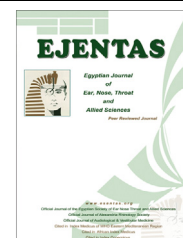




Egyptian Society of Ear, Nose, Throat and Allied Sciences  
**Egyptian Journal of Ear, Nose, Throat and Allied Sciences**

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## CASE REPORT

# Long standing tracheal foreign body in children: A case report

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Received 30 August 2013; accepted 1 November 2013

Available online 23 November 2013

### KEYWORDS

Long standing;  
Tracheal;  
Foreign body;  
Children

**Abstract** Tracheal foreign body (F.B.) is uncommon and usually present with acute respiratory symptoms. We describe a 3 year old child with unrecognized F.B which lodged in trachea for one year. The lodgment of F.B in the trachea in this case was considered to be of the longest duration. The case demonstrates that long standing Tracheal F.B can mimic bronchial asthma and can be a diagnostic challenge clinical features and factors participated in the delay of diagnosis is discussed.

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## 1. Introduction

Despite efforts at public education and prevention of foreign body aspiration continues to be a problem in children. Delayed diagnosis will cause a significant morbidity and mortality. High index of suspicion and early referral is essential.

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Peer review under responsibility of Egyptian Society of Ear, Nose, Throat and Allied Sciences.



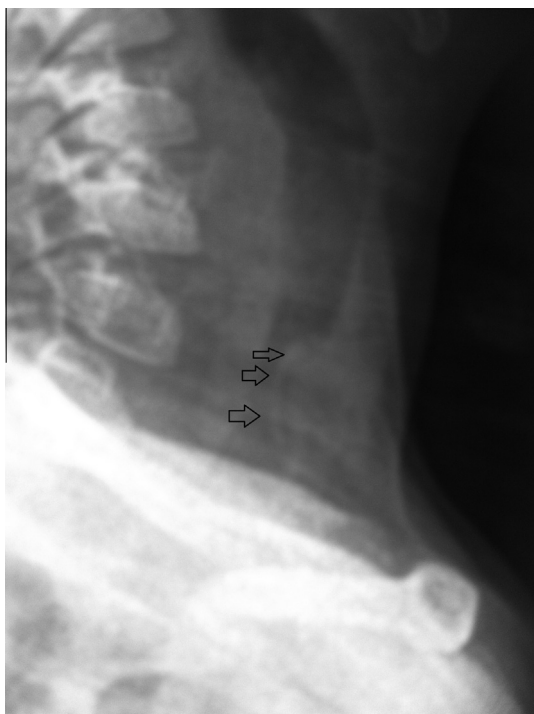
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## 2. Case report

A 3 year old child had been evaluated at another institution for one year history of attack of shortness of breath, chronic cough and wheezing. During this period he was diagnosed as bronchial asthma (based on strong family history of bronchial asthma). He was treated with Albuteral inhalers. No imaging studies were performed. The bronchodilator provided some symptomatic relief but over one year the patient continued to experience exacerbations of his symptoms which resulted in multiple hospital visits. His symptoms varied in intensity but never resolved for any length of time.

The patient was referred to our facility for evaluation. Prenatal and natal history was otherwise unremarkable.

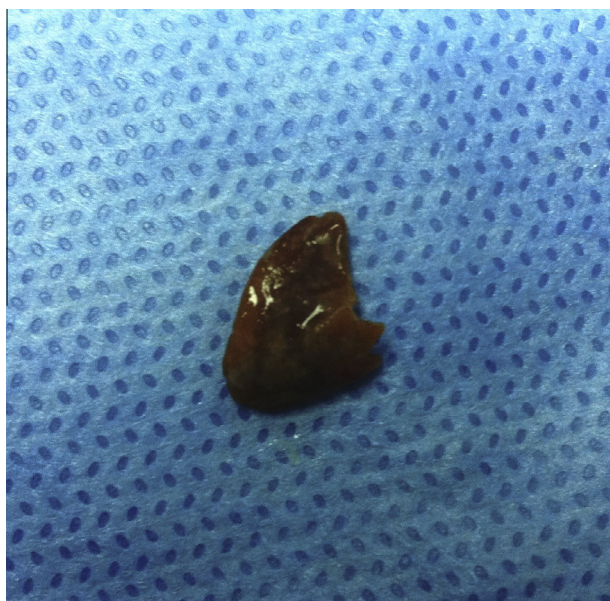
On physical examination, the patient has mildly hoarse voice with mild stridor. Auscultation revealed rhonchi in both lung fields and loud transmitted upper airway noise. He was not cooperative to have Fiberoptic Nasopharyngoscope examination. Findings on the remainder of the examination were



**Figure 1** Lateral X-ray of the neck. Radio opaque shadow at the anterior wall of trachea (Arrows) with narrowing of airway.

within normal limits. Chest radiography revealed no abnormality and lateral neck radiography revealed radio opaque shadow at anterior tracheal wall (Fig. 1).

