Undetected Metallic Chopstick Stabbed on Neck Resulting Tinnitus and Foreign Body Sensation

Sun A Choi, M.D.,1 Sung Bum Kim, M.D.,1 Seung Youp Shin, M.D.,1 Young Gyu Eun, M.D.1
Departments of Otorhinolaryngology-Head and Neck Surgery,1 Neurosurgery,2 School of Medicine, Kyung Hee University, Seoul, Korea

Penetrating neck injuries constitute 5–10% of all trauma cases. These injuries may cause life-threatening suppurative or vascular complications, but the severity and extent of damage depends upon the inflicting object and the involved structures. If significant complications are not expected, then it is best to leave the foreign body embedded and avoid surgical risks. We present a rare case of a foreign body embedded in the neck causing tinnitus and foreign body sensation.

Key Words : Foreign body · Stabb · Tinnitus · Neck.

INTRODUCTION

Penetrating neck wounds caused by bullets or sharp tools account for 5% to 10% of all injuries3. Without appropriate care, the injury can cause death; thus, penetrating neck injuries are among the most critical injuries. The neck comprises several complex structures including the distal carotid artery, vertebral artery, parotid gland, pharynx, the ninth through twelfth spinal cord segments, and a cranial nerve located between the mandible and skull base. Exposure of these anatomical structures is challenging and risky; therefore, unless significant complications are expected, surgical excision is not recommended owing to the risk of surgical complications.

In this case report, we describe a foreign body embedded in the neck for a long period of time that was diagnosed radiographically, and we provide a review of the relevant literature.

CASE REPORT

A 59-year-old man donated a kidney 8 months prior to evaluation. He later reported a foreign body sensation in his neck, mild to severe cervical, shoulder, and chest pain, as well as tinnitus. He described the tinnitus as a “ssuk-saek” sound, and the symptom worsened when the patient turned his head. Pure tone audiometry was normal in both ears, at 10 dB in the right ear and 12 dB in the left ear. However, there was high tone loss in the 4 kHz to 8 kHz range, and tinnitus in the right ear at 50 dB and in the left at 30 dB. An evoking otoacoustic emission test of transient tone revealed that the average radiating sound intensity was 8.4 dB in the right ear and 2.5 dB in the left ear. The 0–6 kHz reproducibility was 90% in the right ear and 76% in the left ear. The converted otoacoustic emission test had a lower response in the left ear.

We queried the patient further, and he recalled falling while holding a metal chopstick. The chopstick broke, but its tip was never found. After the accident, he reported no symptoms except momentary pain. There was no infection, edema, or severe neurologic deficit associated with the lesion; therefore, the foreign body was left embedded for several decades. The patient and his guardian declined surgical excision of the object and elected long-term monitoring.
pain, and odynophagia may occur.

Tinnitus is a significant symptom that commonly follows head and neck trauma because of auditory nerve, cochlea, tympanic membrane, or ossicular chain damage. In the present case, the tinnitus worsened every time the patient turned his head, which may reflect neuromuscular alterations in the tissue surrounding the foreign body.

The infratemporal fossa (ITF) is located deep to the infratemporal crest, continues superiorly towards the temporal fossa and temporals muscle, and inferiorly towards the parapharyngeal space. The osseous boundaries are the posterolateral maxillary surface anteriorly, the lateral pterygoid plate anteromedially, the mandibular ramus laterally, and the tympanic temporal bone and styloid process posteriorly. The ITF contains the maxillary artery, the trigeminal nerve mandibular branch, the pterygoid muscles, and the pterygoid venous plexus. Owing to its deep position, masses in the ITF may grow for a considerable time before symptoms occur, often delaying diagnosis. Access to the area is challenging, but adequate surgical exposure is critical for the excision of large ITF tumors.

The ITF is divided into prestyloid and retrostyloid regions. The former contains facial and trigeminal nerves, and the latter contains the internal carotid artery, jugular foramen, and the ninth through twelfth cranial nerves. A foreign body within the prestyloid process can cause trismus as well as mandibular and pharyngeal wall swelling. A foreign body within the retrostyloid process can cause systemic symptoms such as fever and chill.

In the case we described, there was no evidence of skull fracture or external injury, and the patient could not recall the traumatic event; the foreign body likely resided in the tissue for an extended period of time. The location adjacent to the bone structure may have delayed diagnosis: the foreign body was revealed only after switching the cervical CT data to a bone setting. In a similar case report, a mysterious transverse sinus foreign body remained asymptomatic for over 20 years.

