Foreign Bodies in Otorhinolaryngology - Hospital Monumento and Clínica Otorhinus Research

Joao Jovino da Silva Neto*, Jose Carlos Bolini Lima*, Rodrigo Faller Vitale**, Rafael Jose Geminiani*.

* Resident Doctor at *Clinica Otorhinus*.
** Master in ENT. Preceptor physician at *Clinica Otorhinus*.

Instituition: *Clínica Otorhinus*
São Paulo / SP – Brazil.
Address for correspondence: Dr. Joao Jovino da S. Neto – Avenida Cubatão, 1140 – Vila Mariana – São Paulo / SP – Brazil – Telephone: (+55 11) 5572-0025 – Fax: (+55 11) 5572-7373 – Cellular: (+55 11) 9391-5592 – E-mails: otorhinus@uol.com.br / joaojsneto@uol.com.br
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SUMMARY

Introduction: Foreign bodies in Otorhinolaryngology are a common problem in the emergency units, mainly in children.

Objective: To evaluate the incidence and analyze clinical aspects, treatment and complications in these cases.

Method: Retrospective study of patients with diagnosis of foreign bodies in Otorhinolaryngology admitted at *Hospital Monumento / Clínica Otorhinus*, from March through October 2006.

Results: There were 44 cases, with a total of 0.6% of consultations in the same period. From these cases, 32 were ear cases, 11 were nasal cavity cases and 1 was oropharynx case. In the patients with foreign bodies in the ear, 34.4% evolved with no symptoms, 21.9% with oropharynx and 12.5% with hypoacusis; yet patients complained of odynophagia in the beginning of oropharynx; in the cases of nose, the unilateral rhinorrhea and the cacosmia were present in most of the cases. Inherent complications to the presence of foreign body or its manipulation when removed were observed in 7 patients (15.9%).

Conclusion: The failure in the first attempts of foreign body removal by a non-qualified professional or even by an Otorhinolaryngologist with non-appropriate material increases the number of complications and the difficulty in the subsequent removal. Thus, the importance of a qualified otorhinolaryngologist and the use of appropriate material for its removal is emphasized.

Key words: foreign bodies, incidence, nose, pharynx, ear.

INTRODUCTION

Foreign bodies (FB) in Otorhinolaryngology are a common problem in emergency units, especially in children (1). FB localization, size, type and period of stability determine symptoms. Thus, when in the ear, clinical condition can be otalgia (ear pain), hypoacusis, itching, ear fullness, otorrhea, tinnitus and others. When in the nasal cavities, the most common symptoms are rhinorrhea and cacosmia. Sneezes and coryza and nasal obstruction can also occur. Yet, in the oropharynx, the main symptom is odinophagy (1).

Foreign bodies can be classified as animated organic, inanimated organic and inorganic ones. Their introduction is voluntary in children and in handicapped patients and it is involuntary in adults (1), and in this case, they are normally living animals (2).

Shape and size of the objects, anatomical changes of the individuals such as external acoustic meatus of reduced diameter can be the causes for a difficult removal of the FB. The attempts by non-qualified professional also make removal difficult, and they account for a high rate of complications (3).

A well-successed removal of FB depends on patient cooperation, doctor skill, previous manipulation and available tools (4).

The target of this study is to evaluate recurrence of FB in patients who searched *Clínica Otorhinus* from March through October 2006, as well as analyze clinical condition, performed therapy and inherent complications to FB, even by its development or removal.

METHOD

It was performed a retrospective study in 44 patients diagnosed with FB in otorhinolaryngology admitted in the clinic of *Centro de Estudos do Hospital Monumento (Serviço de Otorrinolaringologia da Clínica Otorhinus)* from March through October 2006.

Patients were submitted to anamnesis, ENT exam and FB removal.

Age, main complaint, associated symptoms, develpment period, localization, FB origin and previous attempt of removal were the main analyzed topics in the anamnesis.

Patients were submitted to a comprehensive ENT exam, and focus and frontal mirror were used for its lightening and performance, followed by patients' restraint when they were children, and then removal of FB could be accomplished by a resident doctor guided by an assistant one of the *Serviço de Otorrinolaringologia da Clínica Otorhinus*.

