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Original Research Article

A Prospective Evaluation of Aural and Nasal Foreign Bodies in a Tertiary Care Hospital

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ABSTRACT

The aim of the study was to study the age & gender distribution, modes of presentation, management & complications of ear and nose foreign bodies in patients attending emergency & E.N.T OPD; a prospective clinical study was done in a tertiary Hospital. About 275 patients with foreign body in ear & nose region from September 2012 to March 2015 were included in the study. 280 foreign bodies were removed from 275 patients. Seeds were the commonest foreign body in ear & nose. A greater proportion of cases - 162 (58.9%) were below 10 years of age. Ear & nose foreign bodies remain frequent occurrence particularly in the younger age group 10 years old or less and high index of suspicion suggested an early intervention to prevent the morbidity and mortality from complications.

Keywords- Foreign body, Organic, Seeds, Syringing.

INTRODUCTION

The problems of foreign bodies (FBs), their identification and management have posed a great challenge to a medical practitioner since time immemorial. Ear and nose foreign bodies are more common among children, although adult age groups are involved. The etiological factors responsible for foreign bodies insertion into ear and nose varies among children and adult. Children are inclined to place toys, foodstuff and household articles in the ear and nasal cavity. [1] The reasons for the insertion of foreign bodies include curiosity, boredom, imitation, irritation, rhinitis, otalgia, fun making, and the wish to explore the orifices of the body. [2] It may be accidental or deliberate self-harm especially in adults. The presentation may be life-threatening in nasal foreign bodies. Foreign bodies in ear and nose may present as mild to severe discomfort, pain, blockage, bleeding, discharge, and impaired functioning of the involved site. Despite the relative frequency of presentation of FBs, most of the literature on this subject consists of isolated studies in case of foreign bodies either in ear or nose. Similar studies were done in urban region but the same was lacking in rural region. In this study, an attempt is made to analyze some of the key issues about the presentation, management and complications arising out of FB in the ear and nose as a whole in the rural population.

MATERIALS AND METHODS

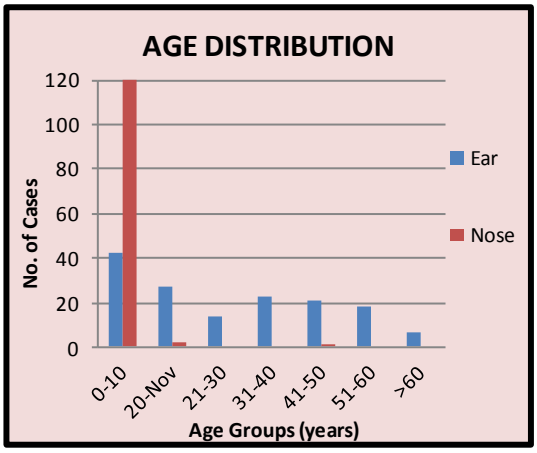
This prospective study was conducted in the department of otorhinolaryngology, Shri Vasantrao Naik Government Medical college & Hospital,

Yavatmal. It comprises of 275 patients with foreign bodies in ear & nose attending both OPD and emergencies of ENT Department, Shri Vasantrao Naik Government Medical College & Hospital, Yavatmal. All the patients were evaluated carefully with thorough history and a complete ENT examination. Otomicroscopy and Nasal Endoscopy were done wherever necessary. Radiological investigation like X ray was done when the foreign body was not visible. This was followed by removal of foreign body. Demographic data as well as site were obtained from the patient or the relatives in case of Child.

RESULTS

Of the total of 275 cases (152 ear cases, 123 nose cases), 162(58.9%) [(42(27.6%) ear, 120(97.5 %) nose,] accounted for children 10 years or less of age (Graph 1). There were 150 males [(85(55.9%) ear, 65(52.8%) nose] & 125 females [(67(44%) ear, 58(47.2%) nose].

Total 280 FBs were removed from 275 cases of FB ear and nose. Out of 152 Ear cases, 147 cases (96.7%) had unilateral FB & 5 (3.3%) cases had bilateral FB. Out of 147 unilateral cases, 86 cases had FB in the right ear and 61 cases had FB in left ear. All 123 nose cases (100%) were unilateral. FB in 64 (52%) cases was in the right nasal cavity and 59 cases (48%) in left nasal cavity. Thus slight right sided predominance was seen in case of FB ear and FB nose. Most common clinical features in ear FB cases were pain & FB sensation-each 142 (93.4%) while nose FB had unilateral nasal discharge 113 (91.8%) & nasal obstruction 96 (78%). The most commonly employed methods of FB removal were Ear Syringing in 92 (60.5%) cases of ear FB, Jobson Horne probe in 80 (65%) cases of FB nose (Table 1).



