

# Foreign Bodies of the Airway

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## Epidemiology and Etiology

- Infants and toddlers use their mouths to explore their surroundings.
- Most victims of foreign body aspiration are older infants and toddlers .
- Children <3 yr of age account for 73% of cases. Pre-ambulatory toddlers can aspirate objects given to them by older siblings.
- One third of aspirated objects are nuts, particularly peanuts.
- Fragments of raw carrot, apple, dried beans, popcorn, and sunflower or watermelon seeds are also aspirated, as are small toys or toy parts.

- The most serious complication of foreign body aspiration is complete obstruction of the airway.
- Globular or round food objects such as hotdogs, grapes, nuts, and candies are the most frequent offenders.
- Hot dogs are rarely seen as airway foreign bodies because toddlers who choke on hot dogs asphyxiate at the scene unless treated immediately.
- Complete airway obstruction is recognized in the conscious child as sudden respiratory distress followed by inability to speak or cough.

# Clinical Manifestations

- Three stages of symptoms may result from aspiration of an object into the airway:

## 1 Initial event:

Violent paroxysms of coughing, choking, gagging, and possibly airway obstruction occur immediately when the foreign body is aspirated.

## 2 Asymptomatic interval:

The foreign body becomes lodged, reflexes fatigue, and the immediate irritating symptoms subside. This stage is most treacherous and accounts for a large percentage of delayed diagnoses and overlooked foreign bodies. It is during this 2nd stage, when the child is first seen, that the possibility of a foreign body aspiration is minimized, the physician being reassured by the absence of symptoms that no foreign body is present.

# Clinical Manifestations

## 3 Complications:

Obstruction, erosion, or infection develops to direct attention again to the presence of a foreign body. In this 3rd stage, complications include fever, cough, hemoptysis, pneumonia, and atelectasis.

# Diagnosis

- A positive history must never be ignored. A negative history may be misleading.
- Choking or coughing episodes accompanied by wheezing are highly suggestive of an airway foreign body. Because nuts are the most common bronchial foreign body, the physician specifically questions the toddler's parents about nuts.
- If there is any history of eating nuts, bronchoscopy is carried out promptly.

# Diagnosis

- Most airway foreign bodies lodge in a bronchus (right bronchus ~58% of cases); the location is the larynx or trachea in ~10% of cases.
- An esophageal foreign body can compress the trachea and be mistaken for an airway foreign body.
- The patient is asymptomatic and the radiograph is normal in 15-30% of cases.
- Opaque foreign bodies occur in only 10-25% of cases. CT can help define radiolucent foreign bodies such as fish bones.
- If there is a high index of suspicion, bronchoscopy should be performed despite negative imaging studies. History is the most important factor in determining the need for bronchoscopy.

# Treatment

- The treatment of choice for airway foreign bodies is prompt endoscopic removal with rigid instruments.
- Bronchoscopy is deferred only until preoperative studies have been obtained and the patient has been prepared by adequate hydration and emptying of the stomach.
- Airway foreign bodies are usually removed the same day the diagnosis is first considered.

Thank you