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Foreign Bodies In The Ear, Nose And Throat In A Tertiary Health Institution In Enugu, South -East Nigeria.

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Abstract

Introduction: Foreign bodies in the ear, nose and throat are common problems seen by otorhinolaryngologist. Many such presentations usually come in dramatic though not life threatening forms, but there is no more urgent situation in surgery than a foreign body in the upper airway producing hypoxia by obstruction to the airway. The objective of this study is firstly to determine the pattern of ear, nose and throat foreign bodies in a tertiary health institution in Enugu, south east Nigeria and then to give appropriate advice to the non-specialists working in resource- poor countries on the most appropriate way to successfully manage ENT foreign bodies.

Method: This is a two year retrospective study using the records of all cases of ENT foreign bodies at Enugu State University of Science and Technology Teaching Hospital Parklane from January 2013 to December 2014. Data analysis was carried out using SPSS for window version14.

Result: Out of 98 cases recorded, 47 (48%) were males and 51(52%) females. Foreign bodies in the ear 65(66%) were commonest, followed by nasal foreign bodies 28(28.6%) and throat foreign bodies 5(5.1%). Majority of the cases occur in children under the age of 5 years (41.8%). The more common foreign bodies found were cotton bud 23(23.5%) followed by bead 22(22.4%). Various methods were used for removal of the foreign bodies and syringing method was the commonest.

Conclusion: Ear, nose and throat foreign bodies were seen more in children than in adults. High index of suspicious is required by the primary physicians and other health care givers. Urgent referral of difficult cases to an otorhinolaryngologist for removal is very necessary in order to avoid complications and occasional deaths.

Keywords: Resource -poor Countries, Primary Physicians, Otorhinolaryngology, impacted foreign body, life threatening.

Introduction

Foreign bodies in ear, nose and throat are common problem seen in most hospitals. Many require urgent referral to oto-rhino-laryngologists for removal, in Ear, Nose and Throat (ENT) outpatient clinics and emergency services[1]. It is estimated to account for approximately 11% of the total cases in ENT clinics[2]. It occurs more in children as, fewer cases are seen in adults. Foreign bodies can be introduced spontaneously or accidently in both children and adults. The high incidence of foreign bodies in children are due to various factors such as curiosity to

explore orifices, imitation, boredom, playing, mental retardation, insanity, attention deficit, hyperactivity disorder along with availability of the objects and absence of wakeful care-givers[3]. The presentation of foreign bodies varies, and depends on the site involved. Foreign bodies in the airway is life threatening and associated with clinical features such as noisy breathing, coughing, apnea and restlessness. Foreign bodies in other aero-digestive tract may present as mild to severe discomfort, pain, blockage, bleeding, discharge and impaired function of the involved site[4]. A rough guide in the clinical diagnosis of ingested or aspirated foreign body (FB) is that in the former, patient presents with drooling, dysphagia, and stridor (if very large) while in the later there is usually stridor (if lodged in trachea), unilateral 'asthma' (if bronchial) and with features of cough, lobar pneumonia, atelectasis, pneumothorax or media-sternal shift (if impacts to totally occlude airway). The rapid onset of symptoms without systemic manifestations is also an aid to clinical diagnosis of impacted FB.

Removal of ENT foreign bodies varies and depends on many factors such as the chemical compositions, shape and dimensions of the foreign bodies, and anatomical site involved[3], the physicians dexterity the equipment available and patient's cooperation.

Various methods of foreign body removal have been described. Many can be removed in the outpatient clinics. They include syringing, use of instruments like forceps (Tilley's), fine hook and suction machine. Few cases of foreign body removal are carried out in an operating room with the patient under sedation or general anaesthesia[4]. Many studies had been carried out in various part of Nigeria regarding otorhinolaryngology foreign bodies but none had been done in Enugu- south east Nigeria in recent time hence the importance of this study. It is our earnest hope that our methods of removal can find wide applications in many hospitals across developing countries.

