

**ENT EMERGENCIES –OUR EXPERIENCE IN A TERTIARY CARE HOSPITAL****Dr. (MRS) Kalpana Sharma<sup>1</sup>, Dr. Debashruti Chakraborty\*<sup>2</sup> and Dr. Dipjyoti Barman<sup>3</sup>**

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**ABSTRACT**

Otorhinolaryngological diseases attribute to a major cause of patients reporting to the emergency department of a hospital and some of them are life threatening and requires immediate intervention. This retrospective study was conducted for a duration of 2 years in Gauhati Medical College, Guwahati, India, to determine the agewise prevalence of different Otorhinolaryngological conditions presenting in emergency department of the hospital. The common conditions we came across are foreign body impaction, epistaxis, trauma, inflammatory conditions of ear, nose and throat, airway diseases etc. The basic management protocol is also being discussed.

**KEYWORDS:** Ent emergencies, epistaxis, foreign body, management.

**INTRODUCTION**

In otorhinolaryngological practice, various ear, nose, throat diseases may present as an emergency situation. Most of the time these are benign but at times are critically life threatening. Any emergency requires prompt diagnosis and management. The knowledge of the profile and prevalence of these emergencies will aid proper and prompt management of these conditions and will reduce their morbidity and mortality.<sup>[1,2]</sup>

Ent emergencies can be of varied types ranging from trivial complaints of sore throat or otalgia to severe respiratory distress or brain abscess. With increased incidences of road traffic accidents (RTA) or industrial disasters, the ENT as well as head and neck emergencies are on a rise. As the horizons of otorhinolaryngology are widening, management of patients with protocol based quality care by ENT specialist becomes prime priority.<sup>[3]</sup>

Otorhinolaryngological emergencies which are seen in day-to-day practice in a tertiary care hospital are as follows

**Otological emergencies**

- One of the commonest cause of ear emergency is foreign body in ear, most of them can be removed without anaesthesia.
- Severe earache and discharge with or without facial weakness in the same side may be malignant otitis externa which is common in elderly with diabetes.

Rapid progression of symptoms will occur without treatment. So the patient needs immediate hospitalisation.

- Swelling and pain of the pinna after trauma like ear piercing or boxing etc. may be perichondritis or perichondreal abscess and if it is not treated early the cartilage will shrivel up and the pinna will collapse (cauliflower ear).
- Sudden onset hearing loss or blockage in one side may be associated with tinnitus and vertigo. In these cases, severe sensorineural hearing loss is common. Recovery of hearing is dependent on initiation of treatment as early as possible, preferably within 2 days.
- Earache with obliteration of retroauricular groove and/or with postauricular abscess is due to acute mastoiditis. Immediate antibiotic therapy and incision & drainage of pus is required.
- Sudden onset earache and decrease in hearing after recent air travel or scuba diving is due to otitic barotrauma.
- Patient may come with ear bleed or decrease in hearing with recent history of getting a slap over ear or inserting a sharp object for cleaning the canal, and it may be traumatic perforation of tympanic membrane which needs conservative treatment.
- Sudden onset facial nerve palsy with blisters in ear is due to Ramsay-Hunt syndrome where early initiation of steroid and antiviral therapy is necessary.

**Sinonasal emergencies**

- Unilateral, foul smelling, purulent nasal discharge in children is indicative of presence of foreign body in nose which has to be removed and antibiotics to be started. Foreign body injuries are the commonest cause of otorhinolaryngological emergencies.<sup>[4,5]</sup> especially in children.<sup>[6]</sup>
- Epistaxis is a very common nasal emergency.<sup>[7]</sup> It may be due to trauma, hypertension, other systemic diseases or idiopathic mostly. But persistent one sided epistaxis with nasal obstruction in adults may be a symptom of nasal mass.
- Bilateral nasal blockage with recent history of trauma may be septal haematoma or abscess and it should be drained immediately to prevent cartilage damage.

**Throat emergencies**

- Throat pain after ingestion of foreign body is most commonly due to fish bone impaction. In children, most commonly ingested foreign body is coin.
- Aspiration of foreign body in trachea or bronchi is an immediate threat to life and needs prompt management.
- Severe one sided sore throat with trismus and/or fever is suggestive of peritonsillar abscess and it is a common emergency.
- Hoarseness for more than 3 weeks in smokers may be associated with difficulty in eating or breathing is suggestive of laryngeal cancer.
- Increasing breathing difficulty or noisy breathing in a child (over few hours) with or without fever may be acute epiglottitis. Though not common, but it is a life threatening emergency.
- Patient may present with membrane in throat and in all those cases diphtheria should be ruled out.