The tolls used for removing FB varied according to localization and type of it. The most used ones were: spoon-shaped curette, Itard probe**,** Hartman clamp, bayonet clamp and syringe in order to wash the ear.

In some cases, microscope and general anesthesia were used.

RESULTS

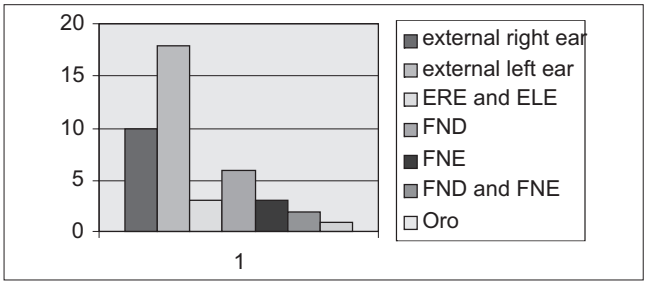
From the 44 patients with FB in Otorhinolaryngology assisted from March through October 2006, 32 of them were ear cases, 11 were nasal cavity cases and 1 was oropharynx case (Graphic 1).

The average age of patients was 14 years and 3 months years old. 45.4% of them was male and 54.6% was female. Patients aging from 0 to 5 years were the most affected ones regarding FB in the nasal fossa, accounting for 72.7%. Regarding FB in the ear, 56.3% of the cases affected children up to 15 years old. The only FB in oropharynx was found in a 34-year-old patient (Graphic 2).

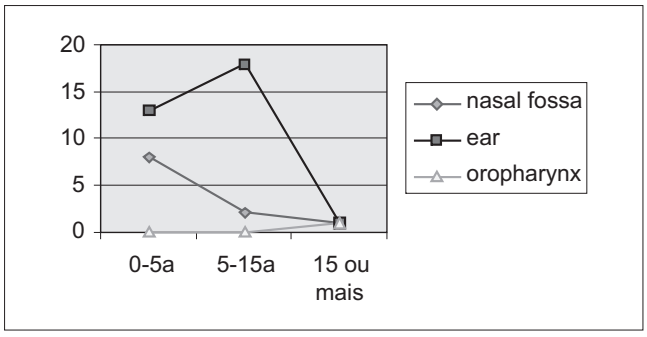
The average period for development of cases was 69.14 days. 2.7 days was the average period for development of FB in the ear; 65.43 days for FB in the nose and, 1 day one for FB in oropharynx. 88.6% of patients were assisted in the ENT ambulatory basis and 11.4% came from other services after previus removal attempts (Table 1).

Complaints of patients varied according to FB localization (Graphics 3 and 4).

Regarding tolls used for FB removal, they were: otological Hartman´s clamp for FB in the ear (53.6%); Itard



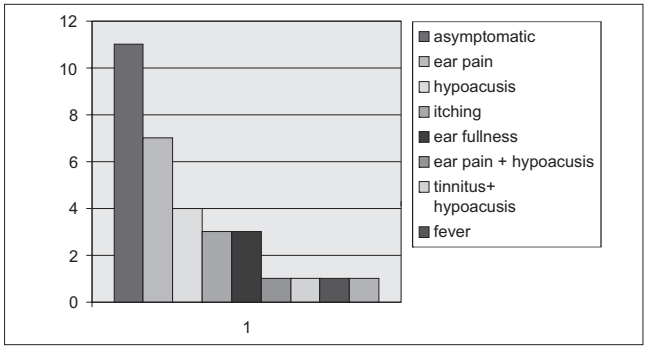
Graphic 1. Foreign Body (FB) by affected area.



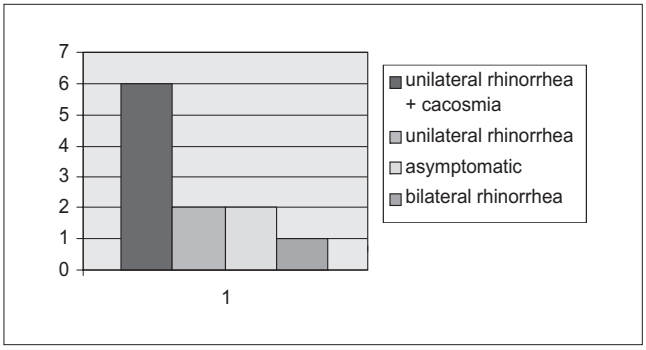
Graphic 2. Comparison by localization and age.

