudent to wait for spontaneous extrusion and immediate removal with rigid bronchoscopy remains the definitive treatment in these cases.

Conflict of Interest

The authors do not have any conflict of interest

Financial Disclosure None

Figure Legends

Fig.No. 1: Chest roentgenogram showing foreign body in right bronchus



Fig. No. 2: Spontaneously expelled foreign body measuring 1.6cm x 0.3cm(centrally) and 0.1 cm(peripherally)



Fig. No. 3: Repeat Chest roentgenogram after foreign body expectoration showing normal study



3. Gupta IS, Sood VP. Foreign body in the air passage (spontaneous expulsion). *Indian J Otolaryngol.* 1967; 19(4):173-6.
4. Jaiswal AA, Garg AK. Spontaneous expulsion of foreign body (sewing machine needle) from right middle lobe bronchus - a rare case report. *J Clin Diagn Res.* 2014;8(8):KD01-2.
5. Swain SK, Mishra S, Dash M. An unusual asymptomatic foreign body at tracheo bronchial tree. *International journal of phonosurgery and.* 2014;4(1):40-2
6. Hadi MA, Al-Telmesani LM. Spontaneous expulsion of intrabronchial metallic foreign body: A case report. *J Fam Community Med.*1997;4:77-9.

References

1. Saw HS, Ganendran A, Somasundaram K. Fogarty catheter extraction of foreign bodies from tracheobronchial trees of small children. *J Thorac Cardiovasc Surg* 1979;77(2):240-2
2. Harboyan. G. and Nasif. R, Tracheobronchial foreign bodies. A review of 14 years experience. *Journal of laryngology and Otology.*1970. 84 : 403 - 412.