Foreign bodies in ear, nose and throat patients ,review of causes and management in Kirkuk city

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Abstract

Background :Ear, nose and throat (ENT) foreign body (FB) injuries represent an emerging problem of population because of their human and social costs. Foreign body in ear nose and throat are commonly encountered by otolaryngologists, pediatricians and primary care physicians. They account to about 11% of cases of emergencies in Otorhinolaryngology. Foreign bodies were most common in younger children less than five years of age. Certain factors are responsible leading to foreign body insertion in ear, nose and throat like curiosity or desire to explore orifices especially by children in addition to accidental causes.

Patients and methods:This is a prospective study carried out in Azadi Teaching Hospital involving the patients and it ran from 1st of October 2014until 6th March 2015.

Information from 110 patients were collected, and each one of them was interviewed using a questionnaire. The questionnaire sought information regarding age, sex, site and location, type of management of foreign bodies, number of trial to remove the foreign bodies, presence of complication or not and types of foreign bodies seen.

Results :Concerning the site and location of foreign bodies 40.9% were found in ear while 39.1% in nose and the remaining 20% were in throat. The study showed higher percentage of foreign bodies among children less than 5 years old and male patient .Also it was noted that most of the foreign bodies were removed from fist trial and that only 31,8% of the patients had experienced complications .

Conclusions: From this study we conclude that foreign bodies are common in adult and pediatric ear, nose and throat. They can potentially be associated with significant complications if not taken care of immediately. Several trials may be needed to remove the foreign body.

Introduction

Foreign body in ear nose and throat are commonly encountered by otolaryngologists, pediatricians and primary care physicians (1). Children are known to put small objects into their body orifices especially nasal cavity. This is because of their curiosity to explore, lack of supervision and availability of such objects around them. Although more frequently seen in the pediatric setting, they can also affect adults especially those with mental retardation or psychiatric illness (2).

They account to about 11% of cases of emergencies in Otorhinolaryngology. Foreign bodies were most common in younger children less than five years of age. Certain factors are responsible leading to foreign body insertion in ear, nose and throat like curiosity or desire to explore orifices especially by children. This occurs due to easy availability of the objects and absence of watchful caregivers. Other factorials are imitation, boredom, fun making, mental retardation, insanity and attention deficit hyperactivity disorder.

Many people resort to self-treatment, without contacting professional health care workers to save time, money, thinking it to be a minor ailment, lack of otolaryngologists and thus lead to complications. The different types of foreign bodies are classified as living and non-

living. Amongst the non-living ones are organic and inorganic. Removal of foreign bodies requires good anatomical knowledge along with certain skills and techniques depending on its location (1).

In many cases, patients with foreign bodies in the ear are asymptomatic, and in children the foreign body is often an incidental finding. Other patients may present with pain, symptoms of otitis externa, hearing loss, or a sense of ear fullness. In several large case series focusing on children, researchers found that 75 percent of patients with ear foreign bodies were younger than eight years.Similar studies on adult patients are lacking. Graspable foreign bodies (e.g., foam rubber, paper, vegetable material) have higher rates of success for removal under direct visualization. In contrast, non graspable foreign bodies (e.g., beads, pebbles, popcorn kernels) have lower rates of successful removal and are associated with more complications, particularly canal lacerations(3).

Most nasal foreign bodies can be easily removed in the office or emergency department. Patients often present with unilateral, foul-smelling nasal discharge. Common nasal foreign bodies include beads, buttons, toy parts, pebbles, candle wax, food, paper, cloth, and button batteries.Removal can be completed. Patients may be able to expel the nasal foreign body simply by "blowing their nose" while blocking the opposite nostril (3).

If this fails, special instruments are used.Button batteries must be removed from the nose immediately because of the danger of liquefaction necrosis of the surrounding tissue (3).

