ZYGOMATIC ABSCESS: A RARE COMPLICATION OF OTITIS MEDIA

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ABSTRACT

Zygomatic abscess is a rare complication of otitis media. It is often misdiagnosed or diagnosed late leading to delay in definitive management. Here, we report a case of 45 years old male who presented with left otorrhoea and swelling in left temporal region and was diagnosed as a case of left chronic otitis media with left zygomatic abscess.

Keywords : Abscess, Complications, Mastoiditis.

INTRODUCTION

In the preantibiotic era, 52% of complications were associated with acute otitis media whereas at present, the majority of complications result from chronic otitis media.1Zygomatic abscess is a rare extracranial complication of otitis media. It was first described by Bezold in 1908 as a temporoparietal swelling secondary to mastoid abscess eroding the root of the zygomatic process. Due to its rarity, the clinical presentation of zygomatic abscess is often not correlated with otitis media by the clinician which leads to its delayed or missed diagnosis. Most cases of zygomatic abscess have been reported in the literature as a complication of acute otitis media. Here, we report a case of zygomatic abscess in a patient with chronic otitis media of squamous type.

CASE REPORT

A 45 years old male presented to Outpatient Department of Otolaryngology with history of left otorrhoea for four months, left decreased hearing for two months and swelling in left preauricular region for four days without associated fever, headache. The swelling in the left preauricular region was of insidious onset, gradually progressed to involve temporal and zygomatic region and was associated with pain which aggravated on chewing. He also complained of slight restriction in opening of mouth. He had received multiple course of antibiotics which couldn't improve his condition. On examination, there was a single, 4x3 cm, ill-defined swelling in the left temporozygomatic region with normal overlying skin. On palpation, the swelling was tender and firm in consistency. The facial nerve was intact and there was no mastoid tenderness. On otoscopic examination, there was mucopurulent discharge on left external auditory canal with whitish flakes and granulation tissue with erosion of the floor of bony external auditory canal. There was granulation tissue on posterosuperior quadrant of the left pars tensa with normal pars flaccida. Tuning fork test was suggestive of conductive hearing loss on the left ear.

Figure I: Swelling in left temporal region

The Pure tone audiometry showed conductive hearing loss of 39 dB in the left ear. High resolution computed tomography (HRCT) of temporal bone showed a well pneumatized mastoid air cell system extending to the zygomatic

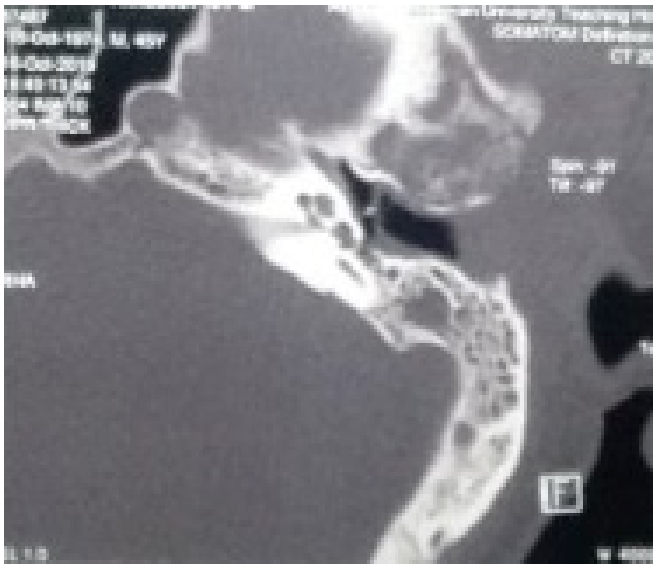

Figure II. HRCT of temporal bone showing erosion of the left zygomatic root

root with soft tissue opacification. There was bony erosion of the zygomatic root, floor of the bony external auditory canal and part of middle cranial fossa dura. HRCT also showed the increased soft tissue thickness of the left temporal region. The patient was counselled for the surgery and was admitted under iv antibiotics. He underwent left modified radical mastoidectomy with type III tympanoplasty with exenteration of the air cells of the left zygomatic root and drainage of zygomatic abscess. Granulation tissue and cholesteatoma was present in attic, aditus, antrum, periantral, retrofacial, stapes, mesotympanum, sinus tympani and zygomatic arch. The granulation tissue was sent for histopathological examination which showed keratinised stratified squamous epithelium with underlying acute and chronic inflammatory infiltrate. There was no granulomas or atypical cells and it was negative for malignancy. The patient had decreased swelling but trismus was still present at the three months follow up.

DISCUSSION

The complications of otitis media can be classified into intracranial and extracranial complications. With the development of antibiotics, the rate of complications is on decreasing trend. Bezold described three types of mastoid abscesses as a complication of mastoiditis: subperiosteal, Bezold's and zygomatic. Among these, zygomatic abscess is the most uncommon one.2 It results from spread of infection through the root of the zygoma or via phlebitis. The pneumatization of the temporal bone may vary among the individuals. There may be extension of mastoid pneumatization into the zygomatic process and occasionally into the squamous portion of the temporal bone.3The disease causing the erosion of these cells leads to periosteal elevation under the temporalis muscle resulting in swelling in the region of the zygomatic process. An inflammation of the air cells of the mastoid cavity can spread, via the cells in the root of the zygomatic arch, to the soft tissues of the cheek. However, sometimes there is no direct communication between the mastoid and zygoma. Sunwoo et al. have described the three possible routes.4 First, the spread of infection directly from the attic vault to the diploe of the squama. Second, the petrotympanic fissure because of the communications through the fissure to the infratemporal fossa. Third, the persistent petrosquamous sinus (PSS) since the PSS arises from the dorsolateral portion of the transverse sinus and courses over the lateral superior surface of the petrous bone draining into the retromandibular vein via the foramen retroarticulare.

Qin et al. have suggested that the relatively high position of zygomatic root could favour the drainage resulting in less occurrence of zygomatic abscess as compared to other abscesses.5However, the extension of purulent secretion to the highly pneumatized root of the zygomatic process can lead to erosion of the pneumatized bone and accumulation of secretion within the temporalis fossa when there is penetration through the periosteum.5

Due to infrequent presentation of zygomatic abscess, patients are often misdiagnosed that can lead to delay of proper treatment with potential harm to the patient.6The diagnosis of complicated otitic abscesses is also difficult due to inconsistency of signs or symptoms. Most patients are usually afebrile and lack systemic complaints.2 Patients are initially treated with antibiotics only in most of the cases. This improper use of antibiotics can mask the signs of otitis media resulting in masked mastoiditis. The ideal treatment for such cases is modified radical mastoidectomy with drainage of the abscess.

CONCLUSION

Zygomatic abscess is a rare extracranial complication of otitis media which an otolaryngologist should be aware of whenever a patient presents with the swelling in the temporozygomatic region along with aural symptoms.

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