

CASE REPORT

Management of Foreign Body of Peanuts in the Trachea in Children

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Abstract: Foreign body is an object that enters an organ that comes from outside the body or from inside the body that does not normally exist. One of the objects in the respiratory tract can occur in the trachea and occur in many children. Case report: a girl, 1 year 11 months of age with complaints of shortness of breath since 1 day before, had tachypnea, indirect laryngoscopy: multiple secretions, difficulty speaking vocal cords, inspiratory-expiratory stridor (+), suprasternal, epigastric and intercostal (+). Bronchoscopy: white round foreign body (impression: peanut) covering> 50% of the tracheal lumen over the carina, mucosal edema, and hyperemia. A bronchoscopy was administered as a diagnostic and therapeutic role.

Keywords: foreign body aspiration, trachea, bronchoscopy

INTRODUCTION

Foreign objects in an organ are objects that come from outside the body or from inside the body, which under normal circumstances do not exist. Foreign objects that come from outside the body are called exogenous foreign bodies, usually entering through the nose or mouth. Exogenous foreign bodies consist of organic substances such as legumes (which come from plants), bones (those from animal skeletons), and inorganic substances such as nails, needles, pins, stones, and others. Foreign objects that come from within the body, are called endogenous foreign bodies. Endogenous foreign bodies can be in the form of thick secretions, blood or blood clots, pus, crusts, diphtheria membranes. tumors. bronchiolitis, amniotic fluid, meconium which can enter the baby's airway during childbirth..^{1,2}

Buletin Farmatera Fakultas Kedokteran (FK) Universitas Muhammadiyah Sumatera Utara (UMSU) http://jurnal.umsu.ac.id/index.php/buletin_farmatera Aspiration of a foreign body in the airway can occur in all, but most commonly occurs in childhood. This is because children often put objects in their mouths to find out their shape and taste, and to chew while teething. The most common cause is the carelessness of patients and parents who do not monitor children's activities.^{3,4,5}

Aspiration of foreign bodies can cause a variety of complaints from minimal symptoms or even not felt, to airway disorders that can cause death.

When a foreign object enters, a spasm can occur accompanied by cyanosis and a cough reflex which is a protective reflex. However, after the foreign object is stuck and the protective reflex is exhausted, symptoms disappear and a latency period occurs.²

In the case of aspiration of a foreign body, a diagnosis should be made based on





a good history, correct physical examination, and other supporting examinations so that there is no delay in handling which can make the patient feel suffocated or short of breath.³

If there is a clinical suspicion of aspiration of a foreign body, an endoscopy must be performed immediately to prove the presence or absence of a foreign body. The treatment of choice for removal of foreign bodies is endoscopically as soon as possible under the safest conditions and minimal trauma. Bronchoscopy should be performed at a fast and appropriate time to reduce the risk of complications, but should not be done in a hurry without careful preparation. ^{1,5,6}

A bronchoscopy is an option for the extraction of aspirated foreign bodies in the case of children due to safer ventilation, which has direct contact with oxygen so that it is easier to perform and quicker to do if there is bleeding..^{5,7}

This case report reports a case of a peanut foreign body stuck in the trachea in a girl aged 1 year 11 months.

CASE REPORT

A girl aged 1 year 11 months was brought to the hospital emergency room with complaints of shortness of breath that the patient had experienced since 1 day ago. The patient chokes while eating peanuts. At that time, the patient looked tight, then coughed violently and partially vomited the peanuts. When he was admitted to the hospital, the patient still had a cough and his voice was weakened, but there was no fever and his lips did not turn blue.

