International Journal of Otorhinolaryngology and Head and Neck Surgery
*Budhiraja G et al. Int J Otorhinolaryngol Head Neck Surg. 2023 Oct;9(10):835-837*
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20232904

**Case Report**

# A rare whistling foreign body bronchus

**Grace Budhiraja, Harsimrat Singh, Harpreet, Prabhjot, Nischai Goyal***

Department of Otorhinolaryngology, Head and Neck Surgery, Adesh Institute of Medical Sciences Research, Bathinda, Punjab, India

**Received:** 15 June 2023
**Accepted:** 12 September 2023

***Correspondence:**
Dr. Nischai Goyal,
E-mail: harypol278@gmail.com



## ABSTRACT

A case of toy-whistle as foreign body (FB) initially presented in sub-glottic location and later on got transferred to right segmental bronchus after induction of anaesthesia, is discussed. The FB was removed by rigid bronchoscopy. This case is illustrative of the problem inherent in removal of FB from air passages in children. The relevant literature has been reviewed.

**Keywords:** Bronchoscopy, FB, Whistle

## INTRODUCTION

Aspiration of foreign bodies in tracheo-bronchial tree occurs less frequently in adults than in children.[1] Whereas it is suspected in children with pulmonary symptoms, it is rarely considered in adults unless a clear history of aspiration is evident. Elderly and denture wearers appear to be at greatest risk.[2] FB aspiration (FBA) can be a life-threatening emergency requiring intervention; symptoms can also go unnoticed for years with serious sequelae.[3,4] The removal of a FB from the respiratory tract generally leads to a fast recovery. Some of the materials retrieved from bronchial tree have been organic materials, metal remnants, bone fragments, vegetables, broncholiths, dental prosthesis, endotontic needle, tracheostomy tube, nails, bean seeds and fruit stones.[2] Most of the foreign bodies are organic in nature, the common ones being nuts and seeds in children and food and bones in adults. Inorganic materials are uncommon; some such materials retrieved have been beads, coins, pills, beverage can tops and caps of pens. Aspiration of plastic foreign bodies is very rare amongst children. Here we present the case of young female who presented with whistling voice and cough, with history of inadvertently aspirating a plastic whistle, which was seen in her subglottic region on radiology preoperatively and slipped into right bronchial tree afterwards as seen intra-op.

## CASE REPORT

A 10-year-old girl presented with 2-h history of sudden onset of cough and peculiar voice, which had an intermittent whistling character without any preceding symptoms. Patient had no history/symptoms of viral infection of upper respiratory tract and did not complain of any difficulty in breathing. One hour later, patient had 4 episodes of vomiting. Cough was nonproductive and was more intense during initial hours of aspiration of FB and had an intermittent peculiar whistling character. Clinical examination revealed an average built afebrile young girl with pulse of 100/min, BP with 110/70 mmHg, respiratory rate of 22/min. rest of physical examination was also unremarkable.

Radiograph of soft tissue neck showed vertically oriented FB in sub-glottis area (Figure 1).

In view of association of symptoms with history of ingestion of the FB, a direct laryngoscopic examination was performed. A blackish part of FB was seen in subglottic area that was removed by forceps (Figure 2). To look for main part of whistle that seemed to be slipped into tracheobronchial tree, rigid bronchoscopy was done. A black, toy whistle seen embedded along walls of right main bronchus, and was retrieved as single piece (Figure

3 and 4). Patient was put on antibiotics and steroids for 7 days. Steroids were added to reduce odema caused during removal of FB. Her chest X ray was performed on very next day that was normal and discharged satisfactorily.