The patient was taken to Operating Room for Diagnostic Laryngoscopy and Bronchoscopy. During examination F.B with minimal granulation tissue was seen at anterior wall of trachea about 10 mm below vocal cords. A piece of water-



**Figure 2** 5 mm piece of water melon shell.

melon shell was retrieved (Fig. 2). The patient recovered and discharged after 24 h.

### 3. Discussion

Most foreign body aspirations occur in children between 1 and 3 years of age. The reasons are: (1) They lack molars necessary for proper grinding of food. (2) They have less controlled coordinator swallowing and immaturity in laryngeal elevation and glottis closure. (3) There is an age related tendency to explore the environment by placing objects in the mouth. (4) They are often running and playing at the time of ingestion.<sup>1,2</sup>

Between 80% and 90% of airway foreign bodies are found in the bronchi because their size and configuration allow passage through the larynx and trachea. Tracheal foreign bodies accounts for only 4% of aspirated foreign bodies.<sup>1-3</sup>

There are three clinical phases of foreign body aspiration. The initial phase consists of choking, gagging and paroxysms of coughing or airway obstruction that occurs at the moment of aspiration. Parents give a definitive history of this phase only if witnessed. The coughing and protective mechanisms eventually became fatigued and asymptomatic latent phase ensues which can last hours to weeks. Complications occur in the third phase when obstruction, erosion or infection causes hemoptysis, pneumonia, atelectasis abscess or fever.<sup>1,3</sup> The longer the F.B remains in situ, the greater the production of granulation tissue, resulting in smaller airway lumen and as the lumen diminished in size, symptoms usually become more pronounced.<sup>3</sup>

Tracheal foreign bodies usually present with acute respiratory distress. Asymptomatic tracheal foreign bodies are rare but have been reported.<sup>3,4</sup>

Furthermore, delayed diagnosis of tracheal foreign body has been reported and the presentation may mimic conditions such as asthma, croup, pneumonia<sup>1,5</sup> and even gastro esophageal reflux.<sup>6</sup>

The severity of the clinical picture varies according to the size, shape, type and location of the material aspirated.<sup>6</sup>

Organic matter is seen approximately in 70–80% of aspirated F.B mainly peanuts, peas and watermelon seeds.<sup>1,2</sup>

These organic F.B can swell and cause local edema and inflammatory reactions. Fufus (dried, roasted, salted watermelon seeds) cause less inflammatory changes in respiratory tract as reported by Saquib et al.<sup>2</sup>

Size and shape of F.B may permit adequate air entry so minimize respiratory embarrassment as reported with hollow cylindrical F.B<sup>3,4</sup> and with small irregular F.B oriented in the sagittal plan producing only partial obstruction.<sup>1,6</sup>

Children with bronchial F.B can be radiographically normal (only 6–20% of aspirated F.B are radiopaque) or may show obstructive emphysema and atelectasis or consolidation.<sup>1,2,4</sup>

On the other hand, soft tissue cervical films are superior to chest films in identifying laryngotracheal F.B in 92% of cases.<sup>1,5</sup>

A high degree of clinical suspicions is required and if the aspiration is witnessed and there is a good history of F.B aspiration or the physical examination is suggestive, adjunctive studies are unhelpful.<sup>3,4</sup>

The special interest in our case is the long interval of time before diagnosis. Multiple factors contributed to delay the

diagnosis for are namely: (1) Parent did not witness the choking crisis. (2) Failure to diagnose the condition by the primary physician. (3) Suspicion of F.B aspiration was overlooked in subsequent follow up visits. (4) High kilovolt postero anterior and lateral soft tissue radiograph of the neck was not requested which may help in reaching to a diagnosis.

Saquib et al. reported that 21.8% of Tracheobronchial F.B cases were presented later than one month and the delayed diagnosis was attributed to misdiagnosis by physicians, failure to seek early medical advice, late referral or family members may not be present when the choking crisis occurs.<sup>2</sup>

#### 4. Conclusion

Tracheal F.B is uncommon and can be overlooked for long time as in this particular case. Tracheal F.B should be considered in recently diagnosed healthy child with bronchial asthma or child with persistent symptoms. High index of suspicion, careful review of history, meticulous re-examination and cervical radiograph are essential for early diagnosis.

#### Conflict of interest

None.

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