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An interesting presentation of a foreign body in the esophagus: a case report of awake central apnea

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Abstract

Background Foreign body in the esophagus is most commonly observed at the cervical esophagus level and is often detected in pediatric patients. Esophagoscopy is the definitive diagnosis and treatment instrument in foreign body ingestion, and the procedure should not be delayed to avoid serious complications such as late tracheoesophageal fistula and perforation. While sore throat, difficulty in swallowing, and hypersalivation are the main complaints in almost all patients, respiratory symptoms due to tracheal compression can also be observed.

Case presentation We present our 5-year-old patient who presented with the complaint of foreign body ingestion, dysphagia, and hypersalivation due to foreign body in the cervical esophagus, and isolated central awake apnea, which is not seen in the literature. The patient, who had central awake apnea in the supine position, was completely normal after the removal of the foreign body.

Conclusions Foreign bodies in the esophagus, which are not more urgent than foreign bodies in the respiratory tract, can sometimes threaten life through central apnea in the acute process, and one should be alert.

Keywords Foreign body, Esophagus, Central apnea

Background

Foreign body ingestion is widespread in children and observed especially at the cervical esophagus level [1]. While the most common complaints are sore throat, a feeling of stuckness when swallowing, and hypersalivation; respiratory findings such as stridor and respiratory distress can also be observed after tracheal compression [2]. Esophagoscopy, which both confirms the diagnosis and is the safest method in foreign body removal, is an instrument with a success rate of nearly 100% [3].

We share our 5-year-old patient who presented with a sore throat and hypersalivation due to a foreign body in the esophagus and had no additional findings other than central apnea in the supine position. We have not seen any other article in the literature with isolated central apnea findings without additional respiratory findings.

Case presentation

A 5-year-old girl was admitted to the hospital with complaints of sore throat after swallowing the oval and 2–3 cm diameter game scale. In the emergency room evaluation, the vital parameters were stable (saturation: 97%) in the lateral decubitus position. In the first examination of the patient with unwitnessed history, respiratory sounds, pulse, and saturation were normal. After a normal chest X-ray, a thoracic CT was performed to confirm the diagnosis (Fig. 1). The patient with the suspected foreign body at the level of the cricothyroid cartilage in thorax CT (Fig. 2) was taken to the operating room for

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Fig. 1 Chest X-ray before the procedure

esophagoscopy. It was observed that the patient lying in the supine position on the operating room table had sleepiness and apnea. Thereupon, spontaneous breathing after gasping with mandibular painful stimulus and apnea periods when left alone were observed over again. Head trauma history was questioned and no suspicious anamnesis was taken. However, a neurosurgery opinion was obtained. Meanwhile, the patient removed the foreign body spontaneously after gagging before the procedure started (Fig. 3). Apnea regressed completely after foreign body removal. With the advice of a neurosurgeon, control brain tomography was also observed without findings. The patient was discharged after a one-day observation in the hospital without any apnea episode or additional complaint/finding. It was completely normal in the follow-up 10 days later.

Discussions

Patients with a suspected foreign body in the esophagus should be treated as soon as possible. In addition to complications such as tracheoesophageal fistula, esophageal perforation, and aspiration after removal of foreign body, especially accompanying long-term obstruction, toxic materials such as batteries must be removed quickly [4]

In the literature, there is no case of isolated apnea without respiratory symptoms due to a foreign body in the esophagus.

In a case report, it was reported that a foreign body was seen in the esophagus on neck imaging in a blind, deaf, and non-speaking patient with the diagnosis of Sturge Weber's syndrome, and the apnea–hypopnea index decreased significantly after removal [5]. In addition, it is stated that gastroesophageal reflux disease may be effective in sudden respiratory distress and sudden infant death with similar mechanisms [6].

Larynx plays an important role in ensuring the safety of the airway. It is thought to provide this effect with the laryngeal chemoreflex. With the stimulation of the mucosal receptors, a signal is sent to the brain as a reflex, and accordingly, laryngeal obstruction can be achieved [7]. In addition, the vagus nerve advances anatomically adjacent to the cervical esophagus, and it has been reported in the literature that vagal stimulation may cause additional findings such as neck pain, cough, dysphonia, paresthesia, as well as bradycardia

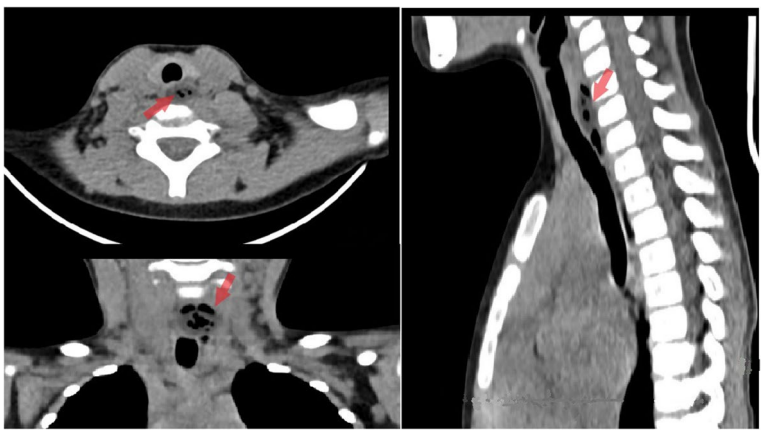

Fig. 2 Foreign body in the cervical esophagus on thorax CT

Fig. 3 The appearance of the foreign body (wooden toy) removed from the esophagus

and hypotension [8]. In our case, bradycardia and hypotension were not observed during and before the apnea periods. Additionally, the absence of additional respiratory symptoms (stridor, wheezing) did not indicate direct pressure on the trachea. However, it is thought that compressions in this location, including vagus/superior laryngeal nerve compression, may be caused by laryngeal chemoreceptor activation and related causes. Apnea monitoring, especially in the supine position, also supported positional nerve compression.

As a result, since apnea periods, which disappear with painful stimuli while awake, are not seen in the literature due to a foreign body in the esophagus; Although we could not fully explain its etiology, we wanted to share it as an experience and to share that foreign bodies that are seen safely can also be life-threatening in the acute period.

Abbreviation

CT Computed tomography

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Declarations

Ethics approval and consent to participate
Ethics committee approval was not obtained as it was a case report. Consent was obtained from the author for participation.

Consent for publication
Written informed consent was obtained from the parents of the patient for the publication of this case report and accompanying images.

Competing interests
The authors declare that they have no competing interests.

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