

UNUSUAL PRESENTATION OF MASTOID ABSCESS

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ABSTRACT

In spite of a significant decrease in cases of chronic otitis media following the advent of antibiotics, complications of otitis media still represent a challenging situation owing to their high mortality rate. Factors that can cause complications include the level of virulence of the infectious organism, poor resistance of the patient, the presence of chronic systemic diseases and resistance of the infecting organism to antibiotics. The contemporary risk for developing extracranial complications of otitis media is approximately twice that of developing intracranial complications. Inflammation and infection may result in necrosis of the mastoid tip, allowing the pus to track from the medial side of the mastoid process through the incisura digastrica (digastric groove). The pus is prevented from reaching the body surface by the neck musculature, but can track along the fascial planes of the digastric muscle, sternomastoid or trapezius muscles. Pneumatisation of the mastoid process leads to thinning of the bone and is considered an important factor in the development of a trapezius or Bezold's abscess.

KEYWORDS

Otitis media, Complications, Mastoid pneumatisation, Bezold's abscess.

HOW TO CITE THIS ARTICLE: Kale PC, Unnikrishnan A, Thomas J et al. Unusual presentation of mastoid abscess. J. Evid. Based Med. Healthc. 2016; 3(30), 1370-1371. DOI: 10.18410/jebmh/2016/313

INTRODUCTION: Otogenic abscesses only develop in patients with chronic otitis media.^[1] The incidence of complications resulting from suppurative otitis media has significantly decreased since the introduction of antibiotics. Recent studies suggest an incidence of 0.24% in current series.^[2] Extracranial abscesses secondary to CSOM are a disease of the indigent, and are prevalent in developing countries.^[3] The abscesses occur predominantly in children and young adults, with preponderance in males. Pneumatisation of the mastoid process leads to thinning of the bone and is considered an important factor in the development of a trapezius or Bezold's abscess. Therefore, these abscesses are more common in adults than in children because the mastoid tip is often well pneumatised in adults.^[4] Early and aggressive surgical interventions for otogenic abscesses should result in a minimal morbidity.^[5]

CASE REPORT: A 55-year-old male presented in ENT OPD with complaints of burst open abscess over the posterolateral aspect of right side of neck 2 days back.

Patient was a known case of chronic squamosal otitis media since 5 years. Patient gives history of right postauricular region swelling which was small initially and gradually increased in size extending up to back of the neck, and burst opened on its own (Fig. 1). At the same time, he also had tenderness, local rise of temperature over the wound, neck stiffness and discharge of pus from the cavity. There was no history of vertigo or tinnitus, but there was history of low grade fever. There was no history of headache, vomiting, facial paralysis. Otoscopic examination of right ear revealed an anterosuperior retraction pouch with erosion of the anterior malleolar fold and the scutum and extension of the pouch to the attic region. The posterior malleolar fold is prominent. Left ear was normal. Cranial nerves were all intact.



Figure 1

Submission 05-03-2016, Peer Review 15-03-2016,
Acceptance 26-03-2016, Published 14-04-2016.

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DOI: 10.18410/jebmh/2016/313

On neck examination, diffuse induration was present from the mastoid region extending up to the back of the neck with central ulceration. There was tenderness on palpation. There was evidence of slough and minimal pus discharge from the ulcer. The overlying skin was mildly inflamed and tender. CT scan of temporal bone reveals soft tissue lesion in the middle ear cavity, and mastoid with partial erosion of ossicular chain and erosion of the mastoid tip (Fig. 2). The lesion has also extended inferiorly till the C7 vertebra. It lies above the trapezius muscle.



Figure 2

The patient was admitted and started on IV antibiotics. Patient was posted for emergency tympanomastoid exploration. Intraoperative findings reveal an extensive cholesteatoma in the mastoid antrum and the middle ear cavity. The tip of mastoid, subtle erosion of the tegmen tympani and medial wall of inner ear was noted. Postoperatively, the patient recovered well with minimal left ear discharge with considerable amount of healing of the wound over neck.

DISCUSSION: Cholesteatoma is a disease that can occur in middle ear, mastoid bone or petrous temporal bone. It is characterised by a tendency for bone erosion and recurrence. Once established in the middle ear, mastoid or petrous bone, cholesteatoma is a destructive lesion that gradually expands and destroys adjacent structures leading to complications.^[6] Intracranial complications range from meningitis, brain abscess, lateral sinus thrombosis and extradural abscess. Bezold's abscess; however, is a rare complication of cholesteatoma.

Bezold's abscess occurs infrequently now a days due to the advent of antibiotics and early surgical intervention. It is defined as a collection of abscess deep to the sternocleidomastoid muscle. It was introduced by a German otologist, Friedrich Bezold in 1881. Bezold distinguished this form of abscess from other more common forms, such as the subperiosteal abscess, which arises from the erosion of the outer surface of the mastoid cortex^[7] In Bezold's abscess, the pus discharge escapes via a perforation of the inner side of mastoid process which then tracks down along the fascia planes of the digastric or sternocleidomastoid muscle in the neck.

The pathogenesis of the Bezold's abscess has been attributed to the degree of pneumatisation of the mastoid bone. In a well-pneumatized mastoid bone, the spaces with the thin bone can easily act as a pathway for a disease process to spread through it. In the absence of pneumatisation, the mastoid bony walls are thick and hinder the erosion process.^[4] The presence of cholesteatoma debris in the chronically infected mastoid may obstruct the infectious foci into external auditory canal and allows the foci to find a weak point in the mastoid tip. In the early phase of abscess formation, the sign probably was subtle and there should be a high index of suspicion in treating patients belonging to this group.^[8]

CONCLUSION: Most commonly, mastoid abscess is seen over the sternocleidomastoid muscle, but can also present at a different site as was seen in our case. Hence mastoid abscess can have a varied presentation, a posterior triangle abscess should also be considered as a mastoid abscess.

REFERENCES:

1. Saha SN, Chandra S, Srivastava, et al. An unusual complication of CSOM-Lateral sinus thrombosis with lung abscess: a clinicoradiological study. *Indian Journal of Otolaryngology and Head & Neck Surgery* 2007;59(4):349-352.
2. Jeffrey H Spiegel, Lawrence R Lustig, Kelvin C Lee, et al. Contemporary presentation and management of a spectrum of mastoid abscesses. *The Laryngoscope* 1998;108(6):822-828.
3. Aslam J, Mumtaz S, Batool A, et al. Management of otogenic intracranial complications. *Ann King Edward Med Uni* 2004;10:303-306.
4. Ciorba A, Berto A, Borgonzoni M, et al. Pneumocephalus and meningitis as a complication of acute otitis media: case report. *Acta Otorhinolaryngol Ital* 2007;27(2):87-89.
5. Thaheem K, Marfani MS. Frequency and complications of cholesteatoma in patients with chronic suppurative otitis media. *Pak J Otolaryngol* 2005;21:48-49.
6. Mustaffa A, Heta A, Kastrati B. Complication of chronic otitis media with cholesteatoma during a ten year period in Kosovo. *European Archives of Otorhinolaryngology* 2008;265(12):1477-1482.
7. McMullan B. Bezold's abscess: a serious complication of otitis media. *Journal of Paediatrics and Child Health* 2009;45(10):616-618.
8. Uchida Y, Ueda H, Nakashima T. Bezold's abscess arising with recurrent cholesteatoma 20 years after surgery: with a review of the 18 cases published in Japan since 1960. *Auris Nasus Larynx* 2002;29(4):375-378.