Methods

The study was a retrospective review of all patients that were managed for ENT foreign body at otorhinolaryngology department of Enugu State University of Science and Technology Parklane over a period of two years between January 2013 and December 2014. The case notes of the patient were retrieved from the medical records department of the hospital. The parameters extracted from the records included age, sex, types of foreign body and the site/side of impaction and method for its successful removal and some precautions to avoid complications arising from such removal. Patients whose case record could not be found and those that had incomplete information were excluded.

Data was analysed using the SPSS for windows version 14 and presented in simple descriptive terms in tables, graphs and charts.

Results

Different types of foreign bodies in ear, nose and throat has be presented in Tables 1 and Chart 2. A total of 98 patients were seen during the study period out of which 47 were males (48%) and 51were females (52%). Ear foreign bodies 65(66.3%) were the most common, followed by those in the nose 28(28.6%) and those in the throat were 5(5.1%). The age range was 4months to 72years. The highest incidence of foreign bodies occurred between 0-4years with 41 cases (41.8%) followed by 5-9years 23cases (23.5%) as show in Table 2 and Chart 2.The various types of foreign bodies seen are as shown in Table 1,with cotton bud being the commonest foreign body found in the ear, while bead occur more in the nose. However foreign bodies such as bone (fish), coin, metallic

objects and orange leaf were seen in the throat. (see bar chart). Removal by syringing was the commonest method used in 41cases (41.8%) followed by manual method used in 38 cases (38.1%), and 16cases (16.3%) were removed under general anaesthesia while 3 cases (3.1%) were referred to higher centers because of failure to remove them, as Shown in Table 3 and Bar chart.

Overall ENT foreign bodies where seen more in children (71) cases (70.4%) than in adults (27) cases as shown in Table 4.

Foreign Bodies		site			Total
		Ear	Nose	Throat	
Foreign bodies	Bead	10	12	0	22
	Stone	8	1	0	9
	Cotton Bud	22	1	0	23
	Beans	5	5	0	10
	Cotton Wool	2	0	0	2
	Ear Ring	3	1	0	4
	Tissue Paper	1	0	0	1
	Incents	7	0	0	7
	Fish Bone	0	0	1	1
	Button	1	2	0	3
	Eraser	2	1	0	3
	Coin Like Object	0	0	1	1
	Water Proof	0	2	0	2
	Leader	0	1	0	1
	Palm Kernel	0	1	0	1
	Biro Bottom Cover	1	1	0	2
	Match Stick	1	0	0	1
	Paper	1	0	0	1
	Stick	1	0	0	1
	Mettalic Object	0	0	1	1
	Orange leaf	0	0	1	1
	Bone	0	0	1	1
Total		65	28	5	98

