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Research Study

Interesting Foreign Bodies In Ear, Nose, Throat: Our Experience

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ABSTRACT

Foreign body is one of the commonest emergencies for ENT surgeon. Foreign bodies contribute to 11% of the cases of emergencies in otorhinolaryngology [1]. Commonest site for FB is ear and followed by nasal cavity and oropharynx[2]. Foreign bodies are more common in paediatric age group. FB could be metallic or non-metallic, vegetative or nonvegetative, regular or irregular, animate or non animate. Depending on the type each foreign body behaves differently. So detail history, examination and radiological investigation help in deciding in plan of action for removal of foreign body. Here we are presenting few interesting foreign body cases, and how we dealt with each of them.

CASE REPORTS-

Case I :–8 years old female child presented with breathlessness in emergency. . X-ray chest showed broken tracheostomy tube in two pieces. Bronchoscopy was done and foreign body removed in 13 pieces.

Case II: - 35 years old female came with history of Tangra fish bone ingestion, odynophagia and neck pain.On CT scan revealed retropharyngeal abscess with foreign body fish. Retropharyngeal abscess was drained but no foreign body detected during esophagoscopy. . After 3 weaks, patient presented with apointing swelling on lateral part of the neck. . After 3 weaks, patient presented with apointing swelling on lateral part of the neck.

Case III –28 Years old female patient presented with severe dysphagia which was progressive since last 3 years. CT scan revealed a metallic foreign body in esophagus. On inquiry patient gave history of ingestion of coin 20 years back. . Along with ENT surgeon, Gastroentrologist, General surgeon, interventional radiologist were present in operation theatre to attend patient if required.First flexible eophagooscopy was done by Gastroenterologist. This was followed by balloon dialatation. Then we removed the impacted coin with rigid esophagoscope and forcep

Case IV –36 years male patient presented with gunshot injury on left side of face. But after 6 days he developed left side Lower Motor Neurongrade IV facial palsy. CT scan was suggestive of metallic foreign body in left infratemporal fossa with associated fracture of condyle of mandible and temporal bone. Removal of this foreign body would not have been possible without telescope and there was a great risk of damage to carotid artery which could have been lethal.

Case V-13 Years old child presented with history of fall from tree and penetration of wooden stick into nose. On anterior rhinoscopy, foreign body was not visualized. CT scan of paranasal sinus was done, which was suggestive of foreign body penetration through lamina papyracea and impinging on medial rectus muscle. . Foreign body was remove endoscopicaly with preservation of vision and without any complication.

Case VI-38 years male patient presented with history of accidental metal piece penetration in neck. He had complains of neck pain. Entry wound was on right side, just lateral to trachea. The foreign body had migrated and abutted into the anterior wall of trachea which could have been easily missed under general anaesthesia and would have caused further complications like emphysema and foreign body bronchus.

Case VII –53 years old rickshaw driver met a road traffic accident. Patient had glass piece penetration in Submandibular region. External entry wound was single but when explored multiple glass pieces were removed

Case VIII-37 years old male patient presented with penetration of metallic wire in cheek. Tracing foreign body by palpation made the complete removal of foreign body easier

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INTRODUCTION

Foreign body is one of the commonest emergency for ENT surgeon. Foreign bodies contribute to 11% of the cases of emergencies in otorhinolaryngology [1]. Commonest site for FB is ear and followed by nasal cavity and oropharynx[2]. Foreign bodies are more common in paediatric age group. FB could be metallic or non-metallic, vegetative or nonvegetative, regular or irregular, animate or non animate. Depending on the type each foreign body behaves differently. So detail history, examination and radiological investigation help in deciding in plan of action for removal of foreign body.

In ear insects are the most common foreign body while in nose plastic objects, grains and seeds are common. In pharynx coins and fish bones are the commonest of all. Pea nut is commonest foreign body in airway [2]. Foreign body could be accidentally inserted or voluntarily inoculated. Ease of foreign body removal depends on the position, size of foreign body, patient's co-operation and most importantly the surgeon's skills of foreign body removal. Long lasting foreign bodies are difficult to remove and are associated with more complications. Severe complication may occur in as many as 22% of the cases leading to the morbidity associated with foreign bodies [1]. Foreign bodies should be properly recognized, studied, and managed.

Here we are presenting few interesting foreign body cases, and how we dealt with each of them.

