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The missing hazelnut

Kayıp fındık

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This report describes a case of esophageal perforation caused by a hazelnut which became stuck in the upper esophagus but was not detected. We outline the pitfalls in diagnosis, complications and treatment in the pediatric population.

Keywords: Infant, esophagus, perforation, misdiagnosis

Çalışma bir fındık tarafından oluşturulan bir özofagus perforasyonunu konu almaktadır. Fındık üst özofagusta takılmış ve bu yüzden zamanında teşhis edilememişti. Bu tür olgulardaki tanı özellikleri, komplikasyonlar ve tedavi tartışılmıştır.

Anahtar kelimeler: Çocuk, özofagus, perforasyon, yanlış tanı

INTRODUCTION

Foreign body ingestion is a common pediatric emergency, which may cause serious complications including sudden death from aspiration, esophageal perforation abscess formation and esophageal fistula (1, 2). Sometimes the ingested foreign body cannot be found or may be misdiagnosed. This report describes the case of an infant with esophageal perforation caused by ingestion of a hazelnut, where the foreign body could not be found at initial endoscopic evaluation because it was impacted in the submucosa of the esophagus.

CASE REPORT

A two month old female infant with no previous history of respiratory or swallowing problems was admitted to hospital with severe respiratory distress. The parents reported that the respiratory distress with cyanosis developed following her ingestion of a hazelnut four hours prior to admission. Her mother also stated that she had tried to remove it with her finger but without success. At initial evaluation, the baby had mild cyanosis, respiratory distress with stridor and hypersalivation. The respiratory sounds were normal and equal in both sides of the chest and no pathology was determined in the chest X-ray taken immediately after admission. As the clinical status deteriorated quickly, no further diagnostic investigation could be performed.

Following initial resuscitation the baby was quickly transferred to the operating theatre with suspicion of an impacted proximal esophageal foreign body. Due to severe edema and bleeding, a complete endoscopic evaluation could not be performed and only the laryngeal and pharyngeal walls were evaluated. The severe edema and bleeding seen on the posterior wall of the hypopharynx caused suspicion of esophageal perforation but neither could a foreign body be found nor a tube be passed through the esophagus into the stomach.

The patient was taken to the neonatal intensive care unit and mechanical ventilation support was initiated. Total parenteral nutrition and systemic antibiotics were started. Cyanosis regressed and nasal bleeding stopped but excessive salivation that required frequent oral aspirations continued. On the fourth day of admission a diagnostic bronchoscopy was planned as the respiratory symptoms had not improved, and bilateral pneumonic infiltrations had appeared in the chest X-rays. However no pathology was determined at bronchoscopic evaluation and the child was extubated the day following the procedure.

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An esophagogram, using diluted barium sulphate, was performed the next day (Figure 1). No leakage was found but the catheter passed into the left hemithorax instead of passing through the esophagus into the stomach. A left pneumothorax, requiring tube drainage, developed and the catheter was removed,with follow-up continued in the neonatal intensive care unit (Figure 2).

On the ninth day a hazelnut was spontaneously ejected from the infant's mouth during respiratory physiotherapy (Figure 3) following which oral secretions decreased, respiratory symptoms regressed and the clinical status of the baby improved. Feeding was started and she was discharged from the hospital on the 20th day following admission.

Retrospective evaluation of the patient's history, records and X-ray indicated that the hazelnut might have initially obstructed the upper esophagus and that it may have been perforated during the mother's attempts to remove the nut, when it then became embedded at the site of perforation.