Table 1: Various Types of ENT Foreign Bodies by site

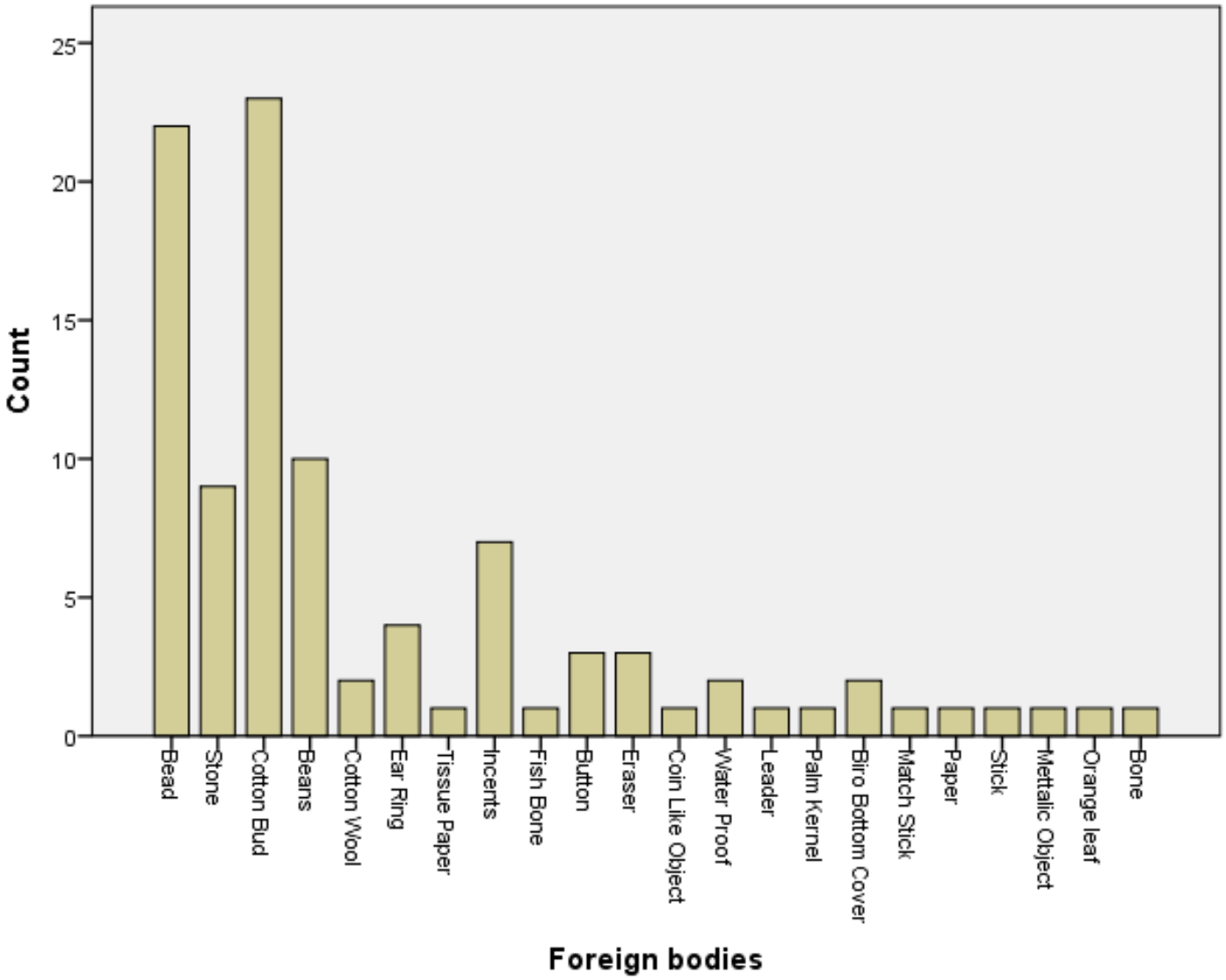

Fig 1

Table 2: Sex Distribution of the Foreign Bodies

		Sex		Total
		Male	Female	
site	Ear	30	35	65
	Nose	13	15	28
	Throat	4	1	5
Total		47	51	98