All pharyngeal foreign bodies are medical emergencies that require airway protection. Because complete airway obstruction usually occurs at the time of aspiration and results in immediate respiratory distress, emergency intervention is essential. Common obstructing foreign bodies in children include balloons, pieces of soft deformable plastic, and food boluses fish bones or meat bones. Patients with non-obstructing or partially obstructing foreign bodies in the throat often present with a history of choking, dysphagia, odynophagia, or dysphonia. Radiography can be helpful in localizing coins, button batteries, and other radiopaque objects, but most laryngeal foreign bodies, including many fish bones, are radiolucent. Therefore, the decision to pursue surgical intervention should be based on the patient's history and a physical examination that suggests the presence of a foreign body rather than based on radiography alone. Early consultation is advisable because pharyngeal foreign bodies are difficult to visualize without the use of flexible or rigid endoscopy. Because the airway must be protected, most foreign bodies in the throat require otolaryngology intervention with sedation and endoscopic removal. Complications include airway obstruction, laryngeal edema, and pushing the foreign body into the subglottic space, esophagus, or trachea (3).

Aims and objectives

1- Site-specific evaluation of foreign body injuries which are referred to the

emergency or the ENT specialty department

2- To know which is the most specific age and gender that has the high percentage of foreign bodies injuries.

3-Assesment of complications percentage associated with foreign body and its removal.

Patients and methods

This study was conducted in Azadi Teaching Hospital from1st of October 2014 until 6th of March 2015.

During the period of the study Information from 110 patients were collected, and each one of them was interviewed using a questionnaire. The questionnaire sought information regarding age, sex, site and location of foreign bodies, the mode of presentation, complications and number of trials to remove the foreign bodies, and types of foreign bodies seen.

Also evaluation of the patients being right or left handed and whether the foreign bodies are managed and removed in the ward or need general anesthesia and Operation Theater.

Results

The study contained an over-all 110 person, (figure 1) showed that 62.7% of the cases were males while 37.3% were females.

Regarding age (figure2), the result shows that the most common age group was below five years old which is about 40.9% and the second most common age group was between five and ten years old comprising 19.1% of cases. The remaining 39% was distributed among age groups above ten years of age.

we note that cases under 5 years of age was 45 (40.9%). These cases are then subdivided to 11 (24.44%) of ear, 30 (66.66%) of nose and 4 (8.9%) of throat as in (figure 3).

Concerning the site and location of foreign bodies (table 2), 40.9% were found in ear while 39.1% in nose and the remaining 20% were in throat. From these cases 20.9% were in right ear and 20% were in left. Cases of nose was divided by 30.9% being on right while 8.2% being on left nose. About foreign bodies in throat, nil were found in nasopharynx while 12.73%, 6.37 and 0.9% were found in oropharynx, hypopharynx and larynx respectively.

Concerning the management of cases of foreign bodies in ENT (figure 2), 76.36% of them were removed in ward and 23.64% removed in theatre.

Regarding number of removal trials of foreign bodies (table 3) most of them (70%) were removed from 1st trial while 24.54% and 5.46% were removed from 2nd and 3rd trials respectively.

Lastly, the most common foreign body seen was cotton of about 20.9% (table 4), followed by fishbone 9.1% and the remaining are listed in table 3.

Discussion

The ENT department in every hospital deal with a major parcel of natural corporeal holes by which the foreign bodies may be introduced, such as: ear, nose and mouth.

A total of 110 patients had foreign body in ENT during the time period under study. There were 62.7% males with 37.3% females.

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that 128 patients had foreign body in this time period with (71) 55.47% being men and (57) 44.53% women(5).

This study shows that cotton was mostly found in about 23 (20.9%) cases, mainly from the habit of the population to use cotton swabs for cleaning and relief of ear pruritis. The fishbone is the second leading foreign body we found with 9.1% of about 10 cases. In children we found more varied plastic

fragments 9 (8.2%), since piece of toys, buttons, up to glass beads, etc. Sponge and paper fragments, generally removed from pillows, mattress, books and notebooks were the mostly found nasal foreign bodies. Seed also has a significant percentage 8.2% of 9 cases and also battery can be neglected with 6.38% (7 cases).