Because the foreign body was made of metal, suppurative inflammation typical of organic material such as wood was absent: only cervical lymph node reactive proliferation was observed. Moreover, the patient experienced only mild symptoms, and he and his guardian declined surgical excision. Leaving the foreign body embedded is preferred over infratemporal fossa exposure, and his guardian declined surgical excision. Leaving the foreign body embedded is preferred over infratemporal fossa exposure, and the patient could not recall the traumatic event. The foreign body likely resided in the tissue for an extended period of time. The ITF may grow for a considerable time before symptoms occur, often delaying diagnosis. Access to the area is challenging, but adequate surgical exposure is critical for the excision of large ITF tumors.

In a neck injury patient experiencing nonspecific symptoms, a thorough otolaryngologic history, physical examination, and radiography or computed tomography can enable diagnosis. Furthermore, the foreign body can remain embedded in the body without major somatic damage; however, routine monitoring is needed.

**CONCLUSION**

We reported the rare case of metallic chopstick embedded in the neck and head.
the neck for several decades, and tried to find out the possibility of correlation with tinnitus and foreign body sensation. We also presumed the entrance pathway of foreign body into infratemporal fossa.

We assumed that careful history taking, detailed physical examination, and proper radiologic study may important tool for detection and evaluation of foreign body, which is located in important structure of our body.

References
1. Ahmad R, Pampori RA, Wani AA, Qazi SM, Abdul Ahad SA: Transcervical foreign body. J Laryngol Otol 114: 471-472, 2000
2. al Muhanna A, Abu Chra KA, Dashi H, Bebbehani A, al-Naqeeb N: Thyroid lobectomy for removal of a fish bone. J Laryngol Otol 104: 511-512, 1990
3. Bailey BJ, Johnson JT, Newland SD, Stewart MG: Penetrating face and neck trauma in Bailey BJ, Johnson JT, Newlands SD (eds.): Head and Neck Surgery-Otolaryngology, ed 4. Philadelphia: Lippincott Williams & Wilkins, 2006, pp1070
4. Bendet E, Horowitz Z, Heyman Z, Faibel M, Kronenberg J: Migration of fishbone following penetration of the cervical esophagus presenting as a thyroid mass. Auris Nasus Larynx 19: 193-197, 1992
5. Cosan TE, Arslantas A, Gurer AI, Vural M, Kaya T, Tel E: Injury caused by deeply penetrating knife blade lodged in infratemporal fossa. Eur J Emerg Med 8: 51-54, 2001
6. Feldhusen F, Braunbeck T, Wallner F: Dysphagia after eating sea foods.
7. Pyriform sinus foreign body with perforation and abscess of the parapharyngeal space. HNO 47: 746-747, 1999
8. Folmer RL, Grist SE: Chronic tinnitus resulting from head or neck injuries. Laryngoscope 113: 821-827, 2003
9. Jones RL, Chavda SV, Pahor AI: Parapharyngeal abscess secondary to an external auditory meatus foreign body. J Laryngol Otol 111: 1086-1087, 1997
10. Murthy PS, Bipin TV, Ranjit R, Murty KD, George V, Mathew KJ: Extraluminal migration of swallowed foreign body into the neck. Am J Otolaryngol 16: 213-215, 1995
11. Oh CH, Hyun D: Mysterious foreign body in transverse sinus. J Korean Neurosurg Soc 51: 167-169, 2012
12. Osinubi OA, Osinarne AI, Pal A, Lonsdale RJ, Butcher C: Foreign body in the throat migrating through the common carotid artery. J Laryngol Otol 110: 793-795, 1996
13. Otremba M, Adam S, Omay SB, Lowlicht R, Bulsara KR, Judson B: Maxillary swing approach for extended infratemporal fossa tumors. Laryngoscope 123: 1607-1611, 2013
14. Park CH, So SH, Kim HJ, Lim HJ: A Case of Jugular Bulb Injury by the External Ear Foreign Body. Korean J Otolaryngol-Head Neck Surg 42: 1183-1185, 1999
15. Shinn WY, Jeong WH, Park JB, Kim CA, Baik SK: Two cases of fish bone foreign body presenting as tongue and neck mass. Korean J Otolaryngol-Head Neck Surg 44: 556-559, 2001