CASE REPORTS

Case I –

8 years old female child presented with breathlessness in emergency. Patient was a known case of Parkinsons disease. Patient also had spine fracture and quadriplegia. Tracheostomy was performed 2 years back but patient failed to follow up after discharge from hospital. Patient was on the same metallic tracheostomy tube for 2 years. X-ray chest showed broken tracheostomy tube in two pieces **(FIG. 1 a)**. Inner flange was displaced in trachea. Bronchoscopy was done and foreign body removed in 13 pieces (**FIG.1 b)**. Tube was rusted and became friable. Challenge was in complete removal of such friable foreign body in patient with spine disease.There was a possibility of further dislodgement of these small broken metallic pieces in to terminal bronchi. These could have been life threatening.

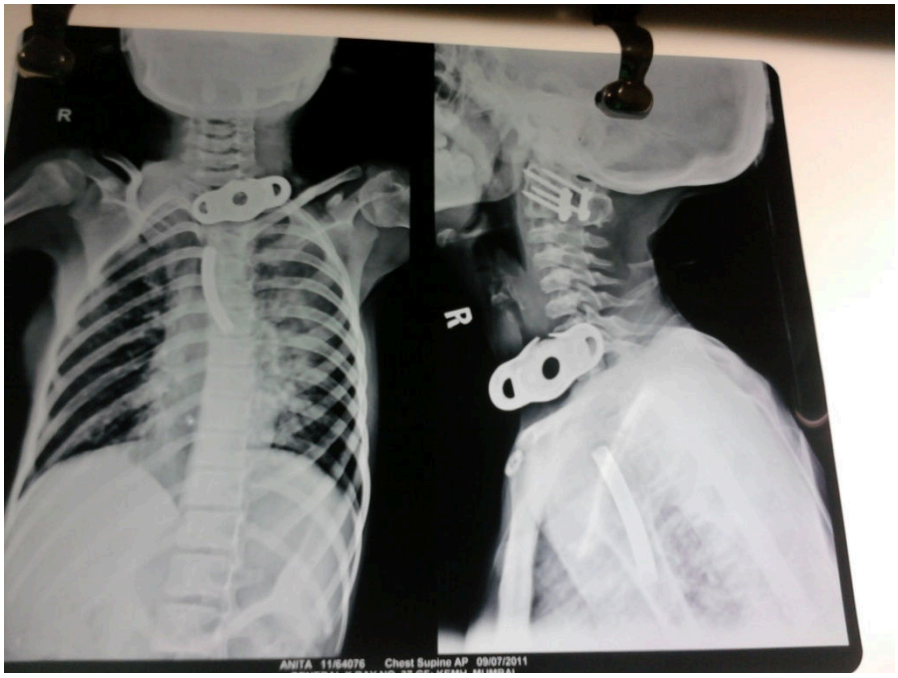

FIG. 1 a. x rays showing broken metallic tracheostomy tube

FIG.1 b. Broken metallic tube removed in 13 pieces

Case II –

35 years old female came with history of Tangra fish bone ingestion, odynophagia and neck pain.On CT scan revealed retropharyngeal abscess with foreign body fish. Retropharyngeal abscess was drained but no foreign body detected during esophagoscopy. With intravenous antibiotics patient symptomatically improved. We kept patient under followed up. After 3 weaks, patient presented with apointing swelling on lateral part of the neck **(FIG. 2 a & FIG. 2 b)** . After 3 weaks, patient presented with a pointing swelling on lateral part of the neck.and was removed with external incision on the swelling. 2cms long fish bone was removed from neck (**FIG. 2 c)**. Luckily the fish bone did not pierce through the important vital structures of the neck like major blood vessles, which could have created disaster.

