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Assessment of Otolaryngology Emergency Cases in Medical City Center

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Abstract
Background: Emergencies are sudden serious events requiring immediate action to avert grave consequences. In our life when we see or hear word emergency always our mind go to how prevent and manage such events and methods of decreasing degree of morbidity and mortality.
Aim of the study: To assess the prevalence of emergency ENT and their management, to obtain base line data for subsequent studies and to prepare our self and our department for dealing with most common ENT emergencies and availability of proper instruments and equipment .
Patients & methods: prospective study (data base study) conducted at Ghazi Al-Harirry hospital in the department of Otolaryngology for one year duration from (the first of July 2016 to the end of June 2017). One thousand patients that were included in the study and the patients were classified to five groups according to medical city ENT triage to facilitate their management.
Results: The current study was included one thousand patients, (26.5%) of them were suffer from foreign bodies in the throat, epistaxis represent [(190 cases) 182(18.2%) of the patients have anterior epistaxis, and only 8 (0.8%) was posterior epistaxis], 175(17.5%) foreign bodies in nose and 125(12.5%) foreign bodies in ear stridor is found in 115(11.5%), quinsy in 26(2.6%) of patients and 25(2.5%) have fracture nose
Conclusions: The green group of the patients were the most common emergencies in the current study and the most common emergency in this group was the fish bones foreign bodies in throat. Followed by yellow group and the anterior epistaxis the commonest among them. The next white, red and black.

Key words: foreign bodies, epistaxis, stridor, abscess, trauma

Introduction

Ear, Nose and Throat (ENT) emergencies are common in all communities. Early diagnosis and prompt management will result in reduction in morbidity and mortality. The management of ENT emergencies requires significant financial resources for admissions and surgical interventions. Access to ENT emergency services vary from country to country and are either an open access ENT emergency clinic where patients do not require a referral to be seen or a referral based ENT emergency clinic where patients are usually seen by general physicians prior to referral [1, 2]. The ear and nose are in close anatomical proximity to the brain and the nose is also closely related to the orbit. Therefore delayed treatment of infections of the nose and ears may result in intracranial spread or orbital complications leading to high mortality or morbidity the commonest causes of mortality as respiratory tract obstruction, intracranial complications of chronic suppurative otitis media and foreign body in the upper aerodigestve tract [1]. The otolaryngology emergency cases including: strider, epiglottitis, Croup, tracheitis, epistaxis, foreign bodies in the ear, nose and throat, quinsy, retropharyngeal and parapharyngeal spaces abscess, Ludwig's angina, auricular abscess, post tonsillectomy bleeding, and different neck trauma [2-12]. The study aimed to assess the prevalence of emergency ENT and their management.

Patients And Methods

This Prospective study conducted at Ghazi Al-Harirry hospital in the department of Otolaryngology (5th floor) for one year duration from (the first of July 2016 to the end of June 2017). One thousand patients which were included in the study. Data collected from the residents colleagues of the otorhinolaryngology department and

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the following items were considered: age, gender, clinical diagnosis, needing for admission, type of intervention, type of anesthesia and our Medical city triage in ENT emergency.

Inclusion criteria were the referred cases from the Medical city emergency room, another centers, private clinics, out patients with emergency visit to our center and our consultation room.

For all patients when we were received them, the history was taken and the examination was done, then we classified our patients according to our medical city protocol in ENT emergency to manage them as the following:

Black : Individuals listed as black were already died due to severe stridor, neck injury, septicemia and other serious conditions.

Red: This cases requires immediate medical attention and will not be survive or will be end with morbidity if not seen soon so require urgent (immediate) surgical intervention like sever stridor , foreign body aspiration, severe epistaxis , primary post tonsillectomy bleeding, retropharngeal abscess, and trauma to the face and neck with unstable vital signs this group needed intervention within one hour.

All cases in this group were managed immediately, rapid history was taken during the examination about the duration of condition, severity, continue or intermittent, aggravating and relieving factors and other associated symptoms. General examination was done, including general condition of the patient, retractions (suprasternal, supraclavicular, intercostal), cyanosis and vital signs. Otolaryngologist examination also was done by indirect laryngeoscope, anterior rhinoscope, nasal or laryngeal endoscope. The cases were treated by emergency tracheostomy, anterior or posterior nasal packing, cautery or ligation of tonsillar bed, packing of post nasal space and under general anesthesia and some cases under local anesthesia.

