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# Evaluation of Ear, Nose and Throat Foreign Bodies in Al-Ramadi Teaching Hospital

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## Abstract

**Introduction:** Foreign bodies in ear, nose, and throat (ENT) are common problems presenting to Otolaryngology clinics and emergency units. Children are mostly affected by ENT foreign bodies. Objectives: To evaluate the socio-demographic and clinical aspects of patients with ENT foreign bodies visiting Al-Ramadi Teaching Hospital.

**Patients and Methods:** This cross-sectional study carried out in the Al-Ramadi Teaching Hospital during the year 2019. All patients came to the emergency department and the Otolaryngology clinic in the hospital with foreign bodies in ENT were enrolled in the study. Demographic and clinical data of the patients were analyzed.

**Results:** In 196 patients, there were 197 ENT foreign bodies. Their age ranged from 2-74 years with a mean of 15.17 years $\pm$ 17.17. The age group 5-10 years was encountered in 72.4% with a slight predominance in females 51.5%. The nose was the commonest site in 45.2%, followed by ear 43.1% and the least throat 11.7%. Most foreign bodies were unilateral (right 108, and left side 87). The majority of them presented within the first 24 hours of their impaction and their removal needed no anesthesia with few complications. The plastic ball was the commonest type of 28.9%. The Jobson Horn probe was the most instruments used in removing 40.1% of foreign bodies.

**Conclusion:** ENT foreign bodies were more common in children. The nose and ear were the commonly involved sites. Spherical foreign bodies were the commonest type.

**Keywords:** Ear; Nose; Throat; Tonsil; Oropharynx; Larynx; Foreign Bodies

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## Introduction

Impaction of foreign bodies (FBs) in the ear, nose, and throat (ENT) is a common problem in emergency units and Otolaryngology clinics [1,2]. FBs in the ear and nose are quite common in children under the age of five years due to the passion of these children to love exploring and playing with the things that exist around them in nature [3,4]. Some FBs, such as cotton and chopsticks in the ear, are more common in adults due to the misuse of ear pads, while, other types of FBs are affected prisoners or psychologically unstable adults. Fishbones and the sunflower seed rind of foreign objects that affect the larynx, pharynx, esophagus and tracheobronchial tree affect both children and adults. The presence of FBs in ear, nose, larynx, oropharynx, hypopharynx, esophagus and tracheobronchial tree depends mainly on what exists and what people are dealing with things around them so these species and their incidence vary from place to place in the world [5]. Most people with FBs are presented earlier (within 1-2 hours) to the emergency units and ENT clinics. But some of them may come late to receive the removal of these strange objects and be complaining, for example, deafness, external ear infection, foul odor from the nose, epistaxis and other symptoms. Extracting foreign objects in most

cases is easy by using ear syringing and certain instruments without anesthesia or local anesthesia. However, in some of the impacted FBs, and those sensitive or in uncooperative individuals, doctors have to extract these objects under general anesthesia. FBs in the larynx, trachea, lower respiratory tract and esophagus are also removed under general anesthesia. There are no or minor complications such as simple epistaxis when these objects are extracted by experienced practitioners, while complications are more frequent (e.g. pushing the foreign body away, rupture of the eardrum, skin laceration of the external ear, epistaxis, etc.) when attempting to extract foreign objects by untrained person or by one of the members of subject's family [4,5]. Owing to the importance of ENT FBs in daily clinical practice, several prior researchers in different geographical locations are handling this subject [1-15]. They studied various aspects of the topic including demographics (like age, gender, residence, and level of education of the patient) and clinical (like type and site of FBs) characteristics. We aimed to investigate the demographic and clinical aspects of patients with ENT FBs including the age, gender, residence, time of presentation, site, side, type, instruments and the type of anesthesia used in extraction, and any complications due to ENT FBs or their removal.



## Patients and Methods

This cross-sectional study was conducted in the Al-Ramadi Teaching Hospital in the year 2019. Patients were enrolled in the study with:

- A history of FBs in ENT visited the emergency unit or otolaryngology outpatient clinic of the hospital.
- Incidental FBs were detected during the routine ENT examination.

The exclusion criteria include:

- Tracheobronchial tree and esophageal FBs because they have dealt with them by cardiovascular surgeons in our hospital.
- Those patients with a history of suspicious FBs in ENT and they were not detected on clinical, endoscopic and radiological examination.