FIG.2 a. pointing swelling on lateral part of the neck

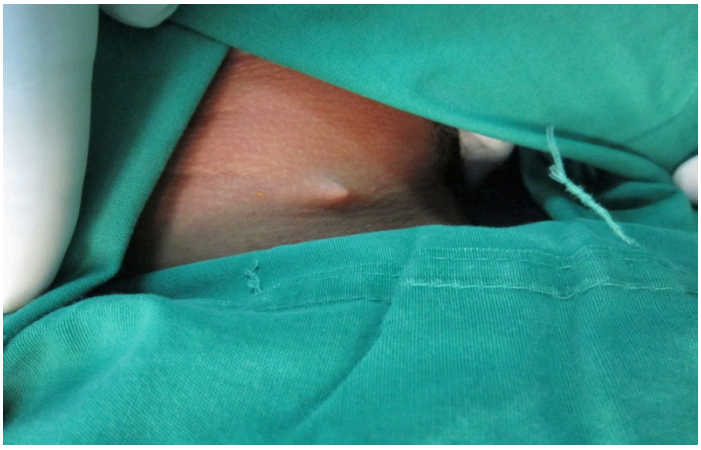

FIG. 2 b. pointing swelling on lateral part of the neck

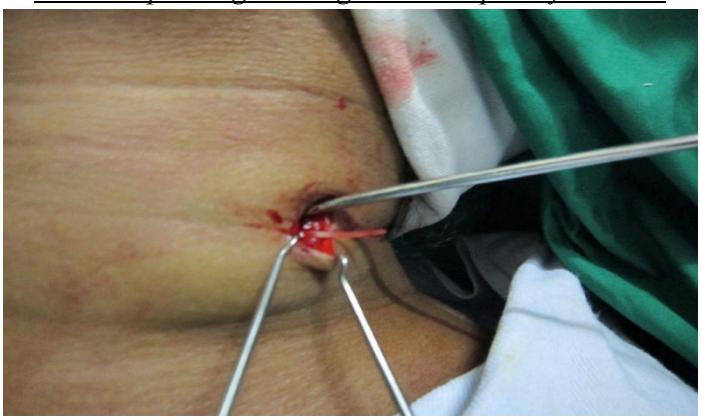

FIG. 2 c. Showing external incision on the swelling & 2cms long fish bone

Case III –

28 Years old female patient presented with severe dysphagia which was progressive since last 3 years. CT scan revealed a metallic foreign body in esophagus (**FIG. 3 a)**. On inquiry patient gave history of ingestion of coin 20 years back. On flexible esophagoscopy, coin was impacted in esophagus with granulations all around. Chances of esophageal perforation were high in this case so multidisciplinary approach was used. Along with ENT surgeon, Gastroentrologist, General surgeon, interventional radiologist were present in operation theatre to attend patient if required.First flexible eophagooscopy was done by Gastroenterologist (**FIG. 3 b).**. This was followed by balloon dialatation. Then we removed the impacted coin with rigid esophagoscope and forcep **(FIG. 3 c).** Patient was kept on nasogastric feeds for seven days and intravenous antibiotics.