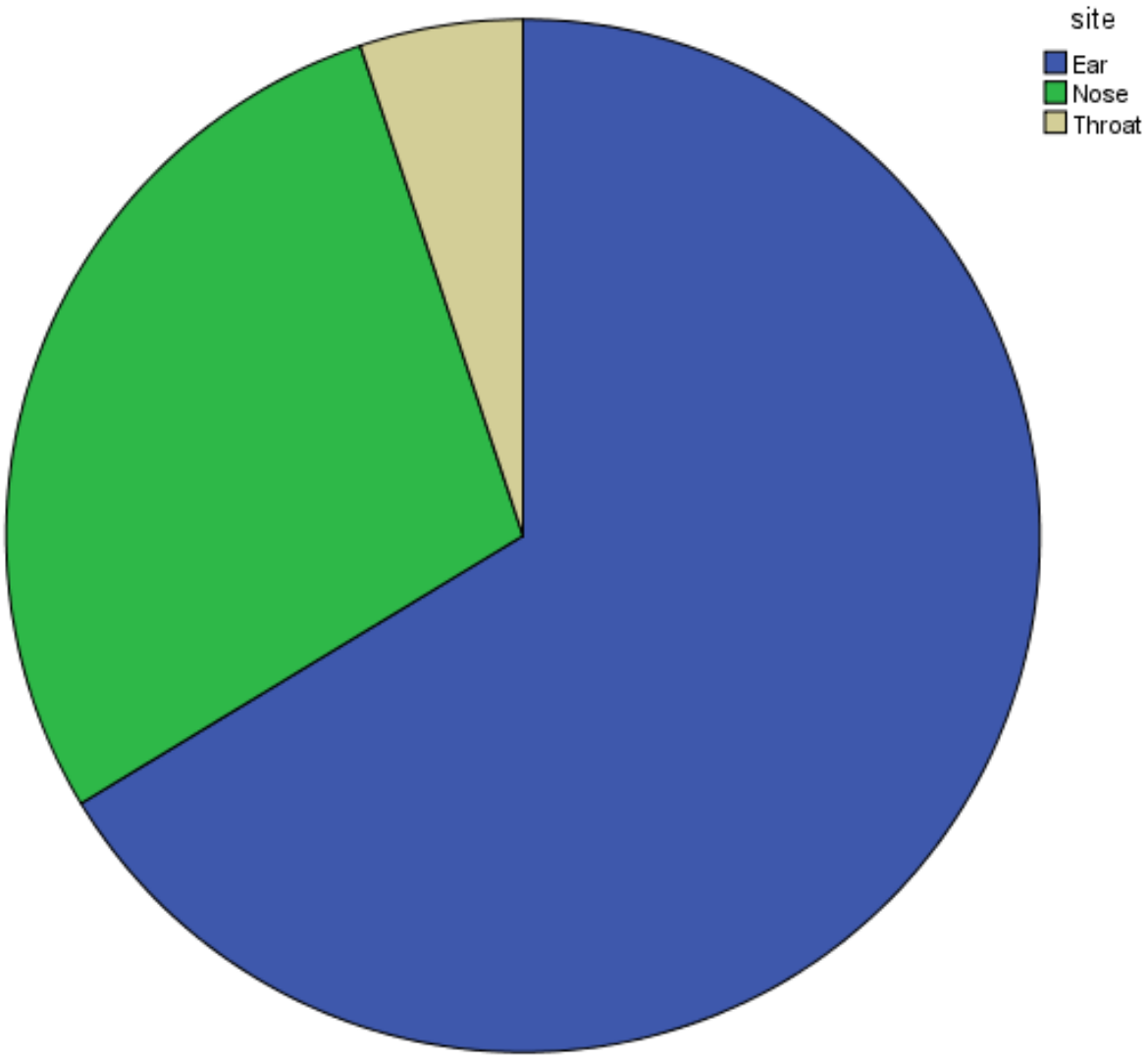

Fig 2

Table 3: Age Distribution of the Foreign Bodies

Age Group

		Frequency	Percent
Valid	Adult	27	27.6
	Child	71	72.4
	Total	98	100.0

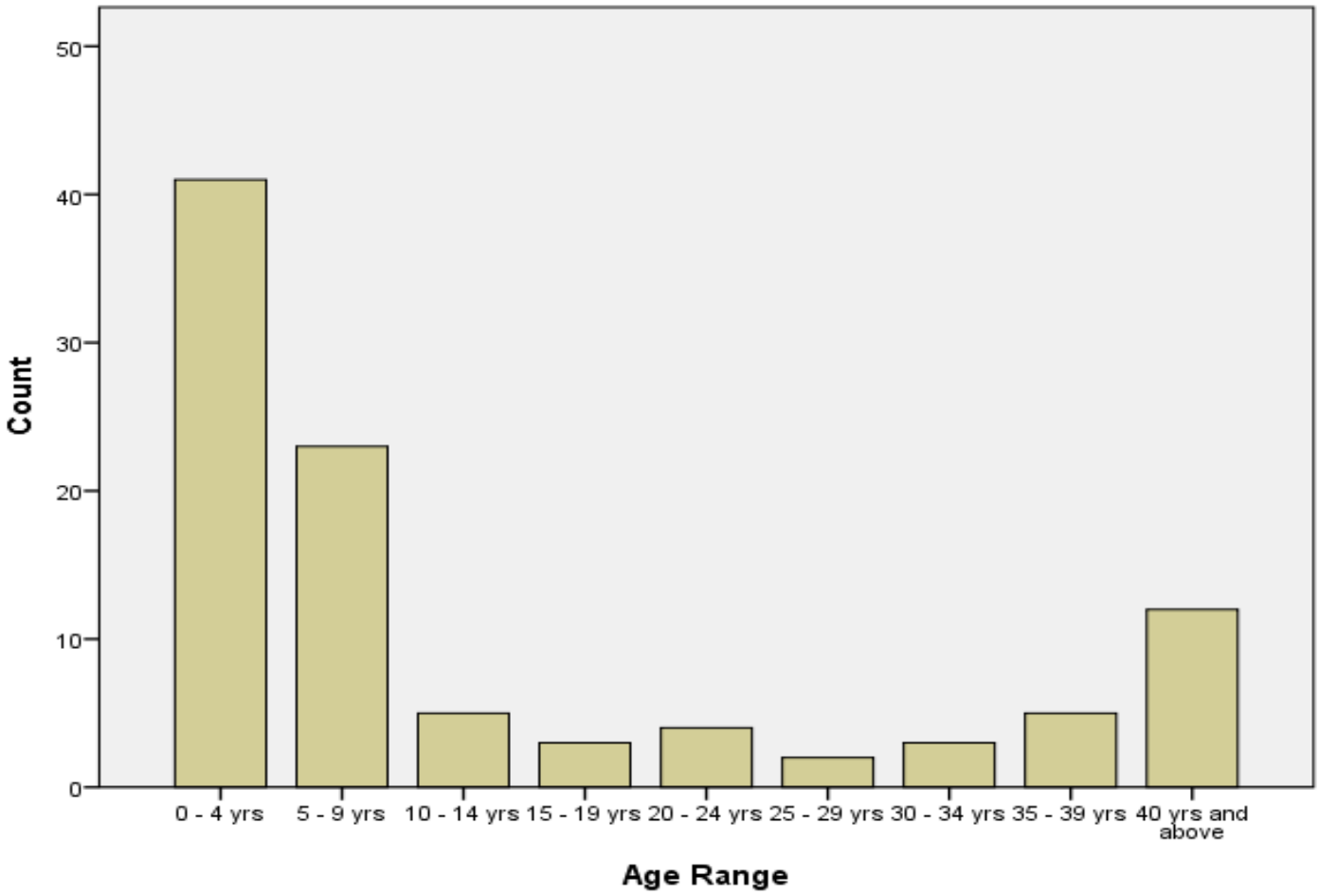

Fig 3- Age distribution of the Foreign Bodies

Foreign bodies * Method of Removal

FOREIGN BODIES		Method of Removal				Total
		Syringing	Manual Removal	Under GA	Refered	
Foreign bodies	Bead	6	10	6	0	22
	Stone	5	4	0	0	9
	Cotton Bud	17	6	0	0	23
	Beans	1	9	0	0	10
	Cotton Wool	1	1	0	0	2
	Ear Ring	1	1	2	0	4
	Tissue Paper	1	0	0	0	1
	Incents	6	1	0	0	7
	Fish Bone	0	0	0	1	1
	Button	1	0	2	0	3

	Eraser	1	2	0	0	3
	Coin Like Object	0	0	0	1	1
	Water Proof	0	1	1	0	2
	Leader	0	0	1	0	1
	Palm Kernel	0	1	0	0	1
	Biro Bottom Cover	0	1	1	0	2
	Match Stick	0	1	0	0	1
	Paper	1	0	0	0	1
	Stick	0	0	1	0	1
	Mettalic Object	0	0	1	0	1
	Orange leaf	0	0	1	0	1
	Bone	0	0	0	1	1
Total		41	38	16	3	98