Graph-1: Age wise distribution

Table-1: Mode of Management

Site	Mode of Management	No. of cases	Percentage
Ear	Syringing	92	60.5
	FB hook	24	15.8
	Jobson Horne probe	15	9.9
	Hartman's forcep	11	7.2
	Otomicroscopy & Crocodile aural forceps	10	6.6
Nose	Jobson Horne probe	80	65
	Tilleys forcep	23	18.7
	Diagnostic Nasal Endoscopy & removal	11	8.9
	FB hook	9	7.4

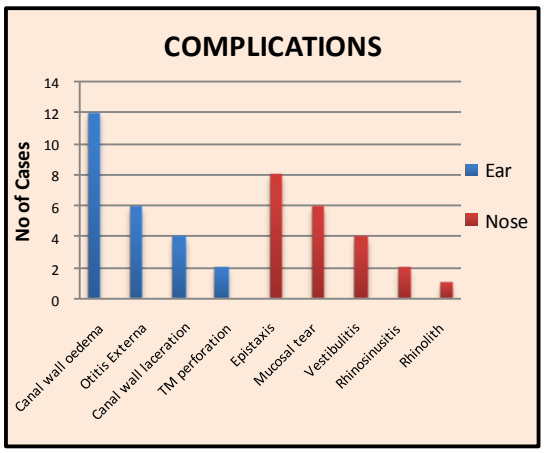
*[Percentage (%) was calculated according to the respective ear, nose or throat FBs.]

In cases of ear FB 119 (78.3%) FBs removed were organic while 38 (21.7%) were inorganic. Seeds/ nuts 40(29.3%) & insects 44(28%) were the commonest among the list. In cases of nose FB 75 (61%) FBs removed were organic while 48 (39%) were inorganic. Seeds 59(72.6%) & chalk piece 15(12.2%) were the commonest among the list. Groundnut was the commonest FB removed from ear & nose cases (Table 2).

Table-2: Type of Foreign body (FB)

EAR		NOSE	
Type of FB	No. Of FB	Type of FB	No. Of FB
A] Organic	119(75.8%)	A] Organic	75(61%)
Seeds	46(29.3%)	Seeds	59(48)
Groundnut	12(7.7%)	Groundnut	11(8.9%)
Jowar grain	6(3.8%)	Tamarind seed	9(7.3%)
Green pea	5(3.2%)	Custard apple seed	7(5.7%)
Dal	4(2.6%)	Soybean	7(5.7%)
Tamarind seed	3(1.9%)	Green pea	6(4.9%)
Custard apple seed	3(1.9%)	Betel nut	6(4.9%)
Soybean	3(1.9%)	Bengal gram	5(4%)
Wheat grain	3(1.9%)	Sago grain	4(3.3%)
Betel nut	3(1.9%)	Corn	4(3.3%)
Corn	3(1.9%)	Wooden toy	6(4.9%)
Cowpea	1(0.6%)	Cotton	4(3.3%)
Insects	44(28%)	Thermocol ball	4(3.3%)
Cotton	14(8.9%)	Paper	2(1.6%)
Wooden stick	9(5.8%)	B] Inorganic	48(39%)
Paper	6(3.8%)	Chalk piece	15(12.2%)
B] Inorganic	38(24.2%)	Plastic	9(7.3%)
Plastic	16(10.2%)	Eraser	7(5.7%)
Stone	7(4.5%)	Button	4(3.3%)
Chalk piece	5(3.2%)	Stone	3(2.4%)
Metal	5(3.2%)	Ball bearing	3(2.4%)
Soap	3(1.9%)	Battery	2(1.6%)
Crayon	2(1.2%)	Nose ring	2(1.6%)
		Crayon	1(0.8%)
		Metallic nut bolt	1(0.8%)
		Naphthalene ball	1(0.8%)
TOTAL	157	TOTAL	123

*[Percentage (%) was calculated according to the respective ear, nose or throat FBs.]