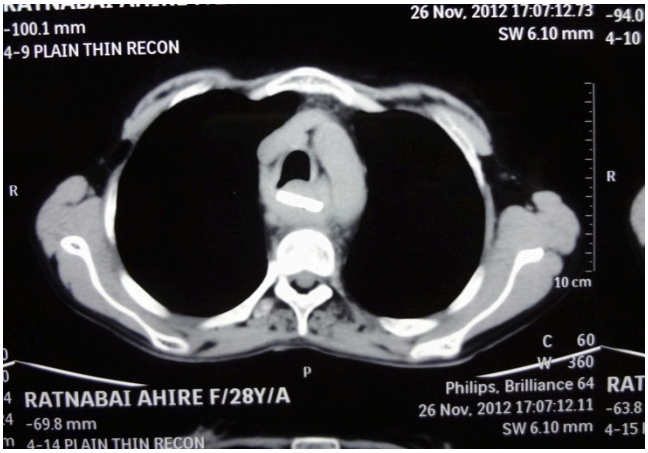

FIG. 3 a. CT scan showing a metallic foreign body in esophagus

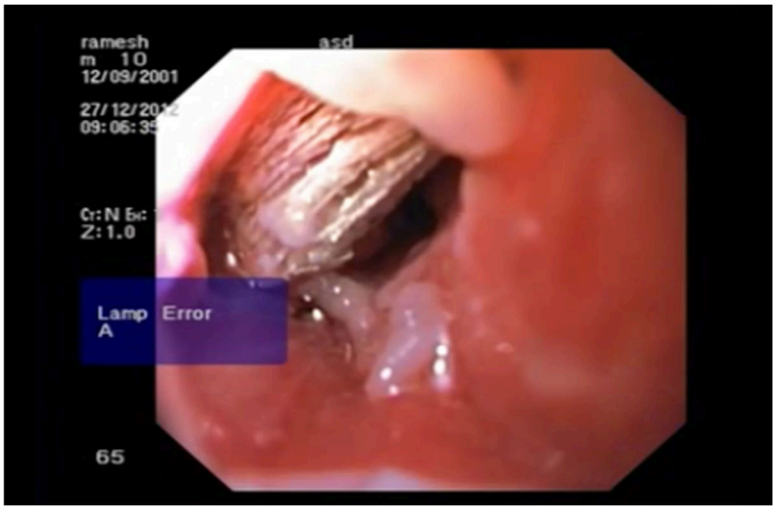

FIG. 3 b. flexible eophagooscopy showing coin in esophagus

FIG. 3 c. showing the removed impacted coin

Case IV –

36 years male patient presented with gunshot injury on left side of face **(FIG. 4 b)** . Surprisingly patient's vitals were stable for 6 days after injury and had only pain on opening of mouth. But after 6 days he developed left side Lower Motor Neuron grade IV facial palsy (**FIG. 4 a)**. Clinically 1x1 cm entry wound was present in preauricular area. CT scan was suggestive of metallic foreign body in left infratemporal fossa with associated fracture of condyle of mandible and temporal bone (**FIG. 4 c)**. Bullet was just 5mm lateral to carotid artery. Patient posted for exploration and foreign body removal. Along with ENT surgeon, maxillofacial surgeon and plastic surgeon worked as a team. After removal of part of condylar process, foreign body was gently removed under telescopic guidance (**FIG. 4 d**) with micro ear surgery instrument, ball point **(FIG. 4 e)**.Reconstruction of condyle was done by plating. Removal of this foreign body would not have been possible without telescope and there was a great risk of damage to carotid artery which could have been lethal.

FIG. 4 a. left side Lower Motor Neuron grade IV facial palsy

FIG. 4 b. gunshot injury on left side of face

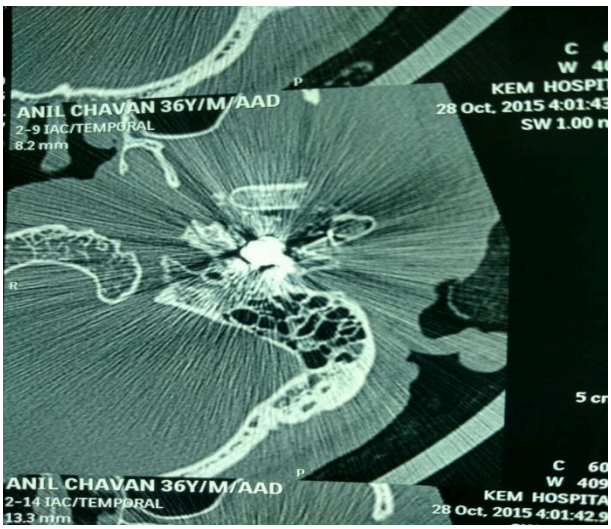

FIG. 4 c. CT scan was suggestive of metallic foreign body in left infratemporal fossa with associated fracture of condyle of mandible and temporal bone

FIG. 4 d. Exploration offoreign body &removal under telescopic guidance

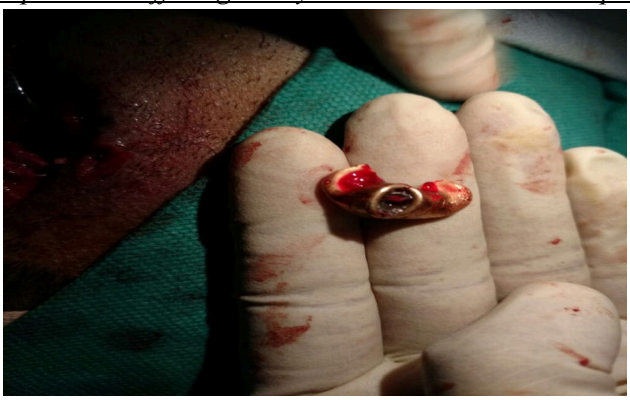

FIG. 4 e. Showing the bullet after telescopic removal

Case V-

13 Years old child presented with history of fall from tree and penetration of wooden stick into nose. On anterior rhinoscopy, foreign body was not visualized. So CT scan of paranasal sinus was done, which was suggestive of foreign body penetration through lamina papyracea and impinging on medial rectus muscle. Patient's vision and extra ocular movements were normal. Foreign body was remove endoscopicaly with preservation of vision and without any complication. The challenge here was the horizontal lye of the foreign body and difficult manipulation to prevent trauma to eyeball to prevent blindness. (**Fig. 5)**