**Neck emergencies**

- Painful neck swelling with or without fever may be neck abscess and it needs incision and drainage.
  - Neck swelling just under and in front of lower jaw with increasing shortness of breath is suggestive of submandibular cellulitis (Ludwig's angina). It is not a common problem but needs urgent management to secure the airway.
  - Patient coming with acute onset swelling of lips and face with breathing difficulty is suggestive of angioneurotic oedema and it is a life threatening emergency.
- Other emergencies include traumatic injuries.<sup>[8]</sup> such as nasal bone fracture, midfacial fractures, temporal bone fractures, cut neck injuries, blunt & penetrating neck injuries, gun shot injuries etc. Head & neck trauma is considered to be the most challenging area of ENT emergency management.<sup>[9]</sup> Most of the ENT emergencies can be managed without general anaesthesia.

**AIMS AND OBJECTIVES OF THE STUDY**

Providing quality emergency services to patients is considered to be an integral part of any healthcare system. This study is aimed to know the age wise prevalence of ENT emergencies in the department of Otorhinolaryngology and Head & Neck surgery of Gauhati medical college & hospital over past two years, so that the future trend of diseases could be assessed and managed properly.

**MATERIALS AND METHODS**

**Place of Study:** Gauhati medical college and hospital, Guwahati, India

**Study Period:** 1<sup>st</sup> June 2016 to 31<sup>st</sup> May 2018

**Materials And Methods:** Retrospective analysis of the data of 5090 patients attending the ENT emergency of Gauhati medical college & hospital during the above mentioned period. Data has been taken from the emergency register. The patients were categorised in 4 age groups viz;- 0-20 years, 21-40 years, 41-60 years, 61-80 years and a detailed age wise distribution of ENT emergencies was documented.

**The emergency cases were managed as follows.****Otological emergencies**

- Foreign bodies in the external auditory canal were removed transcanally under local anaesthesia or sedation (in un co-operative children). Middle ear foreign bodies were removed through post auricular approach under general anaesthesia after hospitalisation of patient.
- In sudden onset hearing loss cases random blood sugar level test was done and intratympanic steroid therapy started, total 3 doses were given and hearing improvement was monitored by pure tone audiometry & speech discrimination score before each dose.
- For Bell's palsy cases oral antiviral and steroid therapy started within 72 hours of onset of disease, if possible.
- For traumatic perforation of tympanic membrane, conservative management was done for 6 weeks. If the perforation was not healed naturally myringoplasty was done.
- In case of Chronic suppurative otitis media (CSOM) with post auricular abscess, incision and drainage done under local anaesthesia after hospitalisation of patient and pus sent for culture sensitivity and broad spectrum antibiotic started. Later on, if needed, antibiotic changed depending on the culture & sensitivity report and patient were planned for mastoid exploration after proper radiological and clinical assessment.
- In CSOM cases presenting with intracranial complications patients were hospitalised and management was done along with consultation from neurosurgery and neurology department.

**Sinonasal emergencies**

- Nasal foreign bodies which were visible by anterior rhinoscopy, were removed under local anaesthesia. Foreign bodies which were not seen in anterior rhinoscopy or infected long standing foreign bodies, diagnostic nasal endoscopy was done after hospitalising the patients and foreign body removed under sedation.
- In epistaxis patients where conservative management failed, were hospitalised and anterior nasal pack or merocele inserted and if needed posterior nasal pack given and kept for 48 hours and after removal of pack diagnostic nasal endoscopy was done to see any local cause of bleeding. Any bleeding point, if found, was cauterised. In case of deviated nasal septum or spur submucosal resection or septoplasty was done later on. In epistaxis cases with underlying systemic causes, the management was done along with consultation from the respective department.
- Septal haematoma or abscess were drained under local anaesthesia and anterior nasal packing given and patients were hospitalised.

**Throat emergencies**

- Oesophageal foreign bodies were removed by rigid oesophagoscopy and airway foreign bodies were removed by rigid bronchoscopy, both under general anaesthesia after hospitalising the patient.
- Peritonsillitis cases were hospitalised and treated conservatively and if abscess developed, it was drained under local anaesthesia.
- In laryngeal cancer patients presenting with stridor, emergency tracheostomy was done under local anaesthesia and biopsy taken by direct laryngoscopy. Definitive treatment done depending upon the clinical, pathology and radiological assessment.
- For patients with membrane in throat, throat swab was sent for culture and sensitivity before starting a broad spectrum antibiotic.
- Patient who came with dysphagia were admitted for evaluation of the underlying cause and for maintenance of fluid and electrolyte balance & adequate nutrition.