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that from total of 86 ear cases, 37 was cotton, 16 plastic fragments, 6 seed, 7 silicon and the remaining 20 was others including insects, metals and glass materials. From the total of 24 nose cases there were 8 sponge and 8 paper fragments and 10 other foreign bodies. The throat foreign bodies include: 13 fish bone, 3 greens stalk and to others of a total of 18.(5).

The most common age group was below five years old which is about 40.9% and the second most common age group was between five and ten years old comprising 19.1% of cases. The remaining 39% was distributed among age groups above ten years of age.

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that the most common age group is (0-10) of (41) 32.03%, then (11-20) of (9) 7.03%, then (21-59) of (74) 57.03% and (60 and above) of (4) 3.15%.(5).

The site and location of foreign bodies, 40.9% were found in ear while 39.1% in nose and the remaining 20% were in throat. From these cases 20.9% were in right ear and 20% were in left. Cases of nose was divided by 30.9% being on right while 8.2% being on left nose. About foreign bodies in throat, nil were found in nasopharynx while 12.73%, 6.37 and 0.9% were found in oropharynx, hypopharynx and larynx respectively.

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that the foreign bodies are found in ear with (86) 67.18%, in nose with (24) 18.75% and in throat with (18) 14.07%. The ear foreign bodies are found with (45) 52.32% in right, (39) 45.34% in left and only (2) 2.34% were found in both ears. Concerning nose foreign bodies (9) 37.5% found in right nostril, (14) 58.33% in left and only (1) 4.17% found in both nostrils(5).

The management of cases of foreign bodies in ENT is done either in ward or in theatre with 76.36% of them being removed in ward and 23.64% in theatre.

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that the foreign bodies of ear are removed in ward with different techniques of 90.69% and only 9.31% were removed in theatre under general anesthesia. Regarding foreign bodies in nose 95.83% were removed in ward while only 4.17% in theatre. Lastly, 85.33% of the foreign bodies in throat were removed in ward and the remaining 16.67% were removed in theatre under general anesthesia(5).

Regarding number of removal trials of foreign bodies, most of them (70%) were removed from 1st trial while 24.54% and 5.46% were removed from 2nd and 3rd trials respectively

and this may be due to trials don by parents and. unqualified personnel to remove the foreign bodies.

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that the cases are removed from 1st trial at emergency room with a percentage of (83) 64.85%. The remaining (45) 35.15% were removed by 2nd trial being manipulated and sent from another location (any physician, relative ... etc.).

Some of the cases caused complication of about 31.8% due to the foreign body associated injury or faulty trials for removal and in the remaining 68.2%, no complication has seen(5).

These results are compared with a study that was done in Hospital Paulista de Otorrinolaringologia at São Paulo city in the period from August 2005 through august 2007, where the study of Foreign Bodies in Otorhinolaryngology is established and indicate that complications of either the foreign body or the removal technique is only seen in (18) 14.06% of the cases while in 85.94% of them being recovered without any complication(5).

The differences in relation to the literature seen both in the need for general anesthesia and complication rates may be explained by the fact that our cases of foreign bodies were manipulated before admission to ENT emergency room. As experts on the matter, they are more used to properly managing cases of foreign bodies, which by its turn reduces the chances of complication(4).

Conclusions and Recommendations

Foreign bodies are common in adult and pediatric ear, nose and throat. They can potentially be associated with significant complications if not taken care of immediately. Several trials may be needed to remove the foreign body.

We recommend parents, relatives and untrained health workers should desist from removing foreign bodies.

Health workers who will handle foreign bodies should be well trained and should know their limits when trying to remove them.

Ear foreign body removal except when causing distressing symptoms is not an emergency and so no hasty attempts should be made to remove them. It should be done when the child is cooperative, adequately restrained or under general anesthesia.

References

Richard S. Snell; Clinical Anatomy by Regions, chapter 11, the head and neck, 9th edition, p: 562 – 569.

Shrestha I, Shrestha BL, Amatya RCM ; Analysis of Ear, Nose and Throat Foreign Bodies in Dhulikhel Hospital , KATHMANDU UNIVERSITY MEDICAL JOURNAL,2012, vol:38, p:4-8.

