

Evaluation of Otorhinolaryngeal Foreign Bodies Presenting to Department of ENT

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ABSTRACT

BACKGROUND

The most common complaint in emergency department of an otorhinolaryngology clinic is foreign body of ear, nose and aerodigestive tract. The factors affecting management of ear, nose and aerodigestive tract foreign bodies are types and nature of foreign bodies, site of enlodgement, time of presentation and delay in removal process. We wanted to study the pattern of presentation of foreign bodies in otorhinolaryngology department with specific attention to time delay to presentation, diagnosis, management and complications.

METHODS

All patients who presented to otorhinolaryngology department with history of ear, nose and throat foreign bodies were included in study. A standard questionnaire was designed, and all data collected regarding age, sex, types of foreign body, site of enlodgement, time delay to presentation and removal were recorded and analysed.

RESULTS

Ear foreign bodies are more common than nasal and aerodigestive tract foreign bodies. Ear and nose foreign bodies were common on right side then left side. Most of foreign body cases presented between 6-10 years of age and majority of them came to hospital within 24 hours of foreign body insertion. All foreign bodies were removed within 24 hours of admission without any major complication.

CONCLUSIONS

Foreign bodies in ear, nose and aerodigestive tract are very common in otorhinolaryngology clinic and may cause discomfort and various complications. The key to successful management is early presentation to otorhinolaryngologist, early diagnosis and prompt removal of foreign bodies. These ear, nose and aerodigestive tract foreign bodies are very common in children. Sometimes aerodigestive tract foreign bodies especially bronchial foreign bodies can cause some serious complications if diagnosis and management is delayed. Ear and nose foreign bodies are common on the right side than left side. By increasing awareness regarding these facts, we can decrease foreign bodies incidence and their complications.

KEYWORDS

Ear, Nose, Foreign Bodies, Aerodigestive Tract, Time Delay

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BACKGROUND

The most common ENT (ear nose and throat) problem in emergency in otorhinolaryngology clinic is foreign bodies in ear, nose or aerodigestive tract.¹ Most of these foreign bodies are readily removed in Out Patient Department or in emergency clinic without need for general anesthesia but some require general anesthesia because inaccessibility of foreign body or uncooperative patients specially children.² The factors which may affect the management of foreign body removal and complication are types and nature of foreign bodies, site of foreign body enlodgement, time of presentation and delay in removal process. This study evaluate the pattern of presentation of foreign bodies in ear, nose and aerodigestive tract, with specific attentions to time delay between presentation to ENT surgeon and treatment and any relation between delay presentation and complication of foreign bodies.

METHODS

All patients presented to ENT department with history of foreign bodies in ear, nose and throat included in study between august 2008 to July 2009. A standard questionnaire was designed and used to collect data on each individual patient (appendix 1). All data regarding name, age, sex, types of foreign body, side of enlodgement, number of foreign body (single, multiple), complication of foreign body, need of general anaesthesia of foreign body was recorded.

RESULTS

A total of 260 patients were admitted for foreign body in ear, nose and aerodigestive tract in ENT department. There were 136 male (52.3%) and 124 female patients (47.7%). Ear foreign body patients were 124 (46.2%), nasal foreign bodies were 80 (30.8) and 60 (23%) patients were with aerodigestive tract foreign bodies. Table 1 shows all details with age wise distribution and sex of patients. Ear and nose foreign bodies were most common in the age group between 6 to 10 years, 50% each. Aerodigestive tract foreign bodies were most common below 5 year of age (66.6%).

Types of Foreign Body with Site of Enlodgement	Age Group					
	0-5 years		6-10 years		> 10 years	
	M	F	M	F	M	F
Ear F.B. (Total 120)	10	8	32	28	22	20
Nose F.B. (Total 80)	10	10	22	18	10	10
Aerodigestive tract F.B. (Total 60)	18	22	8	6	4	2
Total (260 Patients)	38	40	62	52	36	32
	Total (78)		Total (114)		Total (68)	
F.B.=foreign body, Ear Foreign Bodies						

Table 1

Table 1

Age Wise Distribution- A total of 120 patients with ear foreign body admitted in department. 60% patients were aged between 6-10 years and 35% patients above 10 years of age, only 15% below 5 year to age.