Graph-2: Complications

Figure 1: Various types of FBs extracted in the present study

About 232 cases (ear-131, nose-101) required no anaesthesia while 43 cases (ear-21, nose- 22) were managed under General Anaesthesia. The commonest complications in ear FB cases were Canal wall oedema 12 (7.9%) & otitis externa 6(3.9%); epistaxis 8(6.5%) & nasal mucosal tear 6(4.9%) in nasal FB cases (Graph 2).

DISCUSSION

In this study, ear foreign bodies had the highest incidence (56.1%) followed by the nose (43.9%). This is comparable to study done by Mukhtar Ahmad *et* a, [3] Breno de Silva *et al*, [4] Endican S. *et al.* [5]

Figure 2: Aural foreign bodies

Figure 3: Nasal foreign bodies

In the present study, out of 200 cases of FB - ear, nose and throat, the youngest patient was 18 month old and the oldest patient was of 64 year old. The maximum number of cases i.e.58.9% (162) was seen in first decade (0-10 age group) while the least number of cases i.e. 5.4% (15) were seen in greater than 60 age group. Similar results of 0-10 age group preponderance were seen in the study of Ritam Ray *et al* [6] & Shreshtha *et al.* [7] Children are common victims due to their tendency to put things in their natural orifices like ear, nose. In FB ear patients over 20 years age group, FB was introduced accidentally in patients ears such as during the act of scratching the ear [Wooden sticks and paper- 14 (9.2%)cases] or by introducing ear plugs [cotton- 12 (7.9%)cases]. In FB nose patients, the incidence fell with age and only one patient was seen over 20 years of age. With growth and cognitive development, placing FBs in the nose becomes rare in adults and is seen only in psychiatric patients (1 case). The apparent male preponderance, which though was not statistically significant, could be attributed to the adventurous trait of male gender. There were similar finding by authors who reported higher incidence in male, [5,6,8] but some reported no significant gender distribution. [9]

In the present study, high proportion of FB were seen on right side 86 cases in case of FB ear and 64 cases in case of FB nose as compared to left side 61 cases in case of FB ear and 59 cases in case of FB nose with 5 cases of FB ear bilateral. Similar observation of right side laterality were made by S K Hon *et al* [8] and Prayaga *et al* [10] which postulated that it was contributed by right handedness . In

addition, a study conducted by Stamatios Peridis *et al* [11] also demonstrated significant result of handedness affecting the site of ear FBs in children. In the present study, 69.3% of FBs were found to be of organic in nature while 31.7% inorganic. The present study is comparable with other studies conducted by S K Hon *et* al [8] & Tiago *et* a1 [12] The types of the ear & nose foreign body encountered in this study vary with the age group. Plant seed/nut, followed by beads and small toys were the commonest. This is in agreement with numerous reports. [6-8] Groundnut was the most common FB removed in the present study. It is commonly given to children for its high protein and caloric value. It is known as poor man's almond in India. In contrast with adult, cotton bud was the dominant foreign body. In our opinion, the explanation of the impacted cotton bud in adult age group was probably due to habitual cleaning of the external auditory canal or itchy external ear lesion.

Most common presenting features were earache, ear discomfort, itching in FB ear cases while nasal discharge, nasal obstruction in FB nose cases. This is in agreement with numerous reports. [2-5,7,9,12-15] Radiological investigation like X-ray is very useful diagnostic tool. In our study we advised X-ray in patients whose FBs were not visible from outside. Most of the ear cases were managed by syringing 92 cases (60.5%), 24(15.8%) cases by FB Hook, 15 (9.9%) cases by Jobson horne probe, 11 cases (7.2%) by Hartmans forceps. The present study is comparable with the studies conducted by Tiago *et* al, [12] Stanley Amutta *et al* [14] for management of FB ear. Most of the nose i.e. 60 (48.8%) cases were managed by Jobson horne probe, 23 cases (18.7%) by Tilleys forceps, 11 cases (8.9%) by FB Hook, 9(7.3%) cases by DNE & Eustachian catheter. The present study is comparable with the studies conducted by Stanley Amutta [14] and Mukhtar Ahmad [3] for management of FB nose. Most of ear & nose fb were managed in OPD without any anaesthesia. Removal methods in the present study were similar to studies conducted by Stanley Amutta [14] and Mukhtar Ahmad. [3]

Our low complication rate was due to the fact that no attempt at removal of removal was done before the presentation to the ENT trained resident doctors, and otorhinolaryngologist. No death was reported in the present study. Adequate visualization, appropriate equipment, a co-operative patient and a skilled physician are the keys to successful FB removal. The site of impaction, size and shape of FB is important to plan the management protocol.