Olajide T. Gabriel, Olayade K. Okunade, Dunmade A. David ,Agboola S. Mathew; Review of Nasal Foreign Bodies in Children at a Rural Federal Medical institution in South West, Nigeria, Advances in Medical Sciences , Vol:3 (1), p: 016-021.

STEVEN W. HEIM, MD, MSPH, and KAREN L. MAUGHAN, MD; Foreign Bodies in the Ear, Nose, and Throat, American Family Physician, Vol: 76, p: 1185-1189.

Foreign Bodies in Otorhinolaryngology: A Study of 128 Cases, from 8/2005 to 8/2007, Hospital Paulista de Otorrinolaringologia, São Paulo – Brazil.

"otolaryngologist" entry in: Peter Harris, Sue Nagy, Nicholas Vardaxis, Mosby's Dictionary of Medicine, Nursing & Health Professions -

Australian & New Zealand Edition, Elsevier Health Sciences, 2009.

Heim SW, Maughan KL. Foreign bodies in the ear, nose, and throat. Am Fam Physician. 2007; 76(8):1185-9. PMID: 17990843

Thompson SK, Wein RO, Dutcher PO. External auditory canal foreign body removal: management practices and outcomes. Laryngoscope. 2003; 113(11):1912-5. PMID: 14603046

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

Marin JR, Trainor JL Foreign body removal from the external auditory canal in a pediatric emergency department. PediatrEmerg Care. 2006; 22(9):630-4.

Endican S, Garap JP, Dubey SP. Ear, nose and throat foreign bodies in Melanesian children: an analysis of 1037 cases. Int J PediatrOtorhinolaryngol. 2006; 70(9):1539-45. PMID: 16707167

DiMuzio J Jr, Deschler DG. Emergency department management of foreign bodies of the external ear canal in children. OtolNeurotol. 2002;23:473–5.

Ansley JF, Cunningham MJ. Treatment of aural foreign bodies in children. Pediatrics. 1998;101(4 pt 1):638–41.

Thompson SK, Wein RO, Dutcher PO. External auditory canal foreign body removal: management practices and outcomes. Laryngoscope. 2003;113:1912–5.

Chan TC, Ufberg J, Harrigan RA, Vilke GM. Nasal foreign body removal. J Emerg Med. 2004;26:441–5.

Fox JR. Fogarty catheter removal of nasal foreign bodies. Ann Emerg Med. 1980;9:37–8.

Botma M, Bader R, Kubba H. 'A parent's kiss': evaluating an unusual method for removing nasal foreign bodies in children. J Laryngol Otol. 2000;114:598–600.

Finkelstein JA. Oral Ambu-bag insufflation to remove unilateral nasal foreign bodies. Am J Emerg Med. 1996; 14:57–8.

Table (1) percentage of distribution according to site and location of the foreign bodies among cases of foreign bodies in ENT

Site	Number	Percentage		Number	Percentage
Ear	45	40.9%	Right	23	20.9%
			Left	22	20%
nose	43	39.1%	Right	34	30.9%
			Left	9	8.2%
Throat	22	20%	Nasopharynx	0	0%
			Oropharynx	14	12.73%
			Hypopharynx	7	6.37%
			Larynx	1	0.9%
Total	110	100%		110	100%

Table (2) percentage of distribution according to number of removal trials of foreign bodies among cases of foreign bodies in ENT

Trials	Number	Percentage
1st	77	70%
2nd	27	24.54%
3rd	6	5.46%
Total	110	100%

Some of the cases caused complication of about 31.8% (figure 6) and in the remaining 68.2%, no complication has seen.