Yellow: yellow individuals were required medical attention but it is not was needed immediately (one to four hours) like mild stridor, inactive or mild epistaxis, trauma to the face and neck with stable vital signs, button battery foreign bodies in nose and ear and orbital complications of sinusitis We were taking detail history for each patient about duration, severity, difficulty in breathing in rest or in exercise, amount of epistaxis, spontaneous or not, type of trauma in face and neck (penetrating or blunt), type of foreign body, other associated symptoms, past medical and surgical history and drug history like anticoagulant medication.

General and otolaryngologist examination were done, including anterior rhinoscope, indirect laryngeoscope , nasal or laryngeal endoscope and otoscopic examination. Sent them necessary investigations was done (complete blood picture, PT, PTT, INR, bleeding time, clotting time, blood group and random blood sugar). Some cases were needed preparation of blood, X ray and CT scan according to each condition. The patients were treated by tracheostomy, nasal packing, repair, debridement, orbital decompression by endoscopic nasal surgery and foreign body extraction under local or general anesthesia.

Green: This cases were treated when earliest ENT room available after the yellow cases were treated (more than four houres) as foreign bodies in nose, ear and throat, nasal septal hematoma/abscess, auricular hematoma/abscess, post auricular abscess (subperiosteal abscess) and necrotizing fasciitis The history was taken for each patient about duration, severity, type of foreign body and its site, nasal obstruction, nasal discharge, how the swelling started, ear discharge, pain, dysphagia, odynophagia, fever and other associated symptoms. Examination was done by inspection, palpation, anterior rhinoscope, indirect laryngeoscope, nasal or laryngeal endoscope and otoscopic examination. Sent them investigations (complete blood picture, PT, PTT, INR, bleeding time, clotting time, renal function, blood group and random blood sugar), X-ray, and CT scan according to each patient condition and were treated by foreign bodies extraction , incision and drainage of the abscess and debridement under local or general anesthesia.

White: The cases were not needed intervention and told them to comeback after period if needed like fracture nose, acute otitis media ,traumatic tympanic membrane perforation and similar conditions History was taken about type of trauma. direction of trauma, duration, nasal obstruction, epistaxis, hearing impairment, otalgia, tinnitus, dizziness, vertigo and other associated symptoms. After examination was done by inspection, palpation, anterior rhinoscope and otoscopic examination, the patients were discharged and told them to comeback after days.

Results

The distribution of the study sample regarding to the age (table1) was ranged from 1 month to 80 years with mean age of all the age groups were 28.4. The majority (336/1000) were in the age group < 10 years and the

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majority of the cases were foreign bodies in the nose. The smallest age group was > 70 years that were only 2 cases. Regarding the gender in this study the male were 633 (63.3%) patients while the female were 367 (36.7%), the male to female ratio was 1.72 :1. The current study was included one thousand patients (table 1), the most common emergency condition were foreign bodies in the throat (26.5%), which were only the fish bones. Epistaxis cases were (190) among them only 8 cases were posterior epistaxis and the rest of the cases were the anterior one. The least emergency was the Ludwig angina that was just one case.

The most foreign bodies in the nose were not organic in 150 cases and only 25 cases were organic (figure 1). The foreign bodies in the ear were founded in 100(10%) cases, only 10 cases were organic and the rest of them were not organic (figure 2). Trauma in the neck were founded in 24 cases, with 7 patients of them were founded in zone one, 14 patients were in the zone tow and 3 patients were in the zone three (figure 3).

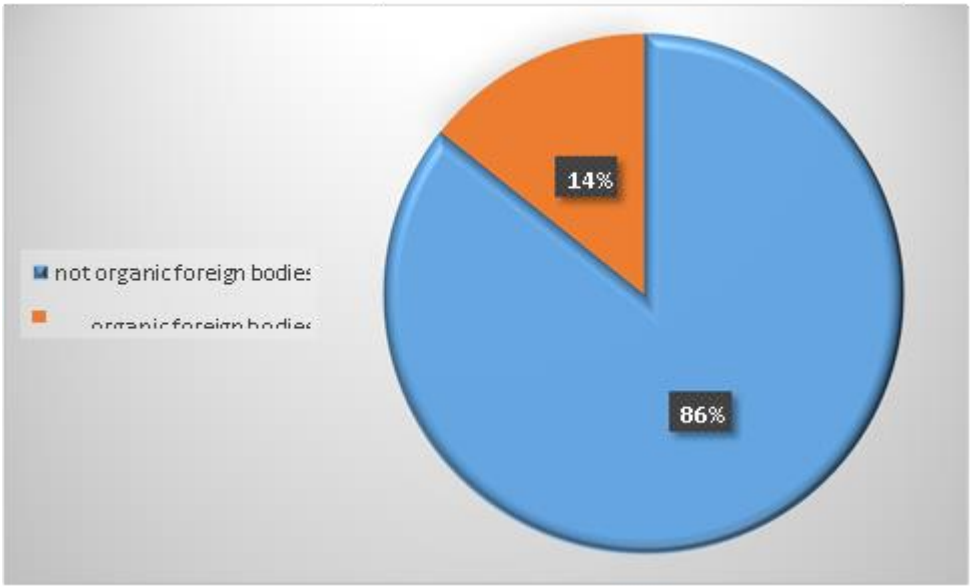

Figure 1: Foreign bodies in nose.

