



Bezold's Abscess; A Rare Complication in Antibiotic Era - Case Report

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The otitis media is one of the most commonly treated infections. Here the disease process is usually limited to the mucoperiosteal lining of middle ear cleft. When it breaks into the bony walls of cleft various complications can arise. Bezold's abscess is one of the rare complications of otitis media in this antibiotic era. But it can lead to serious sequelae, if not diagnosed and treated early. This article reports a case report of a 35-year-old male who presented with right otitis media complicated with Bezold's abscess. The diagnosis is confirmed radiologically by high resolution CT scan of temporal bone and ultrasound scan neck. The patient was managed by intravenous antibiotics, drainage of abscess, and modified radical mastoidectomy.

Keywords: Bezold's Abscess; Complications; Mastoiditis; Otitis Media**Abbreviations**

HRCT: High Resolution Computed Tomogram; SCM: Sternocleidomastoid; C and S: Culture and Sensitivity; COM-Chronic Otitis Media; CECT: Contrast Enhanced Computed Tomogram

Introduction

Friedrich Bezold, a German otologist, first described the "Bezold" abscess in 1881 as a complication of mastoiditis in 20% of his patients [1]. Pus can break the thin medial side of the tip of the mastoid and present as upper neck swelling [2].

Such an abscess forms as a result of either direct destruction of cortical bone or hematogenous spread through small vascular channels. Well pneumatized mastoids are believed to be more susceptible to forming subperiosteal abscess than sclerotic mastoids because of increased capacity for the accumulation of pus and decreased capability of resorption [3]. When pus breaks through the tip of mastoid process, and into the digastric groove, infection can extend into the neck. This abscess typically forms deep to sternocleidomastoid muscle and is referred to as Bezold's abscess. Patient uniformly present with a fluctuant neck mass and otitis media. This infectious process can rapidly prove fatal if left unchecked as the carotid sheath, parapharyngeal space and mediastinum can

be involved. This article reports a case report of a 35-year-old male who presented with right otitis media complicated with Bezold's abscess. The diagnosis is confirmed radiologically by HRCT scan of temporal bone and neck. The patient was managed by intravenous antibiotic, drainage of abscess, and cortical mastoidectomy. The purpose of this article is to make the medical professionals aware of the need of an organized approach to the patient who presents with a neck mass with a detailed history and thorough physical examination.

Case Presentation

35yrs old Male patient presented with right sided postaural discharge since 5 days and right sided neck swelling since 3 days. Patient is having right sided ear discharge since 23 years.

On examination, right ear showed a postaural sinus, draining pus with surrounding scarring, associated with sagging of posterior canal wall. External auditory canal was filled with mucopurulent discharge. Tympanic membrane was not visualised. Left ear was normal and also bilateral facial nerve function. Neck examination showed a tender, tense swelling of 6x3x3cm extending from tip of mastoid, along the upper 2/3rd of right sternocleidomastoid. All other areas of ear, nose and throat were normal (Figure 1).



Figure 1: Photograph of patient showing Right Postaural sinus with neck swelling.

Investigation results are given below

Haemoglobin - 14.4, Total count - 19,800, Differential count - N80 L16 E04, ESR- 56, Platelet - 16,000, Blood group - AB NEGATIVE, Bleeding time-1’00”, Clotting time -3’00”, Prothrombin time - 13.9sec, INR -1.17, APTT-36.6sec, Urea/Creatinine - 16/0.5, Na/K+-134/3.9. Alkaline phosphatase – 297, Total protein/albumin – 7.4/4.3, RBS-110.

HIV, HBsAg, Anti HCV were non reactive. Pure tone audiogram showed Right sided mixed hearing loss with profound sensorineural hearing loss and normal hearing on left side.

HRCT Temporal bone reported an abscess involving right mastoid and middle ear cavity with erosion of middle ear ossicles, semi circular canals and tympanic segment of facial nerve. Extracranial extension of abscess into sternocleidomastoid and digastric muscles with eroded sinus plate (Figure 2, Figure 3).

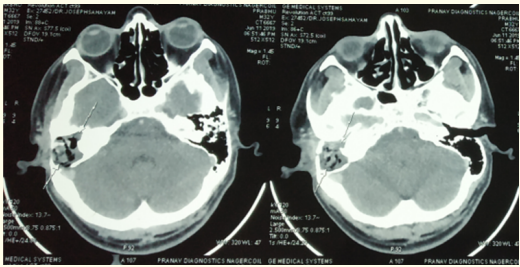


Figure 2: HRCT temporal bone showing soft tissue density in middle ear and mastoid.

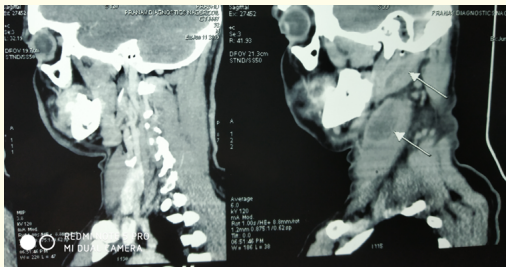


Figure 2: CECT Neck showing Large abscess within right SCM from mastoid process downwards.

Ultrasound scan neck showed heterogenous hypodense collection with echogenic particles extending from right mastoid. Caudally the collection is seen interspersed within the fibres of SCM and seen extending upto the junction of middle1/3rd and lower 1/3rd, measuring about 2.5x2.5x10cm. Great vessels of neck - normal.

With these clinical findings and investigation results, a diagnosis of Right chronic otitis media – active squamosal disease with Bezold’s abscess was made.

As part of treatment, thrombocytopenia was corrected by giving 6 units of platelet transfusion. After that USG guided aspiration of neck abscess was done and pus send for C and S. Modified radical mastoidectomy with incision and drainage of neck abscess was done after 3 days. Cholesteatoma was seen filling mastoid cavity and middle ear (Figure 4). All ossicles except handle of malleus, vertical segment of facial nerve and lateral semicircular canal found eroded. Along with this postural sinus excised. Specimen send for CBNAAT which was negative. Histopathology report was consistent with cholesteatoma.



Figure 4: Mastoid cavity filled with cholesteatoma.

Discussion

Friedrich Bezold, a German otologist, first described the “Bezold” abscess in 1881 as a complication of mastoiditis in 20% of his patients, resulting in pus draining through the medial wall of the mastoid process into the digastric groove and forming a suppurative collection [4]. Otorrhoea as an obvious symptom may or maynot be present and there is no evidence that ears with COM are more or less likely to suffer complications if they are actively discharging. However the development of pain may indicate that an acute infection has supervened and that there may be build up of pus under pressure in the middle ear or mastoid. Although there is no direct evidence that such ears have a higher incidence of complications, the clinician should bear this possibility in mind [5].

Bezold’s abscess in infancy is rare because of incomplete pneumatization of mastoid. Infection can spread along the subcavian

artery to reach the posterior triangle of the neck, axilla or substernal space of the neck. It may then communicate with the retropharyngeal space via the intervertebral muscles or parapharyngeal space [6]. Clinical presentation can be different which include high grade fever, otalgia, otorrhoea, torticollis, facial nerve palsy and hypoacusia.

Computed tomographic scanning is essential to the detection of a subperiosteal abscess and to the delineation of full extent of diseases.

Conclusion

Contrary to common belief, Chronic otitis media, active squamosal with cholesteatoma is still very common. Cholesteatoma has to be detected early and has to be intervened early. Complications of otitis media should be diagnosed and treated timely, in order to reduce mortality and morbidity from COM.

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