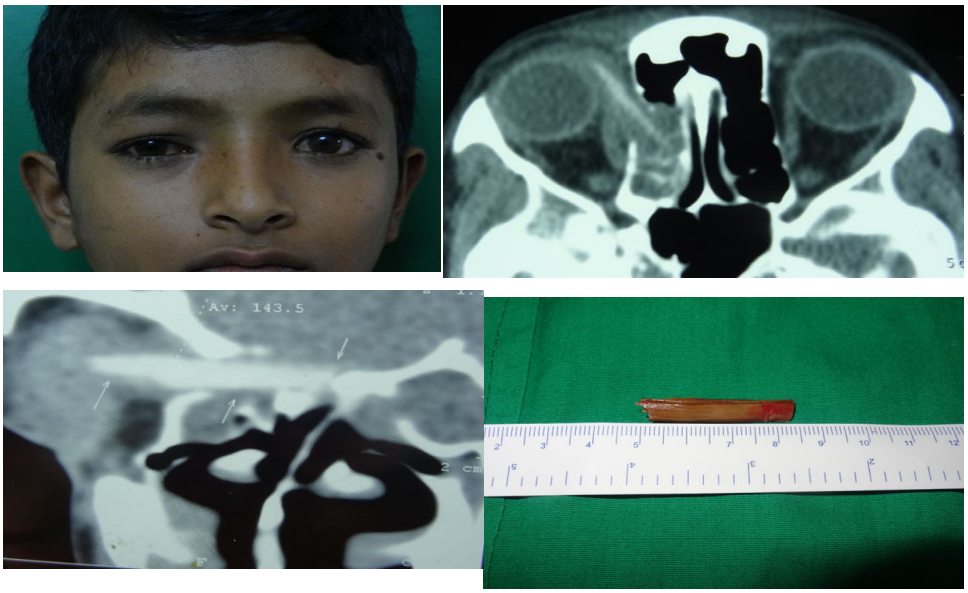

Fig. 5 showing the clinical picture of patient with CT scan showing the horizontal placement of stick and the removed stick

Case VI-

38 years male patient presented with history of accidental metal piece penetration in neck. He had complains of neck pain. Entry wound was on right side, just lateral to trachea (**FIG. 6 a).** X-ray showed small metallic foreign body anterior to trachea in subcutaneous tissue **(FIG. 6 b.& FIG. 6 C).**. External skin incision taken on entry wound to remove foreign body. Foreign body was not visualized at the site of entry wound seen on x ray. On palpation foreign body could be traced and it was ultimately removed from anterior wall of trachea. Hare we want to highlight the role of local anaethesia due to which patient had tenderness on pressing the trachea. The foreign body had migrated and abutted into the anterior wall of trachea which could have been easily missed under general anaesthesia and would have caused further complications like emphysema and foreign body bronchus.

FIG. 6 a. Entry wound on right side, just lateral to trachea

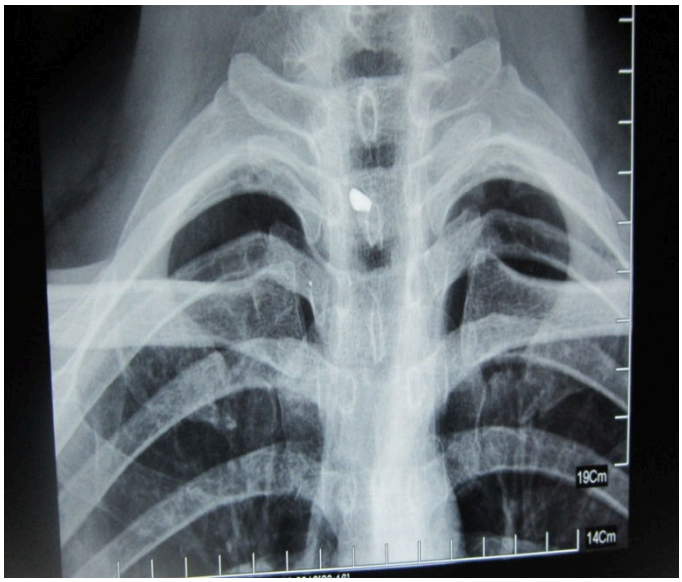

FIG. 6 b. X-ray Neck anterior view showing small metallic foreign body anterior to trachea in subcutaneous tissue

