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Research Paper

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Epidemiological Profile of Cases of Ent Foreign Bodies Seen at a Tertiary Hospital Emergency Unit

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ABSTRACT

Early detection and treatment of foreign bodies is required to prevent complications.

Objective: to study the epidemiological profile of patients of ent foreign bodies at tertiary hospital emergency care unit.

Methodology: a cross sectional retrospective historical cohort study was carried out from 1st January 2013 to 31st December 2013.

Results: FB accounted for 625 cases and 9.3% of all patients seen in the ent emergency unit. Children were affected more frequently, particularly when aged 8 and under. Foreign bodies were mostly located in the ears (64.4%), followed by the nasal fossae (19.5%), and the oropharynx (8.9%). Complications were seen in 4.5% of the cases, and 4.4% required general anesthesia.

Conclusion: Foreign bodies were more commonly seen in children and in ears. Complication rates and use of general anesthesia were low.

Introduction

Foreign bodies (FB) in the ears, nose or throat are a common occurrence in otorhinolaryngology (ENT) emergency services. Foreign bodies have been estimated to account for approximately 11% of the cases seen in ent services1-3 . Severe complication may occur in as many as 22% of the cases - which speaks to the morbidity associated with foreign bodies; therefore, foreign bodies should be properly recognized, studied, and managed4.

Although FB removal is usually a simple procedure, its potential complications call for the aid of an ENT physician. Successful removal relies on a number of factors, including the location of the FB, what it is made of, the physician's dexterity, the equipment available, and patient cooperation5,6. FB removal is often carried out in an operating room, with the patient under sedation or general anesthesia4,7. Delayed treatment has been correlated with larger and more severe lesions, in addition to more complications7.

Objective:

1. To study the epidemiological profile of patients seen for foreign body (FB) at a tertiary hospital emergency care unit.
2. To suggest suitable recommendations.

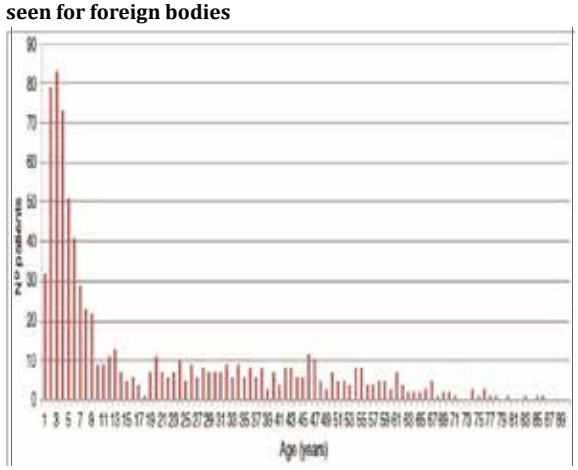
Methodology:

This cross-sectional retrospective historical cohort study was based on the data of the patients seen in the ENT emergency service of a tertiary university hospital during one calendar year from 1stjanuary 2013 31stdecember 2013. The digital charts of patients seen for foreign bodies were used in data collection. The following data points were captured: date the patient was seen, age, gender, type and time for which the FB had been lodged, chosen clinical approach, complementary tests, complications and use of antibiotics, referral to other specialized services, and removal in an operating room. All the cases of FB seen at the ENT emergency unit were included. Patient charts in formats other than digital and charts with incomplete patient information were excluded. Patients were grouped based on the location of the FB: ears, nasal fossae, oropharynx, and larynx. Foreign bodies in the esophagus are not seen in the ENT service, but are relevant to the study as they are considered in the differential diagnosis. Therefore, they were also include in the study. This study was approved by the ethics committee of our institution.

Results:

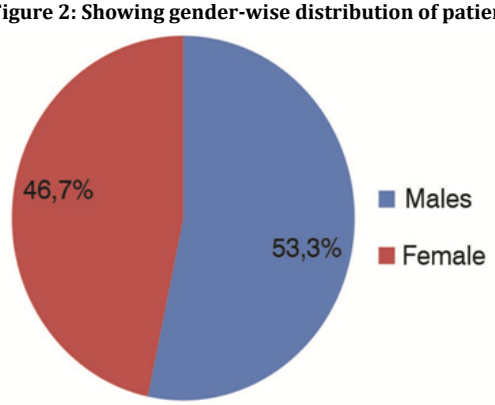
The ENT emergency unit saw 6720 cases within the period of time considered in the study. Foreign bodies accounted for 625 visits, or 9.3% of all cases. Patients had a mean age of 19.8 years and a median age of 8 years.

Figure 1: Showing the age-wise distribution of patients seen for foreign bodies



of the 625 patients included in the study, 292 were females (46.7%) and 333 were males (53.3%), yielding a male-to-female ratio of 1.14:1.00

Figure 2: Showing gender-wise distribution of patients



Most foreign bodies (94.8%) were located in the ear, nose or throat.