Site of Enlodgement- 72 (60%) patients presented with foreign body on right ear as compare to left side (40%) that showed significantly higher number of cases on right side.

Organic	Number
Wooden Pieces	42 (35%)
Seeds / Beans	4 (3.3%)
Paper Pieces	2 (1.7%)
Insects	32(26.6%)
Non-Organic	
Metals	8 (6.7%)
Rubber / Plastic	2 (1.7%)
Stones	30 (25%)

Table 2. Types of Foreign Bodies Lodged in the Ear

Time Delay- 85 patients (70.8%) of total ear foreign body presented within 24 hours of insertion while 21 patients (17.5%) presented between 24 hours and one week. Only 14 patients presented after 1 week (11.7%).

Complications- After presenting to ENT department all foreign bodies of ear removed within 24 hours. No significant complication occurred with foreign body ear presented within 24 hours of insertion. Only 5 patients presented after 24 hours and before 1 week and 10 patients after 1 week had canal oedema, laceration, otitis externa and tympanic injury types complications.

Nasal Foreign Bodies

Age Distribution- Total 80 patients were admitted with foreign bodies in nose in which 40 cases (50%) were between age of 6-10 year while below 6 year and above 10 year were, 20 cases (25%) each.

Site of Enlodgement- 56 cases were responded on right side nasal cavity (70%) while only 24 cases (30%) on left side.

Types of Foreign Bodies- Nasal foreign body types showed in table 3.

Time Delay- Most of nasal foreign bodies (79%) were presented within 24 hours while only 15% (12 cases) presented after 24 hours and before 1 week. 12 cases (15%) were presented after 1 week.

Complications- After presenting to our ENT department all nasal foreign bodies were removed within 24 hours. No major complications occurred.

Organic	Number (%)
Seeds / Beans	24 (30%)
Wooden Pieces	8 (10%)
Chalks/ Paper Pieces	12 (15%)
Non-Organic	
Metals	24 (30%)
Rubber / Plastic Pieces	12 (15%)
Total	80 (100%)

Table 3. Nasal Foreign Body Types

Aerodigestive Tract Foreign Bodies

Age Distribution- 40 cases (66.7%) of total 60 cases were age of 0-5 years, between 6-10 only 14 cases (23.3%) and 10% cases (6 total) were above 10 years of age.

Types of Foreign Bodies- As listed in table 4, The most common types of aerodigestive tract foreign bodies were coins (20%), nuts (16.6%) and seeds and beans (16.6%).

Site of Enlodgement- Most common sites of enlodgement were oesophagus (43.3%), bronchus (30%) and pharynx (26.7%), respectively as shown in table 4.

Time Delay- 42 patients (70%) were presented within 24 hours of ingestion while only 8 cases (13.3%) were presented within 24 hours to 1 week. 10 cases (16.7%) were presented after 1 week.

Types of F.B.	Site of Enlodgement			
	Total (%)	Pharynx	Oesophagus	Bronchus
Coins	12 (20%)	0	12	0
Nuts	10 (16.7%)	0	2	8
Seeds/Beans	10 (16.7%)	0	4	6
Dentures	4 (6.6%)	0	2	2
Fish Bone	10 (16.7%)	8	2	0
Meat Pisces	2 (3.3%)	0	2	0
Others (Toys parts, Plastic objects, Needle pieces)	12 (20%)	8	2	2
Total	60(100%)	16(26.7%)	26(43.3%)	18(30%)

Table 4. Details of Aerodigestive Tract Foreign Bodies

F.B.= Foreign Body

Complications- After presenting to our ENT department all cases were taken to operation theatre and all foreign bodies removed successfully within 24 hours of admission. There were no major complications. Only 3 cases of bronchus foreign bodies showed delayed pneumonia (2 cases of nuts and 1 case of beans presented after 1 week) but removed and managed successfully.