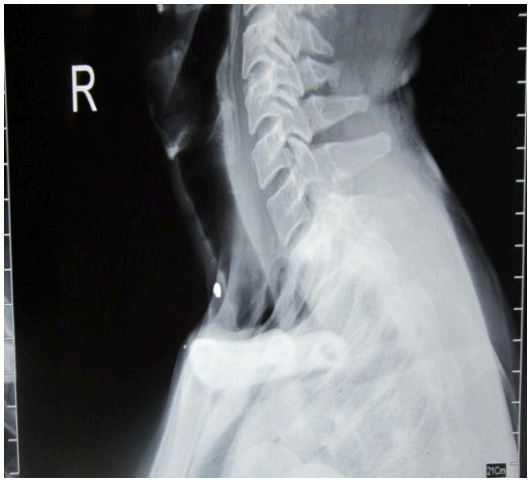

FIG. 6 C. X-ray Neck lateral view showing small metallic foreign body anterior to trachea in subcutaneous tissue

Case VII –

53 years old rickshaw driver met a road traffic accident. Patient had glass piece penetration in Submandibular region. External entry wound was single (**FIG. 7 a.).** X ray neck anterior & lateral view also showed single foreign body in submandibular area **(FIG 7 c.)**. when explored multiple glass pieces were removed **(FIG. 7 b)**. Palpation with finger was useful in complete removal of such broken foreign bodies in toto (**FIG. 7 d)**.

FIG. 7 a. Showing single External entry wound Submandibular region

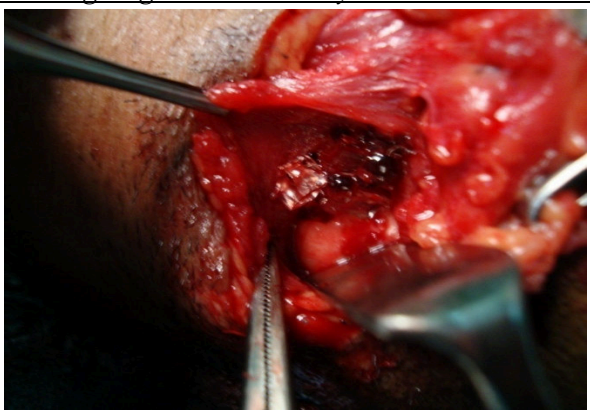

FIG. 7 b. Showing single External entry wound with multiple glass pieces Submandibular region

FIG 7 c. X ray neck anterior & lateral view also showing single foreign body in submandibular area.

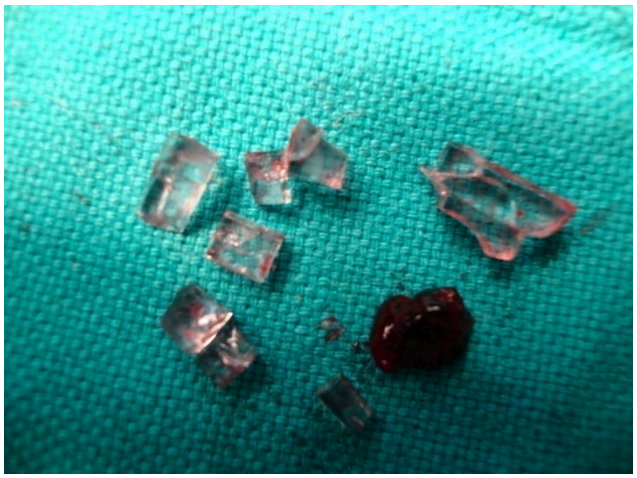

FIG. 7 d. Showing multiple glass pieces removed

Case VIII-

37 years old male patient presented with penetration of metallic ware in cheek **(FIG. 8 a)**. On examination, entry wound was just 2x1 mm. CT scan showed metallic foreign body in subcutaneous tissue **(FIG. 8 b)**. Foreign body was removed with minimal incision on cheek and palpation in the cheek. Tracing foreign body by palpation made the complete removal of foreign body easier.