Vital sign:

Consciousness: Compos Mentis

Buletin Farmatera Fakultas Kedokteran (FK) Universitas Muhammadiyah Sumatera Utara (UMSU) http://jurnal.umsu.ac.id/index.php/buletin_farmatera Pulse rate: 96 x / minute, regular Respiratory rate: 28 x / minute, regular Temperature: 36,8^oC

Localized status

Ears: normal Nose: normal, breathing nostrils (-) Oropharynx: normal Indirect laryngoscopy: lots of secretions, difficult to assess vocal cords Stridor inspirational-expiratory (+), audible slap (-), palpatory thud (-) Suprasternal, epigastric, and intercostal (+) retraction, crackles (-)

Laboratories exam

Hb : 11,5 g/dL (11-16,5 g/dL) Leukocytes: 13,7 x 10^3 /mm³(3,5-10/mm³) Hematocrit : 33,3 % (35-50%) pH : 7,389 (7,35-7,45) pCO₂ : 31,1 mmHg (38-42 mmHg) pO₂ : 165,5 mmHg (85-100 mmHg) HCO₃ : 18,4 (22-26) Total CO₂ : 19,3 (19-25) Base exces: - 6,6 (-2±2) Sa O₂: 99,1 (95 – 100) Pediatrician Consultation: There were no other abnormalities in the children's section

Chest X-Ray result:

Cor/Pulmo within normal limits, no radioopaque foreign body visible.







Differential diagnose:

- 1. Airway obstruction e.c. suspected tracheobronchial corpus alienum
- 2. Upper respiratory tract infection

Main diagnosis:

Airway obstruction e.c. suspected tracheobronchial corpus alienum

Therapy:

- O_2 1-2 L/minutes
- IVFD D5%-NaCl 0,4 % 20 drop /minutes
- Inj. Cefotaxime 250 mg/8 hours i.v.
- Inj. Dexamethasone 2,5 mg/8 hours i.v.
- Inj. Metamizole Na 150 mg/8 hours i.v Recommendation: Bronchoscopy

Anesthesiologist consultation: Agree to bronchoscopy under general anesthesia

Operation report:

- The patient put to sleep on the operating table under general anesthesia, the infusion is attached.
- With the aid of a laryngoscope, no rigid bronchoscope. 4 is inserted perpendicularly along the tongue to reveal the uvula.



- At the base of the tongue, the bronchoscope is lowered with a gentle push until the epiglottis appears, neck extended.
- After showing the epiglottis, the bronchoscope is entered underneath it

Buletin Farmatera Fakultas Kedokteran (FK) Universitas Muhammadiyah Sumatera Utara (UMSU) http://jurnal.umsu.ac.id/index.php/buletin_farmatera until the vocal cords are visible, the bronchoscope is rotated 90 to the right.

- After passing through the vocal cords, the laryngoscope is removed and the bronchoscope is rotated again 90 ° to the left to the starting position.
- The bronchoscope is pushed slowly down the trachea, a white round foreign body appears (impression: peanut) covering> 50% of the tracheal lumen over the carina, mucosal edema, and hyperemia.



- The foreign body is held with a suitable cunam and removed with the bronchoscope.
- The foreign object was ruptured after passing through the vocal cords, then removed with the help of a laryngoscope, showing 6 pieces of peanut fragments.



•Re-evaluated with a bronchoscope, it shows the tracheal lumen, the right and left main bronchi are clear.



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•The general condition post bronchoscopy is good, there is no bleeding

Diagnose: Corpus alienum of peanuts in the trachea (post bronchoscopy)

Therapy :

- O₂ 1-2 L/minute
- IVFD D5%-NaCl 0,45% 20 drops/minutes
- Inj. Cefotaxime 250 mg/8 hours i.v.
- Inj. Dexamethasone 2,5 mg/8 hours i.v. (1 day)
- Inj. Metamizole Na 150 mg/8 hours i.v

Follow-up:

Post bronchoscopy day II:

- Complaints: fever, shortness of breath, and hoarseness (-) normal eating and drinking
- Consciousness: Compos mentis
- Pulse rate : 104 x/minute
- Respiratory rate : 24 x/minute, crackles (-)
- Temperature : $36,8^{\circ}C$

Therapy:

- IVFD D5%-NaCl 0,45% 20 drops /minute
- Inj. Cefotaxime 250 mg/8 hours i.v
- Inj. Dexamethasone stopped

Post bronchoscopy day III

- Complaints : (–)
- Consciousness: Compos mentis
- Pulse rate : 100 x/minute,
- Respiratory rate : 24 x/minute, crackles (-)
- Temperature : $36,5^{\circ}C$
- Therapy : Cefadroxil 3 x 125 mg/day

