

# Respiratory Manifestations of the Ingestion of a Foreign Body in Pediatric Population

Dr Madi Sihem<sup>1</sup>, Dr Zoheirkermezli<sup>2</sup>

<sup>1</sup>Senior Registrar ENT king Khaled Hospital Tabuk Saudi Arabia  
Email: cabinet.ori.madi[at]gmail.com

<sup>2</sup>Senior Registrar ENT king Khaled hospital Tabuk Saudi Arabia  
Email: kermezli.zoheir[at]gmail.com

**Abstract:** A common but preventable occurrence in childhood is the ingestion or aspiration of a foreign body. Parents should be alerted by primary health care staff to the risk of swallowing a foreign object. It should be acknowledged that the best preventative measure is to protect children from accessing objects that can be swallowed or aspirated.

**Keywords:** Child health, pediatrics, esophageal foreign body, respiratory distress, ingestion

## 1. Introduction

The foreign body of the esophagus (EFB) is a major concern that causes serious local harm or respiratory system damage [1]. For primary care clinicians, the importance of EFB presentation and clinical management issues should be appreciated.

## 2. Case Description

An 11-month-old boy presented at the pediatric emergency room with cough and drooling in order to dislodge a suspected pharyngeal foreign body. Brief history revealed that the child had swallowed a piece of meat and since then had been coughing continuously. A quick physical examination revealed that the child was alert with mild respiratory difficulty. His breathing rate was 28 per minute with accessory muscles use. Color was normal, with no

signs of cyanosis. He was drooling. There was wheezing, however. Oxygen saturation was 85 per cent with a bilateral wheezing and he is incubated according to paediatric doctor. Blood pressure 100/66, pulse 120, temperature 36.8°C. Based on the history and physical findings, it seemed that the foreign body was lodged in the upper esophagus and breathing was critically compromised. On chest and neck CT scan, sagittal cut (see Fig. 1). A heterogenic density was noted in the upper and lower oesophagus. Aerodigestive endoscopy in emergency was requested. IV-fluids d analgesics were initiated Esophagoscopy was done first and all pieces of impacted meat were removed (more to 10 pieces of meat) .and the wheezing disappeared. Cchild was extubated. The rest of the hospitalization was uneventful, and the child was discharged the next day. On follow-up conversation with the parents, no sequelae were reported



**Figure 1:** At the right CT scan sagittal cut of the neck chest and abdomen, with an heterogenic opacity in the oesophagus, pushing the posterior wall of the airway anteriorly. At the left side pieces of meat removed by the ENT surgeon

## 3. Discussion

Respiratory signs are not usually an indication of a primary difficulty with the respiratory system. The foreign esophageal body (EFB) is a probability that should be considered [1]. Although most of the EFBs mentioned are

coins, other ingested items include fish and chicken bones, toy bits, jewels, batteries, needles, pins, balls, and buttons [1, 2, 3]. As certain children do not exhibit signs, a high degree of suspicion is expected in situations where the swallowing of a foreign body has not been witnessed in certain cases, history alone is adequate to warrant further assessment [3].

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The most common way to demonstrate EFB is by filming the neck and chest. Anterior, posterior, and lateral films are required so as not to skip objects that have a narrow plane. Radio-opaque artifacts may appear when pressing on other structures or as a result of complications. Bones and sharp objects tend to be stuck at the level of the oropharynx, upper or lower esophagus in such cases, direct vision or eosolaryngoscopic-assisted vision could be sufficient to diagnose and extract the foreign body [2]. Other EFBs that do not pass into the stomach tend to be affected at one of three levels: the thoracic outlet (70 per cent), the mid-esophagus, where the aortic arch and carina overlap (15 per cent) and the lower esophageal sphincter (15 per cent) [1] EFB presentations include gastroesophageal and respiratory signs and symptoms, as well as general symptoms; Few children need emergency airway control. The symptoms of the patient presented were interpreted initially as airway obstruction. Our patient had swallowed the pieces of meat that could not easily be seen on the X-ray film Obviously, the pieces of meat in the esophagus were pushing the back-elastic wall towards the anterior wall of the trachea and the main bronchus, causing narrowing of the lumen of the respiratory tree Potentially this can lead to breathing difficulties similar to those with an oropharyngeal, laryngeal or tracheal foreign body. If there is no difficulty in breathing, an acute ingestion of the foreign body may be observed for a few hours and checked whether the EFB has passed to the stomach. Exceptions to this are sharp or potentially corrosive objects that should be removed as soon as possible [4]. Endoscopy is the most common method of EFB extraction [2, 5]. Surgical removal of EFB is rarely required. This method is indicated in cases of local complications caused by the foreign body itself or by the extraction procedure Delay in diagnosis of EFB or failure to diagnose more than one foreign body may be associated with serious complications, including mediastinitis, failure to thrive, pneumothorax, abscess, and stricture [6, 7].

#### 4. Conclusion

Most foreign bodies in the esophagus pass spontaneously, but some 3-10 percent may need intervention. Some may require removal of the foreign endoscopy item, and others may require surgery. Both doctors and nurses are responsible for training the patient and caregivers to keep small items out from the reach of children. The parent should be trained on symptoms of a foreign esophageal body and when to seek medical attention. The morbidity of this disorder can be minimized only by an interprofessional approach.[8].[9]

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#### Authors' Contributions

This study was done in collaboration with all the contributors.

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