FIG. 8 a. showing entry wound in cheek

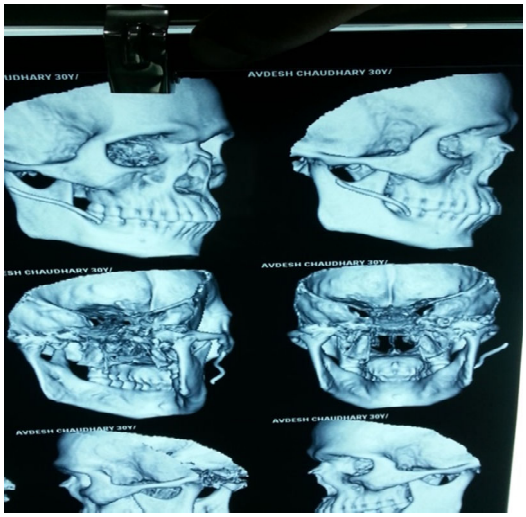

FIG. 8 b. CT scan showed metallic foreign body in subcutaneous tissue

DISCUSSION

Otorhinolaryngology deals with natural orifices like ear, nose and mouth which are habitually exposed and are the port for foreign body insertion. So Otorhinolaryngologists encounter most of them, contributing 11% of emergencies[3-5]. Oropharyngeal and nasal FBs are potentially esophagealand bronchial FBs[6]. Children less than 10 years are the most prone to foreign body exposure.

Foreign bodies at different sites present with peculiar sign and symptoms, and are rarely asymptomatic [2].In case of foreign body in the ears the patient may present withotalgia, otorrhea,hypacusisor tinnitus. In the nasal cavities, the symptoms start with sneezes, watery rhinorrhea and nasal obstruction and within few daysprogress to unilateral fetid and purulent rhinorrhea. In the oropharynx, the main symptom is odynophagia and in the trachea and bronchus they manifest as stridor or unexplained lower respiratory tract infection with cough[7, 8].long standing foreign bodies present with much complicated picture. Clinician should be aware of all different spectrum of presentation of foreign bodies. If need be, patient should be further investigated radiologically.

Fractured tracheostomy tube is tracheobroncheal tree is quite rare foreign body. First case was reported by Bassoe and Boe (1960)[9]. A series of nine cases over aperiod of 8 years has been reported by Gupta in 1987[10]. Long term use of same tracheostomy tube leads to weakening and fragmentation of tube. In our case tracheostomy tube was so much fragile that it could not be removed as single piece. So the challenge lied in removal of all the pieces of tracheostomy tube without displacing very small fragment into distal airway. More over patient had spine fracture which itself was challenging in this case.

Migration of ingested foreign bodies is very rare[11]. Fish bone migration from pharynx to skin very rare occurrence. A fish bone has the ability to migrate to the thyroid gland, carotid artery, mediastinum, or subcutaneous tissue due to pharyngeal muscle contraction and relaxation, esophageal peristalsis, and surrounding tissue reactions. Studies have shown that it can take up to 41 days for a fish bone to migrate from the larynx or pharynx to the skin[12]. So in patients with retropharyngeal abscess drainage where foreign body removal is doubtful, patient should be kept under follow-up so that such rare but possible migration of foreign body won't be missed.

In cases of long standing foreign bodies, rate of non-iatrogenic complications increases with time [6]. Esophageal perforation is known complication in case of chronically retained esophageal foreign body[13]. So while dealing with such case all possible complications should be on back of mind and one should have multi-specialty team standby to tackle life threatening complications.

Retained bullet may cause central and peripheral neuropathy, nephropathy, haemolytic anemia. These are the toxic effects of lead which dissolves in acidic media. Lead toxicity occurs in patients with long standing retained bullet in body [14]. In our case patient developed facial palsy after 6 days which made exploration mandatory. Bullet was in vicinity of carotid artery so in our case removal of bullet under telescopic guidance, with blunt tip instruments, with minimal handling of surrounding tissue was the key.

In literature similar case of foreign body wooden stick in orbit has been reported. Foreign bodies localized close to the medial wall of the orbit can be safely removed using an endoscopic transnasal approach[15]. Conventional external approach of FB removal would lead to increase morbidity, scaring, disfigurement and other complications. Transnasal endoscopic removal is safe, less damaging and easy method, as it gives direct visualization, provided that the foreign body is approachable endoscopically[16].

After successfully removing a foreign body, one should always look for additional foreign bodies[17]. In penetrated foreign body chances of breaking of it into multiple pieces are high. Entry wound may be misguiding in few cases. So palpation during exploration of foreign body ensures complete removal of foreign body.

CONCLUSIONS

- Otorhinolaryngology deals with natural orifices like ear, nose and mouth which are habitually exposed and are the port for foreign body insertion.
- Foreign bodies at different sites present with peculiar sign and symptoms, and are rarely asymptomatic but sometimes their presentation may be unusual.
- .After successfully removing a foreign body, one should always look for additional foreign bodies.
- Migration of ingested foreign bodies is very rare however in penetrated foreign body chances of breaking of it into multiple pieces are high. Entry wound may be misguiding in few cases. So palpation during exploration of foreign body ensures complete removal of foreign body.
- Telescopic removal is safe, less damaging and easy method, as it gives direct visualization, provided that the foreign body is approachable endoscopically[. Conventional external approach of FB removal would lead to increase morbidity, scaring, disfigurement and other complications.
- Clinician should be aware of all different spectrum of presentation of foreign bodies. If need be, patient should be further investigated radiologically for complete and prompt removal of foreign bodies from ear, throat and nose to prevent mortality and reduce morbidity.