Table 1. Period of FB development according to the affected area.

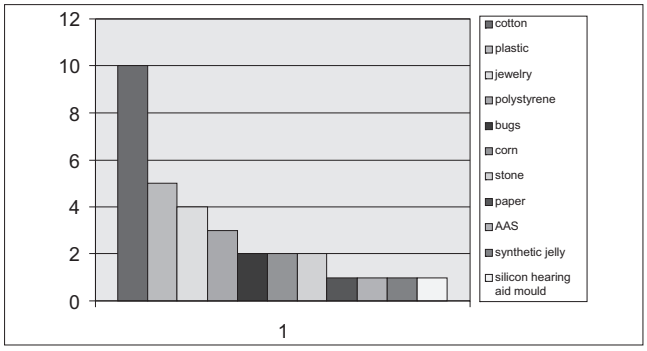
Area	Period
Ear	2.70 days
Nose	65.43 days
Oropharinx	1.00 day



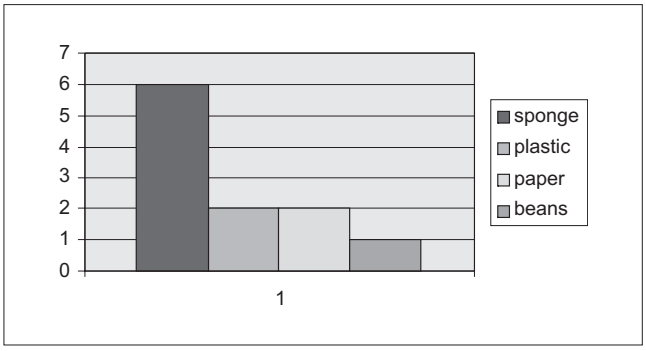
Graphic 3. Symptoms related to foreign body (FB) in the ear.



Graphic 4. Symptoms related to foreign body (FB) in the nasal fossas.



Graphic 5. Material found as foreign body (FB).



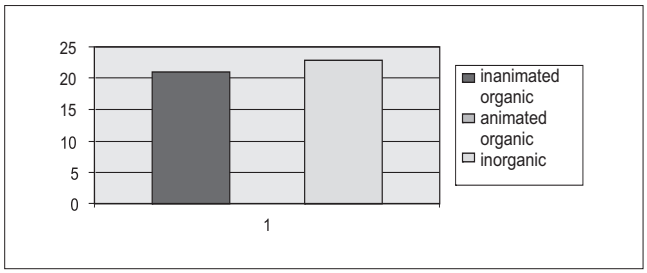
Graphic 6. Origin of foreign body (FB) in the ear.

probe for FB in the nose (45.4%) and Hartman´s probe for FB in oropharynx (100%). All cases of FB in the pharynx and nasal fossas were successfully removed in the ambulatory basis. On the other hand, removal of FB in the ear failed in 4 cases (9.1%) and patient should be taken to a surgery unit. General anesthesia was necessary in only one case (2.3%). In the other cases (6.8%), anesthesia induction was enough for removing FB.

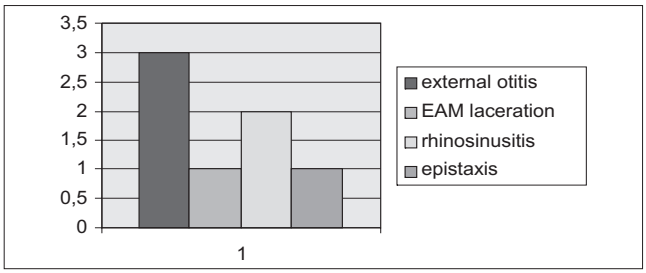
Regarding FB origin, they were: fish bone, the only one found in oropharynx; cotton pieces, more frequent in the ear, which accounted for 10 cases (31.2%) and foam in the nasal fossas, accounting for 6 cases (54.5%) (Graphics 5 and 6).

Regarding classification, 21 foreign body cases were organic inanimate and 23 were inorganic. Organic animate FB was not found (Graphic 7).