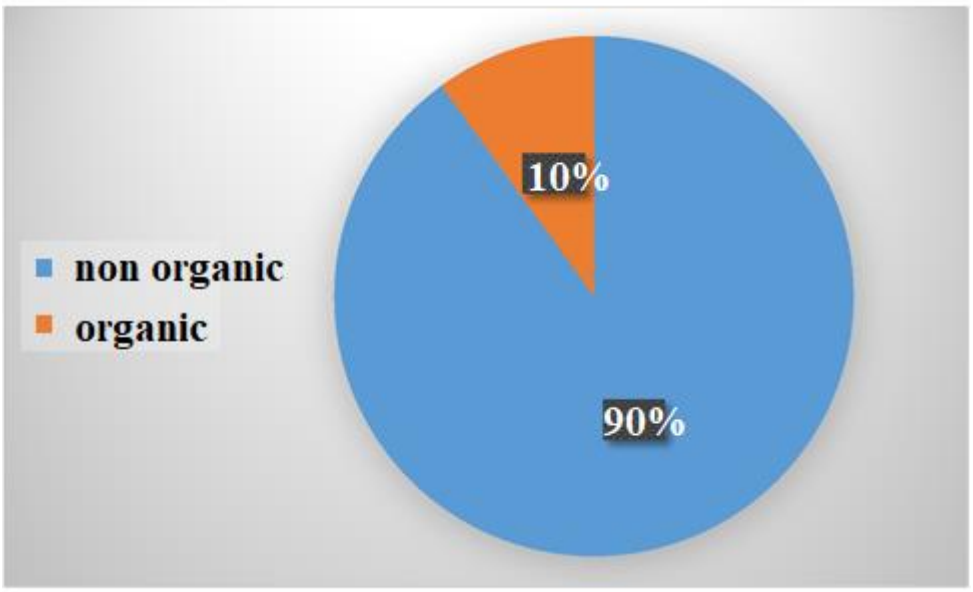

Figure 2: Foreign bodies in the ear.

Table 1: Distribution of the patients according to the age group and the cause of the emergency.

Emergency	≤10 y	11-20 y	21-30 y	31-40 y	41-50 y	51-60 y	61-70 y	>70 y	Total	%
Foreign bodies in throat(fish bones)	20	60	50	70	60	5	-	-	265	26.5

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Foreign bodies in nose	160	15	-	-	-	-	-	-	175	17.5
Foreign bodies in ear	90	10	-	-	-	-	-	-	100	10
Anterior epistaxis	33	17	10	18	42	43	19	-	182	18.2
Posterior epistaxis	-	-	-	-	-	4	4	-	8	0.8
Stridor	2	-	7	12	30	29	33	2	115	11.5
Trauma in the neck	-	10	2	7	5	-	-	-	24	2.4
Fracture nose	2	13	8	2	-	-	-	-	25	2.5
Nasal septal hematoma / abscess	18	6	-	-	-	-	-	-	24	2.4
Primary post tonsillectomy bleeding	3	1	-	-	-	-	-	-	4	0.4
Secondary post tonsillectomy bleeding	2	5	6	-	-	-		-	13	1.3
Auricular hematoma/abscess	2	3	-	-	-	-	-	-	5	0.5
Quinsy	-	2	24	-	-	-	-	-	26	2.6
Postauricular abscess (subperiosteal abscess)	2	-	-	-	-	-	-	-	2	0.2
Necrotizing fasciitis	-	-	-	1	1	-	-	-	2	0.2
Ludwig angina	-	1	-	-	-	-	-	-	1	0.1
Orbital complications of sinusitis(orbital abscess)	-	1	1	-	-	-	-	-	2	0.2
Acute retropharyngeal abscess	2	-	-	-	-	-	-	-	2	0.2
Traumatic perforated tympanic membrane	-	10	15						25	2.5
Total	336	154	123	110	138	81	56	2	1000	100

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Table 2: The classification of the emergency cases according to the medical city protocol of the ENT emergency.