REFERENCES

1) Mangussi-Gomes, Andrade, Matos, Kosugi, Penido. ENT foreign bodies: profile of the cases seen at a tertiary hospital emergency care unit. Braz J Otorhinolaryngol. 2013 Nov-Dec;79(6):699-703. doi: 10.5935/1808-8694.20130128.
2) Naik SM, S R, Appaji M, MK G, Devi NP, Naik SS. Foreign bodies in otorhinolaryngology: a study of 860 cases managed in medical college hospital.Online J Otolaryngol. (2013), [cited February 23, 2016]; 3(4): 6-26.
3) Figueiredo RR, Azevedo AA, Kós AO, Tomita S. Complications ofENT foreign bodies: a retrospective study. Braz J Otorhinolaryngol.2008; 74(1):7-15. PMID: 18392495
4) Silva BSR, Souza LO, Camera MG, Tamiso AGB, Castanheira LVR.Foreign bodies in otorhinolaryngology: a study of 128 cases. Int ArchOtorhinolaryngol. 2009;13(4):394-9.
5) Bressler K, Shelton C. Ear foreign-body removal: a review of 98consecutive cases. Laryngoscope. 1993; 103(4 Pt 1):367-70. PMID:8459743
6) Ricardo Rodrigues Figueiredo, AndréiaAparecida de Azevedo, Arthur Octavio de ÁvilaKós, Shiro Tomita.Complications of ENT

foreignbodies: a retrospective study.Rev Bras Otorrinolaringol2008; 74(1):7-15.
7) Marques MPC, Sayuri MC, Nogueira MD, Nogueirol RB, Maestri VC. Tratamento dos corposestranhosotorrinolaringológicos: um estudoprospectivo. Rev Bras Otorrinolaringol. 1998, 64:42-7.
8) Tiago MPC, Salgado DC, Correa JP, Pio MRB, Lambert EE. Corpoestranho de orelha, nariz e orofaringe: experiência de um hospital terciário. Rev Bras Otorrinolaringol. 2006, 72:177-81.
9) Bassoe HH, Boe J. Broken tracheostomy tube as a foreign body. Lancet. 1960;1:1006–7.
10) Gupta SC, Ahluwalia H. Fractured tracheostomy tube: An overlooked foreign body. J Laryngol Otol.1996;110:1069–71.
11) Chee LW, Sethi DS. Diagnostic and therapeutic approach to migrating foreign bodies. Ann OtolRhinolLaryngol. 1999;108:177–80
12) Shaariyah MM, Salina H, Dipak B, Majid MNA. Migration of foreign body from postcricoid region to the subcutaneous tissue of the neck. Annals of Saudi Medicine. 2010; 30(6):475-477. doi:10.4103/0256-4947.70565.
13) Byaruhanga R, Kakande E, Mwambu T. A rare case of a patient with a foreign body in the esophagus for two years which perforated into the mediastinum. African Health Sciences. 2012; 12(4):569-571.
14) Cavalieri Costa R, Stape CA, Suzuki I, Targa WH, Batista MA, Bernabe AC, Miranda FG, Lage LA. Lead poisoning caused by bullet in the hip. Report of 2 cases. Rev HospClinFac Med São Paulo 1994; 49:124-7.
15) Lyson T, Sieskiewicz A, Rogowski M, Mariak Z.Transnasal endoscopic removal of intraorbital wooden foreign body. J NeurolSurg A Cent EurNeurosurg. 2013 Dec;74Suppl 1:e100-3. doi: 10.1055/s-0032-1326942. Epub 2012 Oct 3.
16) Iqbal A. Muhammad Khyani, AtifHafeez, Muhammad UmerFarooq and JawaidAlam. Endoscopic Removal of Bullet from Orbital Apex.Journal of the College of Physicians and Surgeons Pakistan 2008, Vol. 18 (10): 646-648
17) Nagendran T. Management of foreign bodies in the emergency department. Hosp Physician 1999; 35:27-40.

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