The presented study was approved by the Ethical Approval Committee/University of Anbar (reference number 133 on 20-12-2019) and informed consent was taken from every patient or his or her parent. Detailed information regarding age, gender, residence, duration, site, side, single or multiple and type of foreign body was taken from every patient or their relatives. Examination of the affected part was done in the sitting position with headlight, when the foreign body was identified, removal was accomplished by an appropriate instrument which depends on the site and type of foreign body under no or local anesthesia. While those FBs with previous attempts to remove and causing trauma, posteriorly located, severe gag reflex, laryngeal foreign body, and uncooperative patients, were removed under general anesthesia. The instrument and the type of anesthesia used for extraction, and any complications from the foreign body or its removal were registered. Figure 1 showed some of the FBs in the present study. Data were analyzed by using IBM SPSS (Statistical Package for the Social Sciences) version 22 and presented in simple figures, and tables.

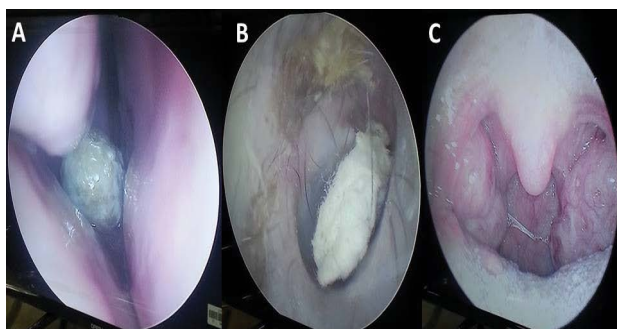


Figure 1: Different FBs in 3 of 196 patients. A. Vegetated FB in the Right nasal cavity. B. Cotton ball in the right ear. C. Fishbone in the right tonsil.

## Results

The age of our patients ranged from 2-74 years with a mean of 15.17 years $\pm$ 17.17. The commonest age group affected was 5-10 years (n= 142, 72.4%) and the least group 2-4 years (n=10, 5.1%). Out of 196 patients, 101 (51.5%) were females and 95 (48.5%) males. There was a slight predominance of our patients from rural areas 104 (53.1%) in comparison to urban areas 92 (46.9%) (Table 1). Most of patients 158 (80.6%) presented within the first 24 hrs, 28 (14.3%) after 24 hrs. and the least 10 (5.1%) after 2 days from the impaction of FBs. There were

195 (99.5%) patients with unilateral FBs, the right side (n=108, 55.1%) was more than the left (n=87, 44.4%).

There were 197 FBs, nasal FBs was the commonest type 89 (45.2%) followed by ear 85 (43.1%) and the least throat 23 (11.7%) (Table 2). Twelve FBs types were identified in the study, the commonest one was the plastic ball (n=57, 28.9%) (Table 3).

Most of FBs were removed without anesthesia 179 (90.9%). While, 13 (6.6%) under local anesthesia, all of them were throat FBs, and only 5 (2.5%) under general anesthesia (1 for ear, 2 for each of the nose, and throat FBs). Jobson Horn probe was the most common (n= 79, 40.3%) instrument used for the removal of FBs (Table 4). Few complications like epistaxis and eardrum perforations were encountered as seen in (Table 5).

## Discussion

The entry of FBs in the ENT is a terrible condition of the injured and their relatives, so they usually come early for the emergency units and ENT clinics. But sometimes delayed coming for the following

Table 1: Demographic characteristics of 196 patients.

Variable	Frequency	Percent
<b>Age groups/years</b>		
2-4	10	5.2
5-10	142	72.4
11-18	33	16.8
>18	11	5.6
Total	196	100
<b>Gender</b>		
Male	95	48.5
Female	101	51.5
Total	196	100
<b>Residence</b>		
Urban	92	46.9
Rural	104	53.1
Total	196	100

Table 2: The site of 197 FBs in 196 patients.

Site	Frequency	Percent
Nose	89	45.2
Ear	85	43.1
Throat	23	11.7
Total	197	100

Table 3: Types of 197 FBs.

Types of FBs	Frequency	Percent
Plastic ball	57	28.9
Insect	38	19.3
Fishbone	21	10.7
Cotton ball	20	10.1
Bead	15	7.6
Vegetated	10	5.1
Button battery	7	3.5
Kleenex	7	3.5
Sponge piece	6	3.1
Wood stick	6	3.1
Stone	6	3.1
Tip of pen or pencil/eraser/paper	4	2
Total	197	100



**Table 4:** Instruments used in retrieving 197 FBs.

Instrument	Frequency	Percent
Jobson Horn probe	79	40.1
Telly nasal dressing forceps	23	11.7
Crocodile aural forceps	37	18.8
Ear syringe	50	25.4
Laryngeal forceps	1	0.5
Suction	4	2
Suction tube	2	1
Magiel	1	0.5
Total	197	100
Wood stick	6	3.1
Stone	6	3.1
Tip of pen or pencil /eraser/ paper	4	2
Total	197	100

**Table 5:** Complications due to 197 FBs insertion or their removal.

Complications	Due to FBs N*/%	During removal of FBs N/%
Mild epistaxis	3 (1.5)	3 (1.5)
External canal laceration	6 (3)	1 (0.5)
Otitis Externa	1 (0.5)	-
Eardrum perforation	1 (0.5)	-