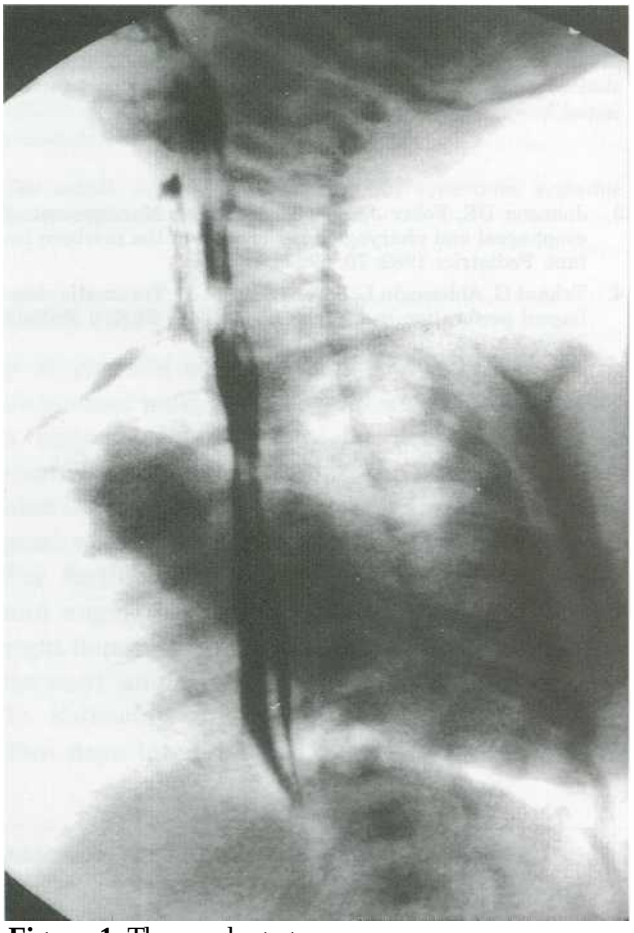

Figure 1. The esophagogram

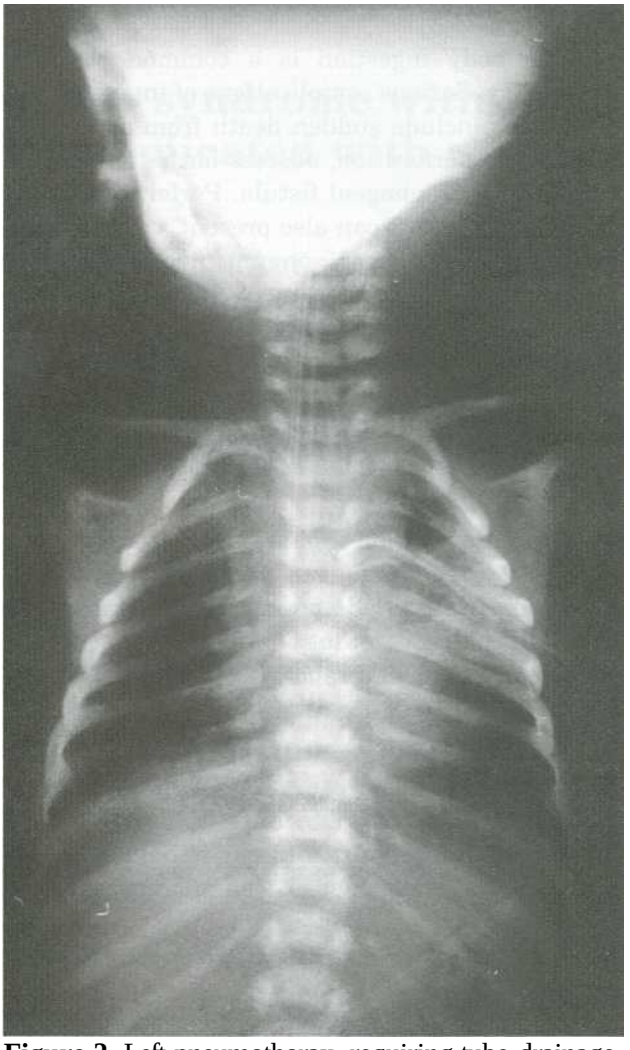

Figure 2. Left pneumothorax, requiring tube drainage

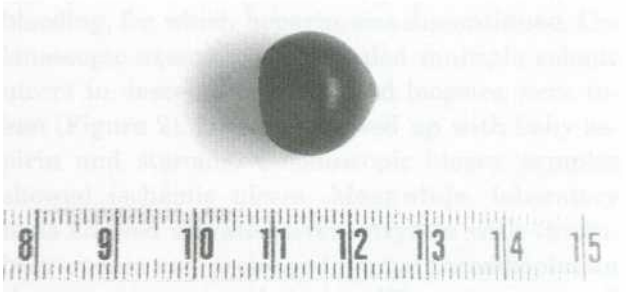

Figure 3. The hazelnut

This would have caused obstruction in the upper esophagus, resulting in hypersalivation. As the hazelnut had probably become stuck at the submucosal level, it was missed during bronchoscopic and esophagoscopic evaluation.

DISCUSSION

Foreign body ingestion is a common pediatric emergency. Serious complications of ingested foreign bodies include sudden death from aspiration, esophageal perforation, abscess formation and rare but fatal esophageal fistula. Perforation of the cervical esophagus can also present with life threatening mediastinitis, pneumomediastenum or pneumothorax. The therapy of choice is conservative and immediate surgery is not desirable because the esophagus usually heals spontaneously, as in this case. We think that in the present case, the symptoms of mediastinitis caused by the esophageal perforation were prevented by systemic antibiotic therapy.

Surgical intervention should be reserved for complications of mediastinal or cervical abscess, pneumomediastinum and pneumothorax. This approach is in contrast to that of adults, who generally require drainage and repair of the perforation.

Observing these children for 12 to 24 hours prior to invasive procedures will reduce complications and cost (2, 3, 4). However an interesting and rare occurrence in relation to an esophageal foreign body is the misdiagnosis. In our patient, the foreign body was embedded at the submucosal level following perforation and it was therefore not detected during bronchoscopy and esophagoscopy.

In this particular case, we believe that the perforation was probably caused by the mother prior to admission.

The hazelnut had probably impacted in the upper esophagus and not in one of the bronchi, because the respiratory symptoms did not differ between the left and right hemithorax. Additionally, serial X-rays taken after admission did not show any hyperinflation on one side, but only bilateral pneumonic infiltrations, which might have been caused by aspiration of oral secretions. If the nut had obstructed one of the main bronchi the outcome following extubation on the fourth day of admission would have been fatal. In X-ray study, a foreign body may also be overlooked when it is nonopaque. In the present case, the only sign which should have alerted the physician was excessive salivation.

In conclusion, it is important that careful endoscopic evalvation is carried out in patients with suspected esophageal perforation, even though this procedure may occasionally fail to establish the precise nature of the pathology, as in our case.

REFERENCES

1. Kerschner JE, Beste DJ, Conley SF, et al. Mediastinitis associated with foreign body erosion of the esophagus in children. Int J Pediatr Otorhinolaryngol 2001; 59: 89-97.
2. Kruk-Zagajewska A, Szmeja Z, Wojtowicz J, et al. Foreign bodies in the esophagus. Otolaryngol Pol 1999; 53: 283-288.
3. Johnson DE, Foker J, Munson DP et al. Management of esophageal and pharyngeal perforation in the newborn infant. Pediatrics 1982; 70: 592-594.
4. Tekant G, Abbasoglu L, Sever N, Bulut M. Traumatic esophageal perforation in a premature infant. Turk J Pediatr 1990; 32: 123-126.