DISCUSSION

Patients frequently presented to otorhinolaryngology department with ear, nose and aerodigestive tract foreign bodies. In our study, male patients were 52.3% and female were 47.7% out of 260 patients. Ear foreign bodies were most common (120 cases) followed by nasal (80 cases) and aerodigestive tract foreign bodies (60 cases). The commonest ear foreign bodies were wooden pieces (35%), insects (26.6) and Stones (25%). This may be due to easily available common house hold objects, climatic condition and poor hygienic conditions or living conditions.³ Most of ear foreign bodies were common on right side (72%) as compare to left side (38%). This may be due to right handed prominence. Most common age group in our study was 6-10 years of age (50%). This may be due to their curious nature and easily found objects at home.⁴ Most of patients in our

study presented within 24 hours of insertion (70.8%). All the patients treated with the removal of foreign body within 24 hours without any significant complications. Only patients who presented late and after 1 week (10 cases) had complications like canal oedema, laceration, otitis externa and tympanic membrane perforation. This may be due to nature of foreign bodies, prolonged duration of impaction of foreign bodies causing inflammatory response and sensitized external auditory canal. The most common age group with nasal foreign body in our study was between 6-10 years of age (50%) followed by below 6 years age (25%) comparative to other Studies.^{5,6,7} Most of nasal foreign bodies were impacted in right side (70%) than left side (30%) similar to study done by Francois et al.⁶ This may be due to right handed dominance of patients. The most common nasal foreign bodies were seeds/ beans, metals, chalks/ paper pieces, plastic parts/rubber pieces. This may be due to easy household objects availability.⁵ Curious nature of children and fun making during playing and experimentation may be the other causes of this in our study. Most of foreign bodies of nose were presented within 24 hours (70%) and all were removed safely without any complication. This may be due to early presentation and proper treatment for removal of foreign bodies of nose.⁸ Foreign bodies of aerodigestive tract constitutes less common than ear and nose foreign bodies in our study however in study done by Perz et al¹ showed the incidence of aerodigestive tract was higher than ear and nose foreign body. Most of the patients with foreign bodies in aerodigestive tract were below 6 years of age. This may be due to accidental ingestion during playing or during eating. Most of our patients were presented within 24 hrs. to 1 week. This is because of early presentation of symptoms such as choking, refusal to eat, and vomiting, drooling or respiratory distress.⁹ Very less patients (16.6%) came after 1 week this is due to unknowingness of foreign body especially bronchial foreign bodies and late presentation of foreign bodies.

The most common type of aerodigestive tract foreign bodies in our study were coins (20%), nuts (16.7%), seeds and bean (16.5%). This may be due to their readily availability as house hold objects. In our study oesophageal and pharyngeal foreign bodies were more common (total 70%) than bronchial foreign bodies. All aerodigestive tract foreign bodies were removed within 24 hrs. of admission in our department without any major complications. Only 3 cases of bronchial foreign bodies of nuts and beans/seeds which prevented after 1 week of insertion had pneumonia and chest infection. This may be due to vegetative nature of foreign bodies and late presentation.¹⁰ Therefore early diagnosis, prompt admission and early removal is the key to manage the aero digestive tract foreign bodies.^{10,11} Laryngoscopy (flexible) is very useful for detection and management of throat foreign bodies.¹² A thorough history, examination and investigation to make easy diagnosis and prompt treatment without complications is must to treat all aerodigestive foreign bodies.

CONCLUSIONS

Foreign bodies in the ear, nose and aerodigestive tract are very common in otorhinolaryngology clinic and may cause discomfort and various complications. The key to successful management is early presentation to otorhinolaryngologist, early diagnosis and prompt removal of foreign bodies. These ear, nose and aerodigestive tract foreign bodies are very common in children. Sometimes aerodigestive tract foreign bodies especially bronchial foreign bodies can cause some serious complications if diagnosis and management is delayed. Ear and nose foreign bodies are common on right side than left side. By increasing awareness regarding these facts, we can decrease the incidence and complications of foreign bodies.

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