CONCLUSION

In this study, aural and nasal foreign body remained frequent in the younger age group (<10 yrs age group). Therefore, high index of suspicion is suggested for prompt diagnosis and intervention. The site of impaction, size and shape of FB is important to plan further management protocol. The foreign bodies varied according to site and age with the plant seed being the most common in the ear and nose of children while insect was the dominant ear foreign body in adult. It is important to assimilate information obtained from the history, clinical examination and radiological rather than depending on a single factor alone. Unless severely impacted every attempt should be made to extract it one piece rather than fragments. Last but not the least; a FB insertion is a preventable accident. Education of parents and public at large will go a long way in reducing these preventable mishaps in children.

REFERENCES

1. Michael Gleeson. Scott-Brown's Otorhinololaryngology - Head & Neck Surgery, 7th Edition. FBs in the ear and the aerodigestive tract in children;1184.

2. Aracy P, Tanit G, Ossamu B, Marcia A, Fernando V, Claudio M, et al. Ear and nose foreign body removal in children. Int J Pediatrotorhinolaryngol 1998;46:37-42.
3. Mukhtar Ahmad, Fayaz Wagay, Suhail Amin Patigaroo, Adil Majeed, Waseem Rafiq and Rauf Ahmad .Analysis of Ent Foreign Bodies and their Management in tertiary care Hospital. Int J Basic App Med Sci. 2013 Sep-Dec;3(3): 138-141.
4. Ribeiro da Silva BS, Souza LO, Camera MG, Tamiso AGB, Castanheira VR. Foreign bodies in otorhinolaryngology: a study of 128 cases. Int. Arch. Otorhinolaryngol. 2009;13(4):394–9.
5. Endican S, Garap JP, Dubey SP.Ear, nose and throat foreign bodies in Melanesian children: an analysis of 1037 cases. Int J Pediatr Otorhinolaryngol.2006;70(9):1539-45.
6. Ray R, Dutta M, Mukherjee M, Gayen GC. Foreign body in ear, nose and throat: experience in a tertiary hospital. Indian J Otolaryngol Head Neck Surg. 2014 Jan;66(1):13-6.
7. Shrestha I, Shrestha BL, Amatya RC. Analysis of ear, nose and throat foreign bodies in dhulikhel hospital. Kathmandu Univ Med J.2012 Apr-Jun;10(38):4-8.
8. Hon SK, Izam TM, Koay CB, Razi A. A prospective evaluation of foreign bodies presenting to the Ear, Nose and Throat Clinic, Hospital KualaLumpur. Med J Malaysia. 2001 Dec; 56(4): 463-70.
9. Ladapo AA. Danger of foreign bodies in the ear. Niger Med J 1979;9:120-2.
10. Prayaga N. Srinivas Moorthy, Madhira Srivalli, Goli V.S.Rau, and Codadu Prasanth. Study on Clinical Presentation of Ear and Nose Foreign Bodies. Indian J Otolaryngol Head Neck Surg. 2012 Mar; 64(1): 31–35.
11. Peridis S, Athanasopoulos I, Salamoura M, Parpounas K, Koudoumnakis E, Economides J. Foreign bodies of the ear and nose in children and its correlation with right or left handed children. Int J Pediatr Otorhinolaryngol. 2009 Feb; 73(2): 205-8. Epub 2008 Nov 26.
12. Tiago RS, Salgado DC, Corrêa JP, Pio MR, Lambert EE. Foreign body in ear, nose and oropharynx: experience from a tertiary hospital. Braz J Otorhinolaryngol. 2006;72(2):177-81. PMID: 16951849.
13. Ikino CMY, D'Antonio WEPA, Balbani APS, Sanchez TG, Butugan O. Análise dos atendimentos para retirada de corpos estranhos de ouvido e nariz em crianças. Rev Bras Otorrinolaringol.1998;64:379-83.
14. Stanley B Amutta, Kufre R Iseh, D Aliyu, M Abdullahi, Goshi A Abdulrahaman. Ear, nose, and throat foreign bodies in a tertiary health institution in Sokoto, Nigeria.Sahel Medical J.2013 Nov;16(3):87-92
15. Chiun KC, Tang IP, Tan TY, Jong DE. Review of ear, nose and throat foreign bodies in Sarawak General Hospital. A five year experience. Med J Malaysia 2012;67:17-20.

Abbreviations- Foreign body (FB).

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