

ARAŞTIRMALAR / RESEARCH ARTICLES

Ear, nose and upper gastrointestinal system foreign bodies in children

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Çocuklarda kulak, burun ve üst gastrointestinal sistem yabancı cisimleri

Amaç: Pediatrik yaş grubunda görülen yabancı cisimlerin tipini belirlemek ve komplikasyonları nasıl önleyebileceğimizi ifade etmek.

Yöntem: Kulak, burun, üst gastrointestinal yabancı cisim öyküsü olan 162 hasta retrospektif olarak analiz edildi.

Bulgular: Çocukların yaş aralığı 6 ay ile 14 yaş arasında idi. Olguların 81'i (%50) erkek, 81'i (%50) bayandı. Yabancı cisimler, boncuk (n=80), kuru bakliyat (n=22), silgi (n=13), pamuk (n=9), vida (n=7), oyuncak (n=7), madeni para (n=7), kağıt (n=6), böcek (n=3), naf-talin (n=2), kibrit çöpü (n=2), kulak çubuğu (n=2), selobant (n=2) idi. Burunda tespit edilen 90 yabancı cisim (%55.55) arasında en sık boncuk (%67.69) görülürken; kulaktaki 65 yabancı cisimde de (%40.12) yine en sık boncuk (%40) görüldü. Özofagus birinci darlıkta yabancı cisim görülen 7 olguda (%5.5) hepsi madeni paraydı. Traqueobronşial yabancı cisimler çocuk cerrahisi tarafından karşılan-dığından çalışmaya trakeobronşial yabancı cisimler dahil edilmemiştir. Yüzoniki olguda (%69) yabancı cisim çıkarılması ilk 24 saatte gerçekleşti. Kulaktaki 20 yabancı cisim (%30.7) ve özofagustaki tüm yabancı cisimler genel anestezi altında çıkarılmıştır. Diğer yabancı cisimler genel anestezi gerektirmeden acil serviste çıkarılmıştır. Kulaktan yabancı cisim çıkarılmasına bağlı 18 (%27.69) olguda dış kulak yolunda laserasyon, 2 (%3) olguda timpanik membranda perforasyon gelişmiştir. Burundan yabancı cisim çıkarılması sonrası 10 olguda (%11 oranında) kanama görülmüştür. Özofagustan yabancı cisim çıkarılması sonrası herhangi bir komplikasyona rastlanmamıştır.

Sonuç: Yabancı cisimlere bağlı komplikasyonlar tekrarlanan denemeler sonrası gelişebilir. Bu nedenle özofagustaki yabancı cisimlerin mutlaka genel anestezi altında çıkarılması gerekmektedir. Kulak ve burundaki yabancı cisimler ise çocuk ile kooperasyon kurulamıyorsa ya da birkaç denemede başarısız olunduysa genel anestezi altında çıkarmalı, böylece komplikasyonlar önlenmelidir.

Anahtar Sözcükler: Yabancı cisim, kulak, burun, özofagus.

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Abstract

Objectives: It is aimed to show the types of foreign bodies and the ways to prevent the complications seen in pediatric age group.

Methods: The results of 162 patients with a history of ear, nose or upper aero digestive tract foreign bodies were analyzed retrospectively.

Results: The children were aged from 6 months to 14 years old. There were 81 (50%) females and 81 (50%) males. The foreign bodies were, bead (n=80), dry food (n=22), eraser (n=13), cotton (n=9), screw (n=7), toys (n=7), coins (n=7), paper (n=6), insect (n=3), naphthalene (n=2), matchstick (n=2), Q-tips (n=2), scotch tape (n=2). There were 90 cases (55.55%) of nasal foreign bodies, in which bead was the most commonly (67.69%) seen; in 65 cases (40.12%) of ear foreign bodies bead was also the most commonly (40%) seen foreign body, whereas in 7 cases (5.5%) coins were the only (100%) foreign body seen in the first narrowing of the esophagus. Tracheobronchial foreign bodies were not included in the study because they were referred to the pediatric surgery department in our hospital. In 112 cases (69%) the removal of the foreign body was performed within the first 24 hours after the foreign body insertion. Twenty of ear foreign bodies (30.7%) and all of the esophageal foreign bodies removed under general anesthesia. Other foreign bodies were removed in emergency room without the need of general anesthesia. External ear canal lacerations in 18 cases (27.69%) and tympanic membrane perforations were observed in 2 cases (3%). Epistaxis was seen in 10 cases (11.11%) after removing the foreign body from the nose. No complication was observed after removal of foreign body from the esophagus.