ENT emergency	*Black*	*Red*	*Yellow*	*Green*	*White*	*Total*
Foreign bodies in throat (fish bones)				265		265
Foreign bodies in nose			15	160		175
Foreign bodies in ear			5	95		100
Anterior epistaxis		74	108			182
Posterior epistaxis		6	2			8
Stridor	1	99	15			115
Trauma in the neck	1	5	18			18
Fracture nose					25	25
Nasal septal hematomas/abscess				24		24
Primary post tonsillectomy bleeding		4				4
Secondary post tonsillectomy bleeding		3	10			13
Auricular hematoma/abscess				5		5
Quinsy				26		26
Post auricular abscess(subperiosteal abscess)				2		2
Necrotizing fasciitis				2		2
Ludwig angina				1		1
Orbital complications of sinusitis(orbital abscess)			2			2
Acute Retropharyngeal abscess		1	1			2
Traumatic perforated tympanic membrane					25	25
Total number and percentage	2 (0.2%)	192 (19.2%)	176 (17.6)	580 (58%)	50 (5%)	1000

Penetrating type of the trauma in the neck were founded in 20 patients and the blunt type were in 4 patients only. The most common structure that was injured was the pharynx15 cases, followed by larynx 5 cases and multiple structures injury in the neck were in 4 cases. According to the our medical city protocol of the ENT emergency, the largest group were the green (580 cases), and the least one were the black that was just 2 cases (table 2). The table 3 showed that 321 patients were admitted to the hospital for further management and care. The majorities of them 114(36.5%) were had stridor, and the least cases that needed admission were the Foreign bodies in throat and Ludwig angina. Regarding to the treatment of the emergency ENT cases in this study, 875 (89.0%) of the patients were done under the local anesthesia or without it (table 4). The most common condition that was treated under general anesthesia was the septal hematoma/abscess (table 5).

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Table 3: The distribution of the studied group regarding to the admission that were needed.

ENT emergency	No.	%
Foreign bodies in throat (fish bones)	1	0.3
Foreign bodies in nose	15	3.8
Foreign bodies in ear	5	1.2
Anterior epistaxis	90	28.6
Posterior epistaxis	8	2.5
Stridor	114	36.5
Trauma in the neck	24	5.7
Nasal septal hematoma/abscess	24	7.6
Primary post tonsillectomy bleeding	4	1.2
Secondary post tonsillectomy bleeding	13	4.1
Auricular hematoma/abscess	5	1.5
Quinsy	9	2.8
Post auricular abscess(subperiosteal abscess)	2	0.6
Necrotizing fasciitis	2	0.6
Ludwig angina	1	0.3
Orbital complications of sinusitis(orbital abscess)	2	0.6
Acute Retropharyngeal abscess	2	0.6
Total	321	100

Table 4: Surgical treatment without anesthesia or under local anesthesia.

ENT emergency	Surgical procedure without anesthesia or under local anesthesia	No.	%
Foreign bodies in throat (fish bones)	Removal	264	29.7
Foreign bodies in nose	Removal	163	18.3
Foreign bodies in ear	Removal	121	13.6
Anterior epistaxis	Anterior nasal packing	168	20.0
Posterior epistaxis	Posterior nasal packing	7	0.8
Stridor	Tracheostomy	110	12.5
Trauma in the neck	Repair and debridement	13	1.2
Auricular hematoma/abscess	Incision and drainage	1	0.1
Quinsy	Incision and drainage	26	3.0
Post auricular abscess	Incision and drainage	1	0.1
Necrotizing fascities	Debridement	1	0.1
Ludwig angina	External incision decompression	1	0.1
Total		876	100

Table 5: Surgical treatment under general anesthesia.

Emergency ENT	Surgical procedure under general anesthesia	No	%
Foreign bodies in throat (fish bones)	Direct laryngopharyngoscope	1	1.3
Foreign bodies in nose	removal	10	15.6
Foreign bodies in ear	Removal	4	5.2
Anterior epistaxis	Sphenopalatin artery ligation	4	5.2

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	cautery		
Posterior epistaxis	posterior nasal packing	1	1.3
Stridor	tracheostomy	4	5.2
Trauma in the neck	repair and debridement	11	9.1
Nasal septal hematoma/abscess	incision and drainage	24	31.2
Primary post tonsillectomy bleeding	Suction clearance, cauterization, packing and ligation	4	5.2
Secondary post tonsillectomy bleeding	suction clearance, packing and cauterization	2	2.6
Auricular hematoma/abscess	incision and drainage	4	5.2
Post auricular abscess (sub periosteal abscess)	incision and drainage	1	1.3
Necrotizing fasciitis	Debridement	1	1.3
Orbital complications of sinusitis(orbital abscess)	decompression by ESS	2	2.6
Retropharyngeal abscess	incision and drainage	2	2.6
Total		75	100