Table 4

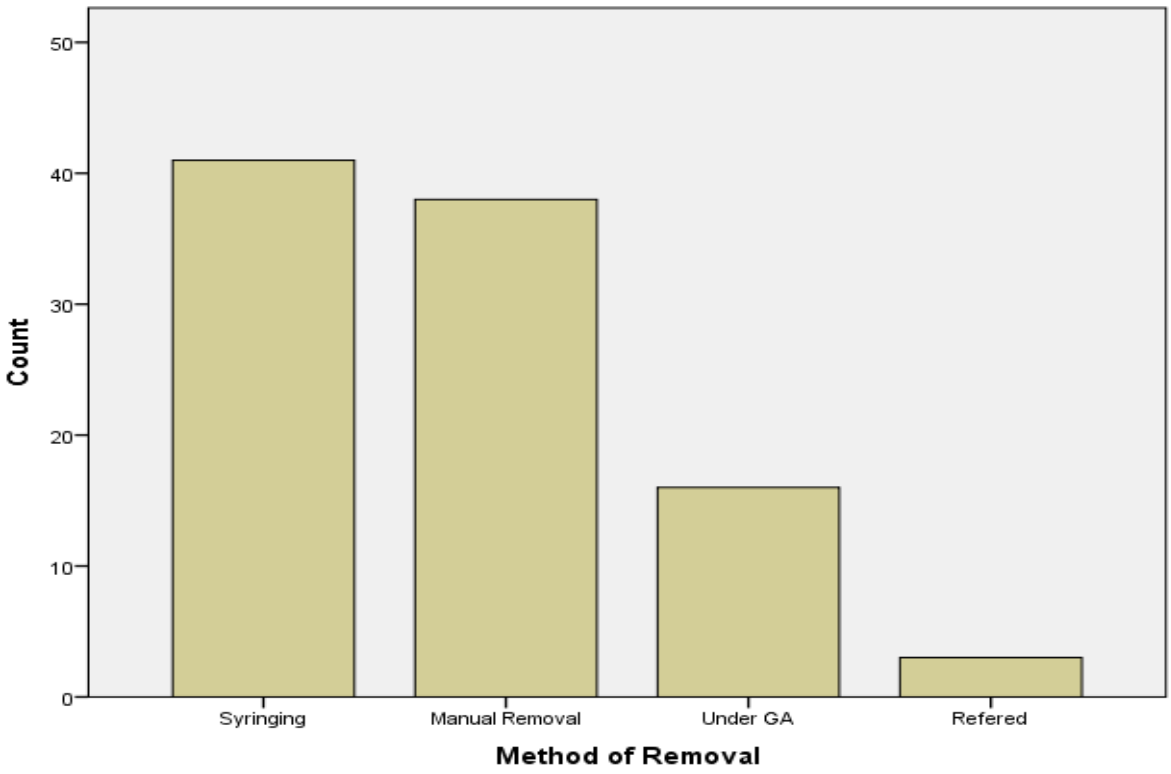

Fig 4

Foreign bodies * Age Group

		Age Group		Total
		Adult	Child	
Foreign bodies	Bead	1	21	22
	Stone	0	9	9
	Cotton Bud	16	7	23
	Beans	0	10	10
	Cotton Wool	1	1	2
	Ear Ring	1	3	4
	Tissue Paper	0	1	1
	Incents	7	0	7
	Fish Bone	1	0	1
	Button	0	3	3
	Eraser	0	3	3
	Coin Like Object	0	1	1
	Water Proof	0	2	2
	Leader	0	1	1
	Palm Kernel	0	1	1
	Biro Bottom Cover	0	2	2
	Match Stick	0	1	1
	Paper	0	1	1
	Stick	0	1	1
	Mettalic Object	0	1	1
	Orange leaf	0	1	1
	Bone	0	1	1
Total		27	71	98

Table V

Discussion

Foreign bodies in the ENT are common in our environment and represent one of the challenging emergencies that confront otorhinolarygologist in their daily practice [5,6]. Children were affected most as shown in Table 4(70.4%) in the age range of 10years and below. Moreover the prevalence was disproportionately higher in children between 0-4years at (41.8%).Studies done in other hospitals reported similar finding [(7,8,9,10,11)]. Some reasons had been adduced for this finding. These include

the explorative and inquisitive nature of children, increase in bodily activities and sometimes parental carelessness.

This study showed marginal female preponderance with male/female ratio of 1:1.1 This disagrees with previous studies[7,11], but Ette et al in Uyo south-south Nigeria, reported a similar finding [12].