Conclusion: Complications may occur as a result of attempts of removing the foreign bodies. Thus, the effective way to prevent complications is to perform the removal the foreign bodies from the esophagus under general anesthesia. It is also best to remove the foreign bodies from ear and nose under general anesthesia when the child is uncooperative or when unsuccessful attempts have been made.

Key Words: Foreign body, ear, nose, esophagus.

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Introduction

Foreign bodies which are most commonly seen in children are very serious and a life threatening problem sometimes. There are some factors that lead children to insert foreign bodies into ears, nose and upper aero digestive tract. These factors are curiosity, wish to explore the orifices of the body and fun making.¹ In some cases, the foreign bodies may be aspirated or swallowed accidentally.² It is mostly seen in children before the age 5. It is seldom seen before 6 months as they are not capable in taking their hands into their mouths.³

Children with ear, nose and throat foreign bodies are referred to the otolaryngologist for removal of these objects. Sometimes the parents and the general practitioner try to remove these objects but the manipulation to remove the object can lead to local injuries and life threatening problems because of the migration of the foreign body to the tracheobronchial tree in inexperienced hands. In our country, there is some literature about tracheobronchial foreign bodies but no data is available about ear, nose foreign bodies.^{4,6} This study serves the purpose of showing the type of the foreign bodies which are encountered in pediatric group and the ways to prevent complications.

Materials and Methods

The data has been retrospectively collected from 162 children aged 0-14 years who are referred to the Otorhinolaryngology Department of Sisli Etfal Teaching and Research Hospital. Age, sex of the child, time elapsed between insertion and removal of the foreign body, characteristics of the foreign body, attempts to remove the object, need for general anesthesia and complications of the cases were analyzed. All the patients with a suspicion of foreign body were first seen in the emergency room. Suspected cases with an esophageal foreign bodies were referred to Radiology Department first, for a bidirectional neck X-ray under soft tissue dose.

Results

The 162 foreign body removals were performed in 81 females (50%) and 81 males (50%). Ages ranged

from 6 month to 14 years, with 50 children (30.8%) aged from 1 to 2 years, 77 children (47.5%) from 3 to 5 years, 20 children (12.3%) from 6 to 8 years and 15 children (9.2%) over 9 years. In 112 cases, (69%) the removal was performed within the first 24 hours after the foreign body insertion. In 90 cases (55.55%) foreign bodies were seen in the nose, in 65 cases (40.12%) in the ear and in 7 cases (5.55%) foreign bodies in the first narrowing of the esophagus. There were variety of objects removed from the ear, nose and esophagus. The foreign bodies were as follows; bead in 80 cases (49.38%), dry food in 22 cases (13.58%), eraser in 13 cases (8%), cotton in 9 cases (5.5%), screw in 7 cases (4.3%), toys in 7 cases (4.3%), coins in 7 cases (4.3%), paper in 6 cases (3.7%), insect in 3 cases (1.85%), naphthalene in 2 cases (1.2%), matchstick in 2 cases (1.2%), Q-tips in 2 cases (1.2%), scotch tape in 2 cases (1.2%). The foreign bodies in the esophagus were all coins. 35 of the patients (21.6%) had undergone previous attempts to remove the foreign body. These attempts occurred in 20 of 65 ear (3%) foreign body and 15 of 90 nose foreign body (16.6%). The attempts to remove were made by the parents in 15 cases (9.2%) and 20 cases (12.3%) by the general practitioner. Fifteen patients who were brought to ear nose throat clinic with the complaint of unilateral rhinorrhea had actually foreign body in their nose unnoticed by the parents. 30% of parents on caretakers had witnesses of foreign body insertion done by the child. 15% of children admitted spontaneously that they had introduced an object into their ears or nose. The majority of foreign bodies were removed in the emergency room. Twenty of ear foreign bodies (30%) were removed under general anesthesia using a surgical microscope in the operating room. All the esophageal foreign bodies were also removed under general anesthesia using rigid oesophagoscope. We found 20 complications regarding ear foreign bodies in the charts. External ear canal lacerations were found in 18 patients (27.6%) and tympanic membrane perforations in 2 patients (3%). Epistaxis in 10 cases (11.11%) during the removal of nasal foreign bodies were also noted. In all the cases, there was only one sequel tympanic membrane perforation. We performed myringoplasty to close the tympanic membrane perforation to two patients. The com-

plications occurred in patients in whom previous attempts have been made.