**Neck emergencies**

- In neck abscess cases, after hospitalising the patient, incision and drainage was done and pus sent for culture and sensitivity and broad spectrum antibiotic started. Associated systemic cause, if present, was treated.

**Trauma cases**

- Cut neck or penetrating neck injuries were explored in operation theatre under local anaesthesia (and if required, under general anaesthesia) and the proper management was done depending on the injury. If required, tracheostomy was done. In suicidal cut neck cases psychiatry consultation was taken.

- Nasal bone fractures were managed conservatively if the fracture was undisplaced. In displaced fractures, reduction done under general anaesthesia.

**RESULTS AND OBSERVATION****Table 1: Gender Wise Distribution of Patients.**

Sex	No of Patients	Percentage
Male	3373	66.26%
Female	1717	33.73%

We found a total number of 5090 patients in 2 years, i.e; on average 2545 patients per year. Male patients were more in number than females almost in a ratio of ~ 2:1 (table 1)

**Table 2: Anatomical Site Wise Emergencies.**

Site	No of Patients	Percentage
Ear	1448	28.44%
Nose	1520	29.86%
Throat	1597	31.37%
Head & Neck	525	10.31%

In our study, throat emergencies were most common comprising 31.37%, followed by nose 29.86% & ear 28.44% respectively and head & neck emergencies 10.31%. (table 2)

**Table 3: Types of Digestive Tract Foreign Bodies.**

Foreign body	No of patients	Percentage
Meat bone	247	38.35%
Coin	175	27.17%
Fish bone	163	25.31%
Others	59	9.1%

In throat related emergencies foreign body is the most common cause (40.32%) among which most common is meat bone impaction (38.35%), followed by coin in the oesophagus (27.17%) and fish bone impaction (25.31%). (table 3)

Other throat related emergencies were pharyngitis 4.36%, tonsillitis 3.71%, peritonsillitis .39%, oropharyngeal malignancy .96%, membrane in the throat .72%, dysphagia 1.72%.

In ear related emergencies earache is a very common symptom. Foreign body in the ear is the commonest emergency comprising 7.83% patients. Acute suppurative otitis media was found in 4.4% of patients, commonly in the group of 0-20 years of age, 3.85% patients were having otitis externa and was more common in 21-40 years of age group, 2.61% patients were having wax in the external auditory canal was more common in children and young adults. Other emergencies were Eustachian tube dysfunction 1.78%, otomycosis .96%, perichondritis 27%, acute onset of chronic suppurative otitis media 1.23% & .41% were having intracranial complications. Sudden onset hearing loss cases were 11%, ear bleed was seen in 1.37% patients

most common in children and young adults due to injury, acute onset vertigo comprised of .92% patients mainly in middle aged group. Sudden onset facial nerve palsy was seen in .11% patients.

Epistaxis alone comprised 19.01% cases, most commonly traumatic in young patients but in middle aged and in elderly population underlying hypertension was the commonest cause. Second commonest was foreign body in nose 7.01%, mainly in children & in our study, it was found to be more common in male child. Other sinonasal emergencies found in our study

were, septal abscess .15%, nasal myiasis .39%, acute sinusitis .25%. one case of angioneurotic oedema was found.

In head & neck emergencies, neck abscess found in 1.82% patients, 1.19% patients came with parotitis, .80% patients presented with neck node enlargement which was common in children.

Suicidal as well as homicidal cut neck both comprised total 1.27% of cases.