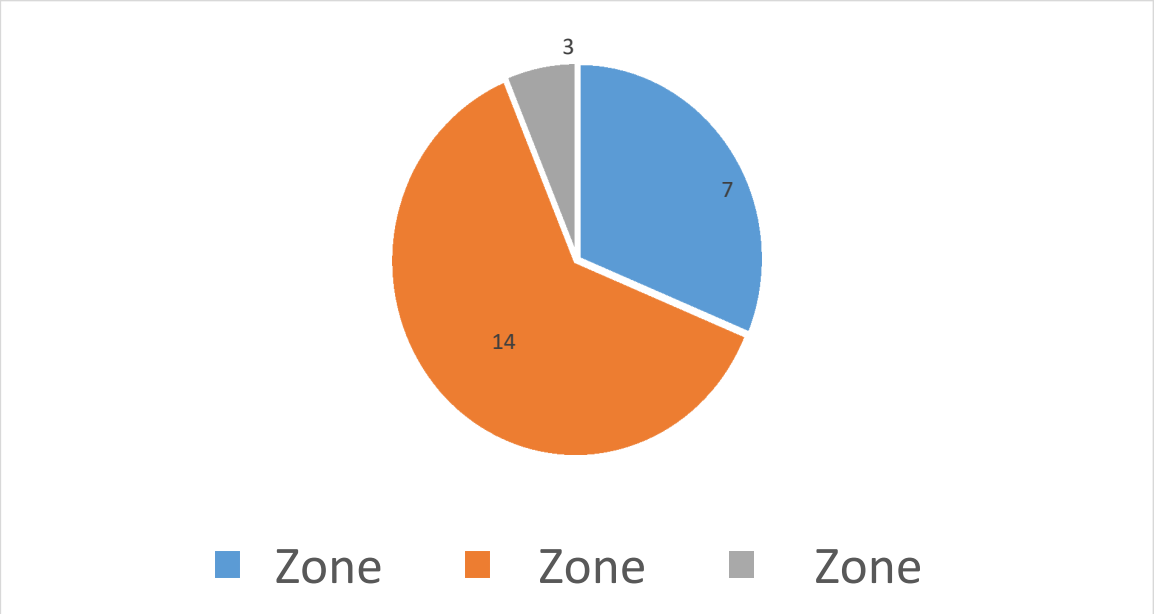

Figure 3: Zones of trauma.

Discussion

The mean age of this study was (28.4) years that higher than (31.8) years that noted by Herve et al [13], This lower mean age from our study was due to the very large number of children who were treated as foreign bodies in the nose, ear and throat as ENT emergencies.

The males were more than females in the present study and the male to female ratio was (1.72:1), also the peak incidence was ≤10 years that similar with the study that was done by Ketcher [1].

The total number of the patients that were needed admission in current study were (321;32 %) patients that was more common than Taiwo (14; 26.6%). The first most common causes of admission in this study is the stridor (114; 36.3%) unlike in the Taiwo [14] that was due to the pharyno-laryngeal lesions (43.2%), but the second cause is the anterior epistaxis (90; 28.4) in the current study that was similar to the Taiwo [14].

Kim H, (2016) in his study revealed that fish bone foreign body is the most frequent food-associated foreign body (FB) in adults, especially in Asia, versus meat in Western countries [15]. This is similar to that found in

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the current study were the main cause of the ENT emergency cases were the foreign body in the throat by the fish bones. The most common age group of the foreign bodies in the nose and ear were ≤10 years in the current study that was similar to that were founded in the Parajuli R study [16]. In this study the most common types of the nose and ear foreign bodies were non organic type also met that was found in the Parajuli R[16].
Selvam D et al [17] concluded that the stridor was one of the life threatening symptoms presented to the Emergency Department, in our study it was represented (11.5%) of the cases and it was also life threating cases and all the cases were admitted to the hospital and the majority of the cases were treated by the tracheostomy in this study. Anghel A revealed that the anterior epistaxis was represented the main source of the nasal bleeding, about (80-90%) and the rest were posterior bleeding [18], this was similar to that found in this study.

Conclusion

the green group of the patients were the most common emergencies in the current study and the most common emergency in this group was the fish bones foreign bodies in throat. Followed by yellow group and the anterior epistaxis the commonest among them, in addition, the next white, red and black.

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