• Patients can go home and outpatient

DISCUSSION

Foreign objects are the most common cases in children and the location

Buletin Farmatera Fakultas Kedokteran (FK) Universitas Muhammadiyah Sumatera Utara (UMSU) http://jurnal.umsu.ac.id/index.php/buletin_farmatera of the most common entry of foreign objects in the nose, because this part is an organ that is very easy to reach children..⁸

Of all cases of foreign bodies that enter the respiratory tract and digestive tract that occur in children, one-third are the result of foreign objects aspirated and stuck in the respiratory tract. Of the cases of foreign bodies stuck in the respiratory tract, 55% occurred in children aged 4 years with a higher incidence of sudden death due to aspiration of foreign bodies. Meanwhile, in infants under 1 year of age, respiratory distress due to aspiration of foreign bodies in the airway is the main cause of death.⁹

Foreign objects in the nose often occur in children due to curiosity so that children try and explore all parts of their body, especially the holes in their body parts by inserting small objects into the holes. Then children tend to put foreign objects in their mouths while playing, crying, or laughing. This situation can cause choking and even death. Commonly encountered foreign objects such as nuts, seeds, batteries, beads, and sponges.¹⁰

Foreign bodies on the children often go unnoticed by parents because of no symptoms and poor coping skills. Therefore it is necessary to do a fairly careful patient history. In several studies conducted, the presentation of patients presenting to the emergency department more than 48 hours after inserting a foreign object into the nose accounted for 14% of all cases with the most frequent symptoms of nasal congestion and shortness of breath. The diagnosis is confirmed by taking anamnesis, physical examination and carrying out such supporting examinations as radiological examinations and endoscopic examinations to see the location of the foreign object.. 11





In the above case, based on the history, the patient was 1 year 11 months old and experienced symptoms of shortness of breath and was taken to the hospital where he was subjected to a careful physical examination and it could be suspected that there was a foreign object in the patient's airway although the exact location of the object was not yet known. Then performed a chest X-ray examination and continued with bronchoscopy which acts as both diagnostic and therapeutic.

The foreign object has been in the patient's airway for 1 day and causes mucosal edema and the patient experiences shortness of breath and coughing. This is because the foreign object is an organic substance that is irritative. Organic foreign bodies are absorbent and then expand and over time will cause rapid swelling, causing a severe inflammatory reaction within a few hours.^{11,12}

Therefore, foreign objects in the nose must be removed immediately to prevent complications. Foreign objects can be removed depending on the size, shape, and texture of the foreign object. Other factors that support each other are the support from cooperative patients, the availability of tools to be used, and the skills of the associated doctors.¹⁰

In the case above, bronchoscopy is administered because the foreign object in the nose is already causing symptoms of shortness of breath and action must be taken immediately. Furthermore, pharmacological therapy is given to avoid complications from the action.

It is necessary to provide education to the community to reduce the incidence of foreign matter aspiration into the airways, especially for mothers who have babies or children aged less than 3 years to keep

Buletin Farmatera Fakultas Kedokteran (FK) Universitas Muhammadiyah Sumatera Utara (UMSU) http://jurnal.umsu.ac.id/index.php/buletin_farmatera away from small objects that are accessible to children and can be dangerous.

Periodic follow-up is necessary to assess further complications from bronchoscopy such as bleeding, lacerations of the nasal septum, mucosal ulceration, and necrosis..¹² After the examination and there are no symptoms after the procedure, the patient is allowed to go home and the patient is recommended to go to the polyclinic 5 days later.

CONCLUSION

A foreign body in the nose is a clinical problem that has its own challenges because its management is a procedure that requires the skill and experience of the doctor performing the procedure. The presence of a deep foreign object in the nose is most often found in children (ages 2-5 years).¹¹

To diagnose a foreign body in the nose, anamnesis, physical examination, examination of local tourism status, and appropriate investigations are performed. The initial therapy for foreign bodies in the nose is the extraction of these foreign bodies by one of the methods used is bronchoscopy and administration of antibiotics, analgesics, and corticosteroids to avoid complications caused by the extraction.¹²

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