Table (3) percentage of distribution according to types of foreign bodies among cases of foreign bodies in ENT

Types	Number	Percentage
Cotton	23	20.9%
Fishbone	10	9.1%
Seed	9	8.2%
Plastic material	9	8.2%
Battery	7	6.38%
Plastic pistol shot	7	6.38%
Stone	7	6.38%
Piece of paper	6	5.45%
Bead	5	4.55%
Insect	4	3.62%
Sponge	3	2.72%
Needle	3	2.72%
Artificial clay	3	2.72%
Pop corn	2	1.82%
hard food	3	2.72%
Piece of rubber	2	1.82%
Peanuts	1	0.9%
Denture	1	0.9%
Ring	2	1.82%
Piece of onion	1	0.9%
Chicken bone	1	0.9%
Screw	1	0.9%
Total	110	100%

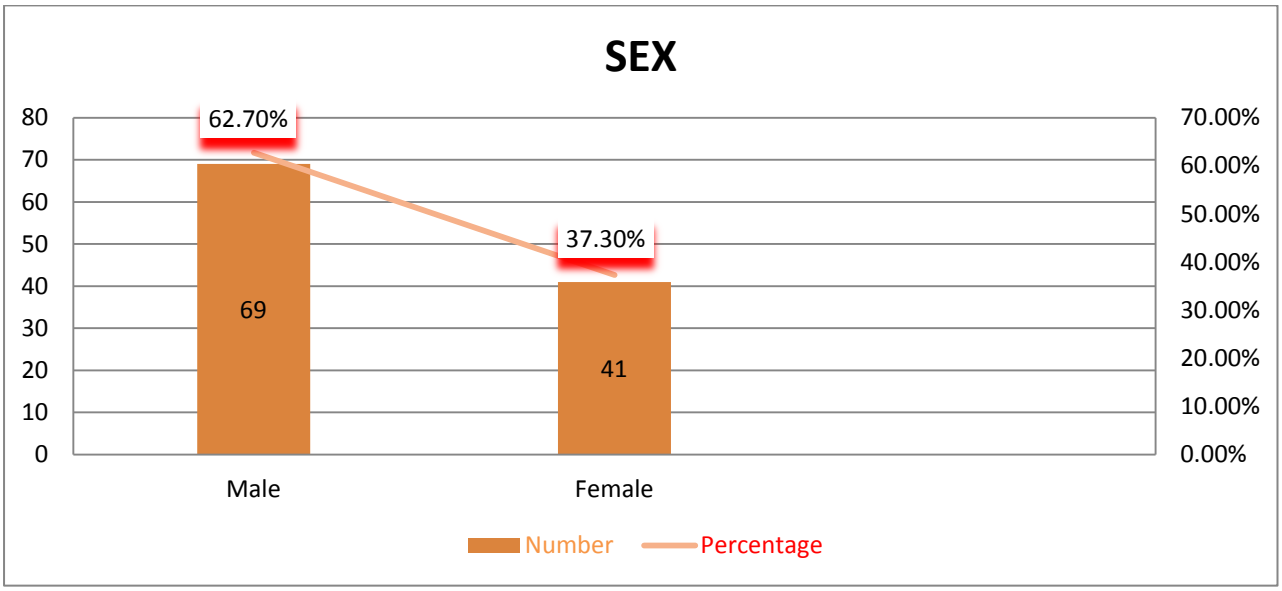

Figure (1) percentage of distribution of male/female gender among cases of foreign bodies in ENT