**Figure 1: X ray showing FB.**

**Figure 2: Removed FB i.e., whistle.**

**Figure 3: FB and narrow arrow-carina and broad arrow-FB.**

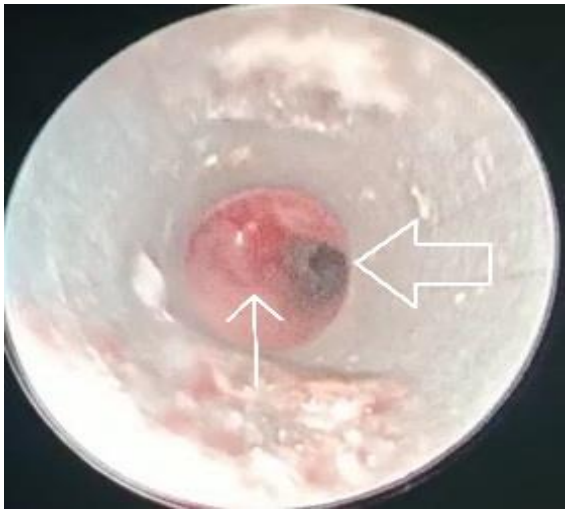

**Figure 4: Narrow arrow-carina & broad arrow -FB.**

**Figure 5: FB.**

## DISCUSSION

FB aspiration is more common in children than in adults. The peak incidence of FBA in children is during the second year of life and during the sixth decade in adults.[5] The most common site for aspiration in adults is the right bronchial tree because of its more vertical disposition, and a central location is predominant in children.[6] The most frequent symptom of FBA is called 'penetration syndrome,' defined as sudden onset of choking and intractable cough with or without vomiting.[9] Retention of AFB in tracheo-bronchial tree may also produce recurrent pneumonia, bronchiectasis lung abscess, atelectasis, post-obstructive hyperinflation; and occasionally misdiagnosis of asthma, COPD/lung cancer is made in adults who have aspirated an FB. Tissue response to FB varies according to composition of FB and any associated bacterial infection. Vegetable fragments such as nuts and grains

cause greater acute inflammation than pieces of metal, plastic or bone. The relative inert nature of the plastic material of the whistle was the likely reason that was responsible for the relatively quick response of the patient upon removal of the FB, implying a milder tissue inflammation. History taking is one of the most important part while making diagnosis. Delay in diagnosis ranges from hours to years and is considerably shorter in children than in adults, possibly due to parental attention. Our patient did not have a delay in the diagnosis because of parental attention and good history description.[5] Chest X ray usually suggests the site of FB, but a non-radio-opaque FB may be aided by inspiration-expiration films, which demonstrate air trapping distal to obstructed segment.[7] Care should be taken while shifting the patient and most importantly during induction of anaesthesia. Positive pressure ventilation should be avoided during induction as it may shift the FB further downwards in the bronchial tree as was seen in our case. The whistle seen in sub glottis area on preoperative radiographs; was seen embedded in right segmental bronchus intra-operatively leaving only some parts in the subglottic region. It may have slipped downwards due to forceful vomiting or during induction of anaesthesia.

Bronchoscopy is usually necessary to establish the diagnosis and attempt removal of FB.[8] Rigid bronchoscopes are usually used, but flexible bronchoscopes are increasingly being used and only few patients need to be sent for thoraco-surgical treatment. Better instruments of visualization have been reported to lead to reduced complication rates.[5] Virtual bronchoscopy also can aid in the diagnosis of a FB, which can be the prelude to the final retrieval of the FB.

## CONCLUSION

Our case strongly illustrates considering the diagnosis of FBA with acute/subacute pulmonary symptoms and with a peculiar whistling character cough or voice. The removal of FB from subglottic area must include rigid bronchoscopy to look for the part of FB that might slip into tracheobronchial tree. Care should be taken while shifting the patient and during induction of anaesthesia to avoid migration of FB.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: Not required*

## REFERENCES

1. Burton EM, Brick WG, Hall JD, Riggs W Jr, Houston CS. Tracheo-bronchial foreign-body aspiration in children. South Med J. 1996;89:195-8.
2. Debeljak A, Gorli J, Music E, Kecel JT. Bronchoscopic removal of foreign bodies in adults: Experience with 62 patients from 1974-1988. Eur Respir J. 1999;14:792-5.
3. Scully RE, Mark EJ, McNeely WF, Ebeling SH, Phillips LD. Case records of the Masachusetts General Hospital. Weekly Clinicopathological exercises: Case 33-1997-A 75 year old man with chest pain, hemoptysis and a pulmonary lesion. N Engl J Med. 1997;337(26):1220-6.
4. Al-Majed SA, Ashour M, Al-Mobeireek AF, Al-Hajjaj MS, Alzeer AH, Al-Kattan K. Overlooked inhaled foreign-bodies: Late sequelae and the likelihood of recovery. Respir Med. 1997;91(5):293-6.
5. Baharloo F, Veyckemans F, Francis C, Biettlot MP, Rodenstein DO. Tracheo-bronchial foreign bodies: Presentation and management in children and adults. Chest. 1999;115(5):1357-62.
6. MU L, He P, Sun D. Inhalation of foreign bodies in Chinese children: Review of 400 cases. Laryngoscope. 1991;101(6pt1):657-60.
7. Friedman EM. Tracheobronchial foreign bodies. Otolaryngol Clin North Am. 2000;33(1):179-85.
8. Limper AH, Prakash UB. Tracheobronchial foreign-bodies in adults. Ann Intern Med. 1990;112(8):604-9.
9. Hewlett JC, Rickman OB, Lentz RJ, Prakash UB, Maldonado F. Foreign body aspiration in adult airways: therapeutic approach. J Thorac Dis. 2017;9(9):3398-409.

**Cite this article as:** Budhiraja G, Singh H, Harpreet, Prabhjot, Goyal N. A rare whistling foreign body bronchus. Int J Otorhinolaryngol Head Neck Surg 2023;9:835-7.