Discussion

Lateral ear canal of the children is much narrower, shorter and straight compared to the adult ear canal. Introducing a foreign object can give harm to tympanic membrane, ossicles and even to the labyrinth. The most common foreign bodies of the ear are bead, toys, cobblestone, peanut, corn, bean, dry food, pencil tip, eraser, insect.³ The dry food like peanuts, corn and bean gets swollen in the external ear canal due to humidity. If the foreign body is localized in the lateral of the isthmus it can be removed in an emergency room; if it is localized in the medial of the isthmus, then general anesthesia may be needed. Sometimes parents or general practitioners try to remove the foreign body before referring the patient to the specialist. As a result, sometimes due to unsuccessful attempts, the child gets so frightened that the she or he can't be examined again. In our study experienced, 20 of 65 ear foreign bodies were removed under general anesthesia. All these cases had previous attempts to remove the ear foreign body. We observed all the complications in these cases. Balbani et al¹ reported 187 cases whom were 93 (49.73%) ear foreign bodies, in which a bead (24.73%) was the most common and 94 cases (50.27%) were nasal foreign bodies in which sponge fragments was the most common (36.17%). They found 13 cases with complications (external ear canal lacerations and tympanic membrane perforation). In our study, we found bead mostly in both ear and nose.¹

Foreign bodies of the nose can stay for a long time until the child suffers from unilateral purulent nasal discharge and nasal obstruction.⁷ It is important to try to remove foreign body of the nose without sedation or general anesthesia. The child sits on the lap of the parent with his arms and legs controlled by the parents. The child's body is tilted forward. The head is fixated by an assistant doctor. This position facilitates the removal of the foreign body from the nose. When the child is uncontrollable, the procedure is done under general anesthesia. In our study, we didn't have to give general anesthesia for the foreign bodies of the nose. It is

very important not to push the foreign body to the posterior. It may be aspirated to esophagus or trachea. After removing the foreign body epistaxis was seen in 10 patients. The foreign bodies of the esophagus are 80-95% seen in first narrowing of the esophagus.^{8,9} The second common place is lower esophageal sphincter.^{10,11} The foreign bodies of the esophagus are mostly seen in patients 6 months-6 year of age. Here the immaturity of teeth is an important factor. In our study all the foreign bodies of the esophagus are seen before 3 years of age. Muderris et al¹² found as 53.5%, Celik et al¹³ as 51% and Erpek et al¹⁴ found as 66% in children younger than 5 years. Coins are the most commonly seen foreign bodies of the esophagus. Nowadays, we seldom see coins. The reason is that the size of the coins is getting smaller. The second commonly seen foreign body is food. (meat, chicken bone and fish bone). Foreign body of the esophagus can be removed either by rigid or by flexible oesophagoscope. Both of them have high success rates. Berggreen¹⁵ found the success rate as 100% with rigid oesophagoscope and as 96.2% with flexible oesophagoscope. In his study complication rate was 10% with rigid oesophagoscope and 51% with flexible oesophagoscope. Esophageal perforation is the most common complication.³ We haven't seen any complications in our study. This might be related the number of cases. Hon et al¹⁶ found that children with foreign bodies of the gastrointestinal system had admitted to the hospital earlier than with ear, nose foreign bodies. Careful examination of both nasal fossae and ears is essential in order not to misdiagnose bilateral foreign bodies. In our study, we haven't seen any multiple foreign bodies more than one. We saw that the foreign bodies were the objects usually early accessible at home. On the other hand, we found few cases of fragments of toys as a foreign body. Consequently, manufacturers of toys have provided warning about the danger of swallowing or aspiration of small pieces in all their packages for the last decade. Parents may be aware of these possibilities and avoid giving fragile toys to very young children. Our results demonstrate that complications are directly related to frustrated attempts to remove the foreign body. It is important that foreign body removal from ear, nose, and esophagus should be performed by the otorhino-

laryngologist so as to avoid complications and this removal is safer and easier when proper instruments and microscope are available. The child who suffered more than one previous attempt may need for general anesthesia to avoid complications due to injuries to nasal mucosa and external ear canal resulting in edema and pain which in turn lead to difficulties of removal by the otolaryngologist.

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