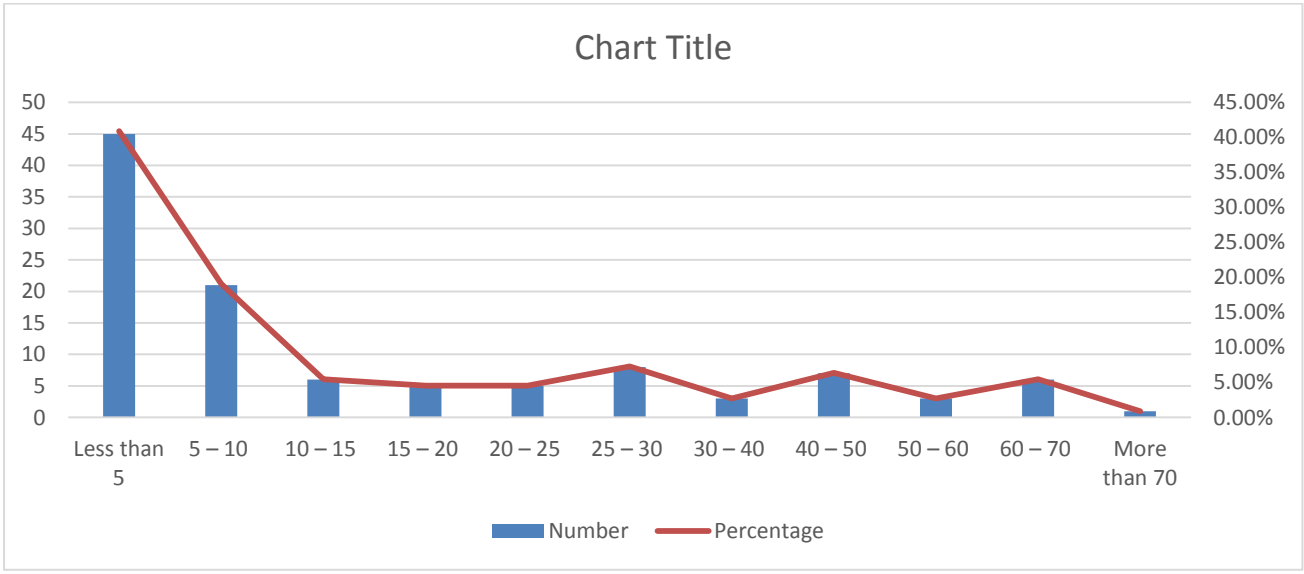

Figure (2) percentage of distribution according to age groups among cases of foreign bodies in ENT

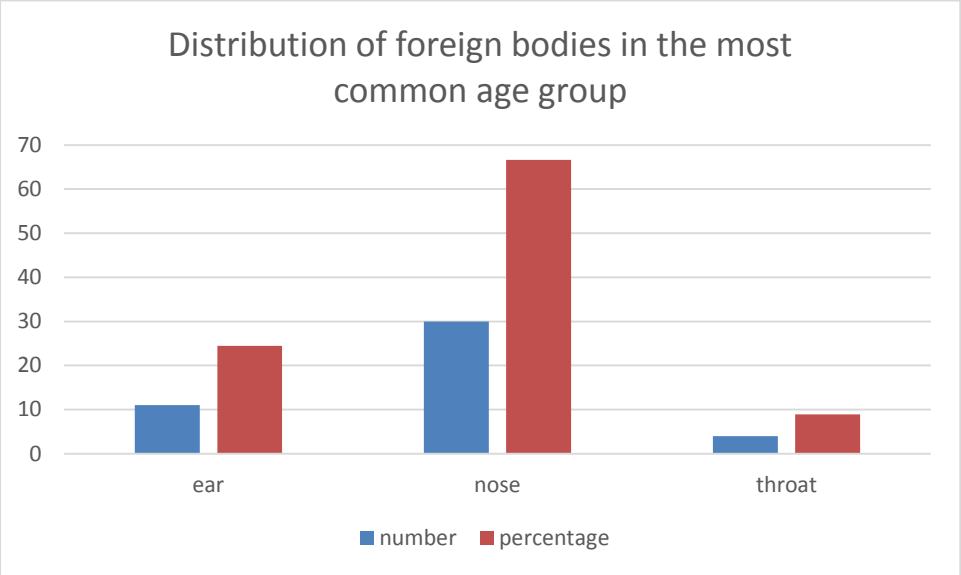

Figure (3) percentage of distribution of foreign bodies according to location in the most common age group (0 – 5)