Foreign bodies found in the ear were the most common (66.3%), followed by nasal foreign bodies (28.6%) before throat foreign bodies (5.1%). Studies done by others had reported similar pattern [13,14,15]. However, both right and left ear had almost the same number of foreign bodies with 32cases in (R) and 33cases in the(L) respectively. Various type of foreign bodies were found in the ear with cotton buds being the commonest, seen mostly in adults, and followed by beads, stones, insect, and seeds (beans, groundnut) that occurred mainly in children. Cotton buds and bean seeds have the tendencies to elicit inflammatory reaction [11a]. It is observed that majority of adults had formed the habit of cleaning their external auditory canal with cotton buds.This habit is of no benefit, because it disrupts the natural ear cleaning mechanism by epithelial migration along the walls of the external auditory canal. There is need for public health education in order to create awareness to the populace that cleaning the ear with cotton bud is a bad habit since the ear cleanses itself. Moreso the tip of the cotton bud can detach and get stock into the ear canal especially when it is wet. This may lead to discomfort, otalgia and hearing impairment if not removed immediately. Impacted cotton bud can be removed easily by manual extraction or by ear syringing[11].

Foreign bodies in the nose in this study occurred mostly in children with a peak in the 0-4years age group. This is similar to findings by other authors [4,7,4]. Beads are the commonest foreign bodies in the nose. Ibekwe et al noted similar finding in the Niger delta Nigeria[16]. Other foreign bodies that occurred in the nose were stone, beans and button. No foreign body was seen in the nose of any adult. Amutta et al reported a sewing needle impacted beneath the nasal mucosa of a young adult magician[4]. Nasal foreign bodies typically present with unilateral nasal discharge, which could be bloody and cause diagnostic problems especially in adults. In most adults and older children who may co-operate it can be removed mainly in the clinic with good illumination using headlight and Jobson Horne probe. In neonates and infants, removal will be done in the theatre under G.A, and in our centre we utilize ketamine hydrochloride intramuscularly.

Foreign bodies found in the throat in the study were very few (5%). Fish bone was found impacted in the tonsils. It was similar to what Ette et al reported in Uyo, Nigeria. This study also found a case of coin-like object in the throat. The reason for the absence maybe because in Nigeria coins are no longer accepted as a means of exchange, and are therefore few in circulation. But few decades ago Ahmed et al [17] in Maiduguri noted that coin was the commonest foreign body in the throat.

Foreign bodies in the esophagus, trachea and bronchial tree that we diagnosed were usually referred to other tertiary hospitals because of non-availability of oesophagoscope or bronchoscope in our centre during the period of study, but a case of foreign body in the trachea recorded in this hospital before the study period resulted in tracheostomy by the general surgeon for the removal of groundnut seed in a 2 year old because of severe hypoxia. The diagnosis of majority of these foreign bodies were made clinical but in those were suspected were in the throat, esophagus or upper respiratory tree we were aided by plain-Xrays of the chest (inspiration-expiration) with/without inclusion of the neck. Unfortunately,as

mentioned above, we do not have esophaguscope or bronchoscope which would have been very useful in both diagnosis and removal.

Most of the foreign body removed were by the senior registrars especially those involving syringing and manual method and syringing method was found to be the most common method followed by the manual removal method. Consultants undertook the removal wherever GA is needed and always in the theater. Foreign bodies found in the osephagus and tracheobronchial tree were refereed to other nearby centres with appropriates endoscopes and otorhinolargyngologist instead of resorting to open methods of removal. Higher prevalence of complications were reported in patient whose foreign bodies were removed by personnel who did not have adequate training in otorhinolargyngological practice [6,18,19] therefore patients, parents and guardians are advised not to attempt removal at home but to present to a health facility. In hospitals, those without appropriate experience showed always refer such cases but every physician should be competent in the removal of most ear and nose foreign bodies and only difficult cases or those of long standing need be referred. This is more so in resource-poor countries where specialists in ENT are very few.

Conclusion

Foreign bodies in ear nose and throat are common in children. It is important that primary health physicians, paediatricians and other health care givers are aware of this problem and refer such cases to otorhinolargologist for adequate management. Prevention and reduction in incidence of ear, nose and throat foreign bodies may be possible if parents and care givers keep objects that may constitute foreign bodies out of the reach of children.

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