**Table 4: Types of Emergencies in Different age Groups (in Years).**

Types Of Emergencies	0-20	21-40	41-60	61-80	Total Patients	Percentage	No. of patients admitted	% of total admissions
Digestive Tract Foreign Body	273	180	156	35	644	12.65%	554	34.28%
Foreign Body in Nose	350	7	-	-	357	7.01%	26	1.60%
Foreign Body in Ear	183	188	28	-	399	7.83%	15	.92%
Tracheobronchial foreign body	-	3	2	-	5	.09%	5	.30%
Tonsillitis	104	78	7	-	189	3.71%	0	0
Peritonsillitis	-	20	-	-	20	.39%	20	1.23%
Pharyngitis	87	98	29	8	222	4.36%	0	0
Oropharyngeal Malignancy	-	6	36	7	49	.96%	23	1.42%
Laryngeal Growth With Stridor	-	-	12	28	40	.78%	40	2.47%
Membrane in Throat	37	-	-	-	37	.72%	37	2.28%
Oral Ulcer	-	15	38	-	53	1.04%	0	0
Locked Jaw	6	35	15	7	63	1.23%	0	0
Gum Bleed (Traumatic/ Gingivitis/ Following Tooth Extraction etc)	13	8	17	4	42	.82%	0	0
Dysphagia	-	8	24	56	88	1.72%	26	1.60%
Ear Wax	99	20	8	6	133	2.61%	0	0
Otitis Externa	55	120	21	-	196	3.85%	0	0
Acute Suppurative Otitis Media	113	98	13	-	224	4.4%	0	0
Eustachian Tube Dysfunction	12	51	28	-	91	1.78%	0	0
Otomycosis	22	16	7	4	49	.96%	0	0
Perichondritis	4	10	-	-	14	.27%	4	.24%
Traumatic ear bleed	33	7	-	-	70	1.37%	0	0
Sudden Onset Sensorineural Hearing Loss	-	6	-	-	6	.11%	0	0
Chronic Suppurative Otitis Media (Csom)	35	28	-	-	63	1.23%	0	0
Csom With Intracranial Complications	6	15	-	-	21	.41%	21	1.29%
Bell's palsy	-	2	-	4	6	.11%	0	0
Vertigo	-	33	14	-	47	.92%	9	.55%
Epistaxis	224	344	266	134	968	19.01%	642	39.72%
Septal Abscess	2	5	1	-	8	.15%	8	.49%
Nasal Myiasis	-	6	14	-	20	.39%	20	1.23%
Acute Sinusitis	3	10	-	-	13	.25%	0	0
Angioneurotic Oedema	-	1	-	-	1	.01%	1	.06%
Neck Abscess	29	34	30	-	93	1.82%	51	3.15%
Parotitis	-	61	-	-	61	1.19%	0	0
Cervical Lymphadenopathy	29	12	-	-	41	.80%	13	.80%
Cut Neck	-	58	7	-	65	1.27%	65	4.02%
Penetrating Neck Wound	-	-	6	-	6	.11%	6	.37%
Trauma	125	423	120	57	725	14.24%	35	2.16%

**DISCUSSION**

In our study, foreign body comprised major portion of the emergency admission in otorhinolaryngology keeping with the trend of other studies.<sup>[9,10,11]</sup> In Assam, majority of population consume non vegetarian food and that is why, the most common impacted foreign body in aerodigestive tract was found to be meat bone. In children, coin was the most commonly ingested foreign body mainly due to lack of supervision by parents. As the pharyngeal constrictors are stronger than oesophageal muscle, coin can reach upto cricopharynx but can not go further down in most of the cases (Ghosh 1999).<sup>[12]</sup>

Oesophagoscopy is a difficult procedure if tried by unskilled persons. Due to thinness of the oesophagus, fatal accidents can occur with slightest trauma.<sup>[13]</sup> In our study we found that 504 number of patients who had undergone oesophagoscopy under general anaesthesia without any complications.

One study from Italy by Pestalozza, Romagnoli and Tesitore in 1988 shows that acute suppurative otitis media (ASOM) comprised of one third of problems seen in paediatric practice during the first 5 years of life.<sup>[14]</sup> In our study also, we found ASOM to be the most common cause of earache in children.

In the present study we found 1.45% cases of CSOM with intracranial complications.

Most commonly found aural foreign body in children in the present study was plastic bead whereas in adults, foreign body insect was most common. Smooth surfaced foreign bodies may injure eardrum, ossicles and even facial nerve, if removed by unskilled person (Ghosh, 1988). Button batteries in the ear should be removed early to prevent alkali induced liquefaction necrosis of the EAC and facial palsy.<sup>[15]</sup> Insect in the ear should be killed by instilling oil in the EAC before their removal.<sup>[16]</sup>

In a Russian study (Palchum et al, 1998), sinonasal emergency admission constituted 24.45% of the emergency hospital admissions in otorhinolaryngology. In our study sinonasal emergencies constituted 43.06% of emergency admission in otorhinolaryngology among which epistaxis cases comprised 92.24%. A study by Rivero et al in 2005, concluded that nasal trauma & epistaxis, otitis externa were most common causes of ENT emergencies.<sup>[17]</sup>

Out of 357 cases of nasal foreign body only 26 patients needed admission and removal under general anaesthesia. In rest of the cases foreign body could be removed with proper instruments without anaesthesia.

In the cut neck cases, tracheal stenosis was found as complication in 2 cases due to damage to tracheal cartilage during the injury.

Among the admitted patients, 40 cases (2.47%) were having laryngeal growth and presented with stridor. Tracheostomy was done in all of these cases to secure the airway.

**CONCLUSION**

Management of emergency cases in ENT practice needs specialised skilled persons, well equipped set up and the ability to take crucial decisions for any emergency intervention to save the life of a patient. If needed multidisciplinary approach should be used specially in management of head and neck cases.

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