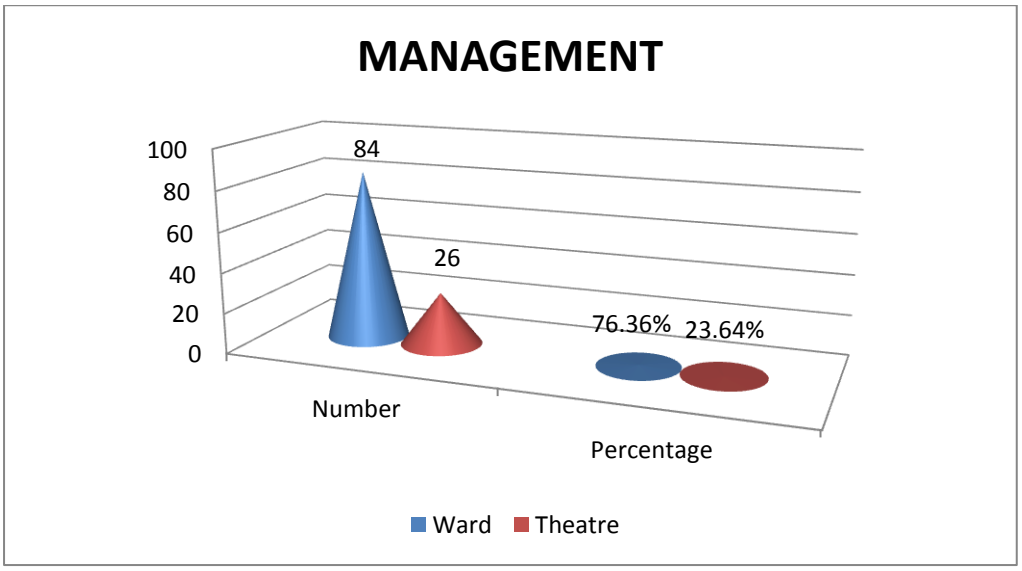

Figure (4) percentage of distribution according to management of the cases of foreign bodies in ENT

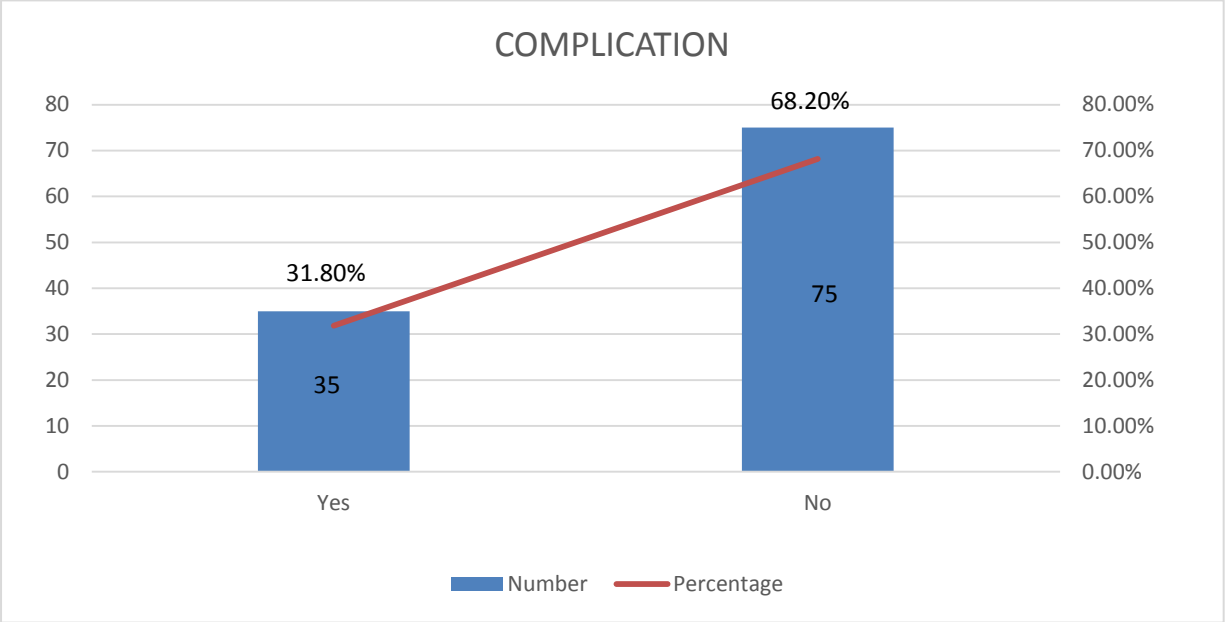

Figure (5) percentage of distribution according to presence of complication among cases of foreign bodies in ENT