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Figure 3: Showing location of foreign bodies

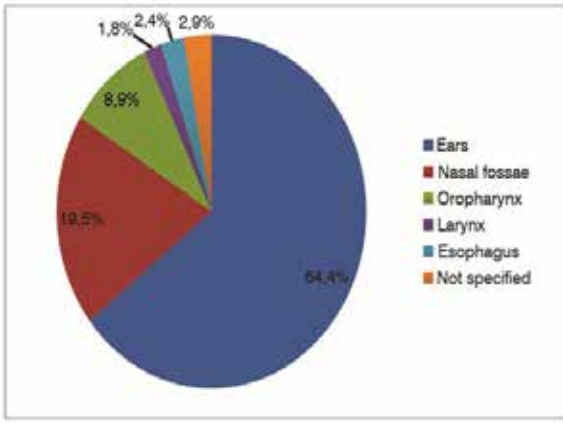

Figure 3 describes the location of foreign bodies in the group of patients included in the study. They were mostly located in the ears (64.4%), followed by the nasal fossae (19.5%), and the oropharynx (8.9%). The most frequently performed tests were x-ray imaging and upper digestive endoscopy, in 69.4% and 20.4% of the cases, respectively. The type of FB varied depending on the site of occurrence. Cotton fragments were the most common type of FB found in the ears. However, insects and beans were also frequently seen. Inanimate objects were the norm in the nasal fossae, with beans ranking atop all FB types. In the oropharynx and larynx, fish and chicken bones topped the list. Table 1 shows the most common types of FB for each site of occurrence. Complications were more frequent in patients with foreign bodies in their ears. Twenty-three patients (3.68% of all cases) had the following ear complications: acute external otitis (12), laceration/bruising of the outer ear canal (5), tympanic membrane perforation (4), and acute otitis media (2). Only 14 patients (2.24% of all cases) with nasal foreign bodies had complications; 13 had acute rhinosinusitis and one had a perforated nasal septum. Therefore, complications were seen in 5.92% of the studied patients. Thirty-six patients (5.76%) required general anesthesia or sedation to have the FB removed.

Discussion:

This study considered the patients seen for FB in the ENT emergency unit of a tertiary university hospital for 12 consecutive months. The 625 cases of FB accounted for 9.3% of all patients seen in the ENT emergency unit. According to the literature, foreign bodies could account for as many as 11%1-3 of the cases. Yet, the absolute number of patients seen for FB in one year was considerably greater, reflecting the number of cases included in our analysis1,2,7. Foreign bodies were more prevalent in children, and 50.1% of the patients were aged 8 or under. Male individuals were the majority by a slight difference (53.3%). These findings are in agreement with the literature and reports of FB being more common in children around six years of age1,4,7. According to some authors, foreign bodies are commonly seen in adults, particularly in individuals with special needs8,9. ENT foreign bodies were the most common complaint reported by the patients seen in our center (94.8%). Other authors reported similar rates of occurrence of ENT foreign bodies6,10. This is explained, in most of the cases, by how easy it is to identify such foreign bodies and for the patient to report the issue to his/her caregiver1. Foreign bodies were mostly located in the ears (64.4%), followed by the nose (19.5%), and the oropharynx (8.9%), as similarly reported in the literature3,10. Some authors suggested the following specific order of frequency and location of foreign bodies: ears, nose, pharynx, esophagus, and tracheal bronchial tree10. Complementary tests are rarely needed in FB patients. Direct visualization during physical examination is usually enough to identify and locate foreign bodies. In this study, 49 patients (7.84%) had to undergo complementary tests, and 69.4% of them had simple x-ray images taken. X-ray imaging may help identify radio-opaque foreign bodies, but it is not useful in the diagnosis of radiolucent objects such as fish and chicken bones. According to some authors, complementary tests should only be performed in patients suspected with foreign bodies when careful physical examination and nasal and laryngeal endoscopy failed to produce additional evidence1,5. Foreign bodies have their social and geographic peculiarities. For example, cases involving cotton seeds and fragments are more commonly seen in developing countries. These were also the most commonly found objects in the ears and noses of the patients included in this study. Conversely, small plastic parts are the most frequent finding in developed countries9,11. Only 5.76% of the patients required general anesthesia or sedation to have the FB removed, with most procedures being carried out in an operating room. The observed failure rate and consequent need for general anesthesia to remove the foreign bodies was lower than the rates reported in the literature, according to which general anesthesia is needed in 30%2,9,13 of the cases. Only thirty-seven cases had complications (5.92%). Other studies have reported complication rates as high as 22.2%1,3,7,12,14. The differences in relation to the literature seen both in the need for general anesthesia and complication rates may be explained by the fact that our cases of FB were seen only by ENT physicians. As experts on the matter, they are more used to properly managing cases of FB, which by its turn reduces the chances of complication4,7. Nonetheless, one should not ignore the limitations of this retrospective study, conducted based on the digital charts of the patients seen in our service.

Conclusions:

Foreign bodies are a common occurrence in the practice of otorhinolaryngology. Most foreign bodies are found in patient ears, and children are the most affected age group. Despite the methodological limitations of this study, low complication rates and little need for general anesthesia were verified in our service, as foreign bodies were removed exclusively by ENT physicians. The proper management of foreign bodies requires the aid of specialized physicians.

Tables: 1. Showing the common foreign bodies and their locations.

Location	Fb type	Frequency
Ear	Cotton fragments Insects	24.06 % 22.56 %
	Beans	8.65 %
Nasal fossae	beans Sponge fragments	17.07 % 9.76 %
	Plastic parts	7.32 %
Oropharynx	Fish bones	70.69 %
	Chicken bones	15.52 %
Larynx	Chicken bones	45.45 %
	Fish bones	18.18 %

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