Complications due to presence of FB or its manipulation were reported in 7 cases (15.9%). FB in the ear presented the highest rate of complications (4 cases),

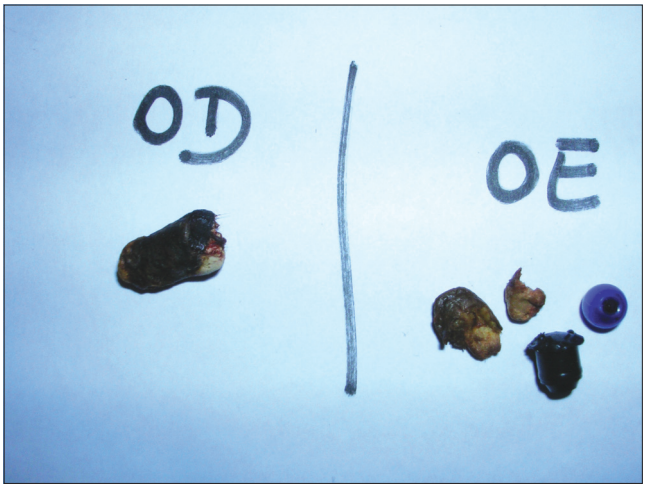


Graphic 7. Classification of foreign body (FB) in organic and non-organic ones.



Graphic 8. Complications by the presence of foreign body (FB).

Picture 1. Foreign body (GB) removed from external ear - insect.



Picture 2. Foreign body (FB) removed from external ears of a 6-year-old patient. Right ear: sponge; left ear: sponge, pen lid.

and acute external otitis the most common complication (3 cases) (Graphic 8).

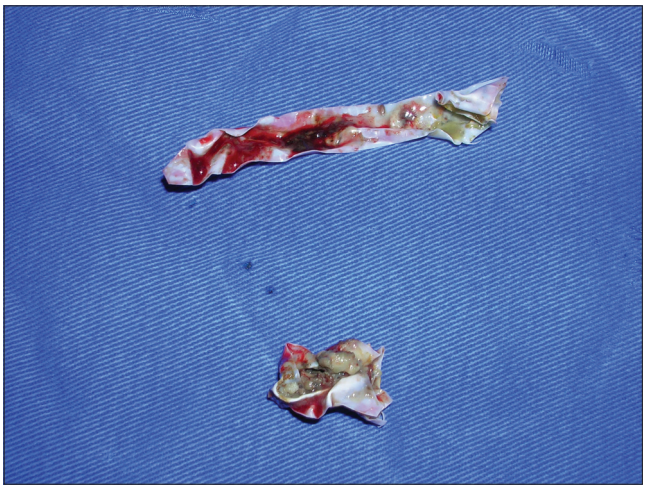
We present some of the foreign bodies removed in our clinic as follows (Pictures 1-3).

Discussion

In the current study, there is a predominance of FB in female patients (54.6%) comparing to male ones (45.4%). This information opposes other published results by other autors (5,6).

The average age of patients was 14 years and 3 months, which represents and average of 10 years less in relation to other studies (6,7). This is probably due to the fact that inthe current study, there was only one case of FB in oropharynx. Patients are usually adults, with an increase on age average.

FB in the nasal fossa was more frequent in patients aging from 0 to 4 years, being reduced according to aging factor, which is comfirmed in the literature



Picture 3. Foreign Body (FB) removed from nasal fossas – plastic used as nasal spint.

(3,6,8). In the current study there was a prevalence of foam FB, occurring in more than half of cases (54.5%). They were from pillows, matresses, duvet and dish sponge. As they are easy-reach objects fro children,

they should be out-of-reach, especially when children are not being watched.

Development periof of FB in the nasal fossa was 65.43 days. This high average was due to a case of nasal splint as a FB for 26 years. It is important to notice that FB in this area can be of iatrogenic origin, as a consequence of ENT procedures involving cotton pieces, tissues or splint (13). Nasal fossa FB usually presents more frequent (81.80%) and also richer symptoms than the ones in the ear. For that reason, the period for its developement is supposed to be shorter.