\*N= number

reasons: the patients' residences are far away from hospitals and clinics, not to disclose the insertion of FBs due to the fear of children from their families, the existence of doubt among the injured or their parents from the entry of strange objects or not, and at other times delayed arrival because there is no means of transport to transport them to the hospitals or clinics. The delay in the extraction of foreign objects has consequences, including but not limited to epistaxis, foul smell from nose, deafness, tissue destruction when the foreign body is an electronic battery, inhalation of the foreign into the lower respiratory tract leads to infection, and other problems. Most of our patients (80.6%) presented in the first 24 hours of the FBs impaction. Similar results came from a prior study [1], while, it differs from Shrestha I, et al. (2012) study, who found 52% of ENT FBs presented within 1-3 days [5]. Most of our patients were children less than 10 years. This consistent with other studies [1,4,5,8-10]. Children are usually trying to discover new things using their 5 senses. They see, touch, smell, and taste the objects which might be impacted in natural orifices. However, the incidence of ENT FBs declines as the child grow-up. Anyhow, FBs are still encountered in adults by certain types like insects, fishbone, cotton ball, etc. Our study showed a slight predominance in females (51.5%). This finding similar to Ette et al study [11]. However, it was inconsistent with a prior study [8]. Our patients were slightly more coming from rural areas (53.1%). The current study revealed that nasal FBs were the commonest type, followed by ear and the least was the throat. The result was inconsistent with prior studies [1-6,8-10,12] This can be due to certain factors: different studied sample (pediatric or adults or both, admitted patient or visiting the emergency or outpatient unit, hospital or population-based, ENT, or just ear and nose, or aerodigestive FBs), geographical distribution, and sample size. While the present study was consistent with the other studies [7,13-15]. In a recent study from Japan [16], concluded that the occurrence of ENT FBs is more common in certain times of the year. These are the rainy times and periods of eating fish. So, it is possible to prevent FBs if public education strategy is used about the correlation between social, cultural and geographical factors and the lodgment of FBs. The type of FBs depends on what things found in the environment?, the plastic ball was the commonest FB revealed in

the present study. This comes from a common toy Airsoft pistol among children in our society. However, no coin FB encountered in our study as we faced in the past in Iraq. Moreover, certain FBs impacted in the ENT, for example, insects and cotton ball in the ear, plastic ball in the nose and ear, fishbone in the oropharynx mainly the tonsil, and so on. In review, the literature the common FBs in certain studies as follows, Shrestha I, et al. (2012) study showed Maize, Rice Grain, Bean, Pea, and seed (n 84, 27%), Adedeji TO, et al. (2016) study reported Corn/Seed/ Rice husk in (n 47, 19.7%), and Endican S, et al. (2006) found beads (n 51, 28%) [4,5,12]. Depending on the type, shape, and site of ENT FBs, the appropriate instrument for their extraction is chosen. In the present study, the Jobson Horn probe was the most common (40.1%) instrument used to extract the FBs. This because the most common type of FB was a spherical shape. The Jobson Horn probe was designed to pull the spherical FB anteriorly from the ear or nose safely without fear of pushing the FBs backward. In our study, few complications were reported, most of them due to FBs insertion. This in agreement with Sogebi OA, et al. (2006) study [17]. The complication rate was more prevalent in those FBs that were removed by persons with inadequate training in ENT clinical practice [18]. The majority of complications like epistaxis, otitis externa, and external auditory canal laceration can safely treat by simple routine measures. However, some complications carry morbidity or mortality e.g. eardrum perforation, suffocation, and esophageal perforation. The success of FBs removal depends on adequate illumination, appropriate instrumentation, cooperative subject, and well-trained doctors [19]. In the present study, the majority (90.9%) of FBs were removed in the office without anesthesia. The majority of nasal and aural FBs are removed in the office without anesthesia, but uncooperative or sensitive patients, a previous failed attempt in FB removal, and posteriorly located FBs need their removal in theater under general anesthesia. While a high percentage of throat FBs need their removal under general anesthesia due to exaggerated gag reflex, in addition to tracheal, bronchial, and esophageal FBs must be removed under general anesthesia.

## Conclusion

ENT FBs commonly affected children <10years. Females were affected slightly than males. The nose and ear were the most involved sites. The majority (99.5%) was unilateral with a significant predominance of the right side. The majority of FBs presented within the first 24 hrs., and their removal needed no anesthesia with few complications. The plastic ball was the commonest type of 28.9%. The Jobson Horn probe was the most instruments used in removing 40.1% of FBs.

## Ethical Clearance

Taken from Ethical Approval Committee, University of Anbar.

## Conflict of Interest

Nil

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