The most frequent symptom in the current study was related to unilateral rhinorrhea and cacosmia, affecting 6 patietns (54.5%). It is important to highlight that unilateral rhinorrhea or epistaxis can be the onle finding in the presence of a FB in the nasal fossa (9).

FB in the ear was the most common in this study, in a total of 72.7% of the cases. The incidence of FB in the nose increased according to age. Children aging up to 15 years summed up 56.3% of cases. This information agrees with the literature (10,11). Regarding its localization, there was a predominance in tle left eat (59.4%), disagreeing on results by Thompson et al. (2003), who reported a predominance of FB in the right ear (52%) (4).

The fact that FB in the ear presents such incidence that increases according to age and is the most found one can explained for being cotton pieces (31.2%). They can be from cotton buds used by adults when introduced in the ears for itching or cleaning purposes. Acute external otitis was the main complication of FB in the ear (6.8% of cases), this figure was also reported in other studies (6).So, there is a question: was acute external otitis already present in the ear, and its symptoms led to the itching act (using cotton buds) and therefore, the presence of FB? or, did the FB associated to EAM (external acoustic meatus) manipulation originat acute external otitis? The authors of this study believe that the manipulation by the children themselves, or by the doctors by attempting its removal is the main cause of external otitis.

FB in oropharynx presented lower rate of incidence (2.3%) and lower average of development period (one day), due to the fact that this type affects adults mainly and also due to its symptoms (odinophagy), which encouraged early search for assistance.

Clinical history impact of FB in oropharynx in adults is peculiar. Patients clearly reports that "something is stunk in their throat" when swallowing, what makes next deglution difficult (14). In adults, chicken and fish bones (14,15) and beef pieces (16) are the most common FB. The main symptom is odinophagy (1). The most affected areas are palatine tonsils and base of the tongue.

The most used tools for removing FB in the ear was Chevalier Jackson clamp (53%); Itard probe for FB in the nasal fossa (45.4%) and Hartman's clamp (100%) for the oropharynx FB. Chevalier Jackson clamp was the main tool for ear FB removal due to the high percentage of soft-consistence FB, pointing out cotton which summed up 31.2% of the cases. Therefore, it is known that ear curette and especially wash syringes are important options for removals in these cases.

Results from the chosen therapy for removing FB in the ear, nose and orophrynx were satisfatory and presented low rate of complications (15.9%), even for those which failed in previous attempts (11.4%). In 12.5% of cases, patients were taken to a surgery unit for removal of FB, due to non-collaborative act from patients or to the need of surgical microscope.

There was a difficult case of a silicon FB removal, which was placed in a mastoidectomy cavity with the purpose of making an aural prothesis. It was only case (2.3%), in which patient was taken to surgey unit and submitted to general anesthesia, for being a complex and long-term procedure. There were more 3 patients submitted to anesthesia induction in the surgery unit, but no microscope use. The need of anesthesia for removing FB varies in the literature from 8.6% to 30%.

Acute external otitis was the most frequent complication in the ear, accounting for 6.8% of cases. These data are similar to the ones found in the studies by Bressler et al. (1993) with an incidence of 7.1% (7). Regarding the nose, acute rhinosinusitis was the main complication (4.5%). Yet, there was no complication in the oropharynx, which agrees with Tiago et al (6).

The most frequent complications occurred when removing ear FB and they have their incidence increased when previously manipulated by non-qualified professionals and unproper tools.That is why a qualified ENT doctor and proper tools for FB removal when preventing possible complications is important. It was observed that the reasons why some patients needed to be taken to surgical units were due to repetitive manipulations in the area where FB was lain, leading to bleeding, pain and local oedema.

Conclusion

FB is a common problem in children (1,12). Its symptoms depends on localization, origin and dimensions

as well as the presence or absence of inherent complications to it.

Cotton pieces in the ear as a FB is the most frequent one, and it is more common in children up to 15 years old (56.3%) with no symptoms in 34.4% of the cases. The nose FB affects mainly children from 0 to 4 years old (73.7%), and the main symptoms are unilateral rhinorrhea and cacosmia (54.5%), and the only FB found in oropharynx was fish bone.

Complications are usually due to previous manipulation when trying to remove FB by a non-qualified professional and the use of improper tools. That is why the presence of a qualified ENT doctor and proper tools for removing FB is emphasized.

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