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(CASE REPORT)

Bezold abscess, case report and a review of English literature reporting of these cases

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Abstract

Bezold's abscess (BA) is a rare and potentially life-threatening extracranial complication resulting from acute suppurative mastoiditis. Due to its rarity, the condition requires a heightened level of clinical suspicion for proper diagnosis. This report presents a case of BA in a pediatric patient, which is atypical given the condition's usual presentation in adults.

Additionally, we provide a thorough review of the literature from 2005 to 2024, analyzing 32 cases documented in English-language publications across European medical databases.

The review revealed that BA primarily affects males (19/32, 60%) and adults (20/32, 62%). Notably, seven cases (7/32) were linked to cholesteatoma, and six (6/32) involved concurrent sinus thrombosis.

Keywords: Bezold; Otitis media; Ear abscess; Neck abscess

1. Introduction

Bezold abscess (BA) arises due to the passage of purulent secretions through the medial wall of the mastoid process, leading to the formation of a suppurative collection within the digastric muscle tip. This condition is named after Friedrich von Bezold, a German otologist who first described a neck abscess involving the sternocleidomastoid muscle in 1881.

The abscess may extend towards the digastric muscle and involve the retro maxillary fossa along the course of the occipital artery. If left untreated, it may further enlarge. In severe cases of mastoid bone infection, the suppurative contents of the mastoid air cells can descend along the upper insertion of the sternocleidomastoid muscle, resulting in pus accumulation between the muscle and its fascia.

If not managed promptly and appropriately, BA may extend to the mediastinum, leading to acute mediastinitis, a condition associated with a mortality rate of 70%. While mastoiditis can affect individuals across all age groups, it is more frequently observed in older adults [1].

The advent of antibiotics has significantly altered the progression of mastoiditis, markedly reducing its complications[2,3]. Consequently, BA has become a less severe and less frequent entity[2,3]. The clinical significance of the mastoid bone stems from its proximity to crucial anatomical structures, including the middle and posterior cranial fossae, the sigmoid and lateral sinuses, the facial nerve, the semicircular canals, and the petrous portion of the temporal bone.

This study presents a case of BA along with a comprehensive literature review spanning the period from 2005 to 2024.

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2. Case Presentation

A 14-year-old male patient, weighing 62 kg, presented to the paediatric emergency department with complaints of high fever (39°C), right-sided otalgia, retro auricular erythema, and swelling.

The patient's mother reported a two-week history of yellowish white otorrhea from the right ear, accompanied by pain in the postauricular region. The patient had been receiving outpatient treatment with cefuroxime, antibiotic ear drops, and a nasal decongestant spray. However, no improvement was noted, and the retro auricular swelling worsened, prompting referral to a tertiary paediatrics emergency centre.

Neither the patient nor his mother reported dizziness, tinnitus, respiratory symptoms, dysphagia, odynophagia, or trismus. There was no history of prior otologic surgery.

Upon examination, the patient was febrile but hemodynamically stable. Otoscopic evaluation of the left ear was unremarkable, whereas the right ear exhibited a clear external auditory canal and a pale, non-lucid tympanic membrane with loss of Politzer's triangle. The right mastoid region was tender, swollen, and firm at the mastoid tip. A 2x2 cm retro auricular, non-fluctuant, painful tumefaction was noted without skin penetration.

The Rinne test was positive in the left ear but negative in the right ear. The Weber test lateralized to the right side. Ocular examination revealed no nystagmus, and the fistula test was negative. Facial nerve function was preserved, and the assessment of other cranial nerves yielded normal results. No meningeal signs, palpable lymphadenopathy, or abnormalities in pupillary light response were observed. Pulmonary and cardiac auscultation were normal, abdominal examination was unremarkable, and urinary and gastrointestinal functions were preserved.

Flexible endoscopy demonstrated a clear nasopharynx, oropharynx, and hypopharynx.

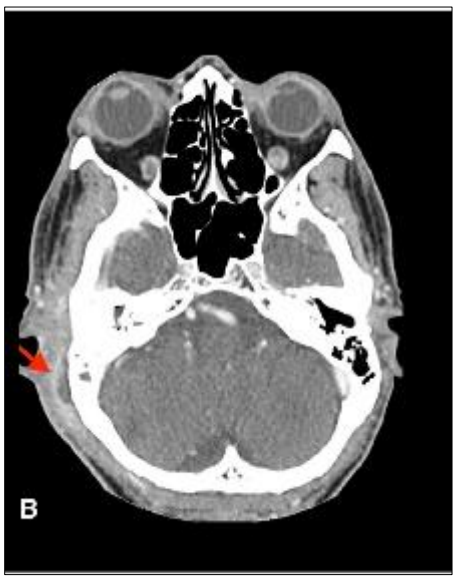

Figure 1 CT of the head showing right mastoid secretions, surrounding edema and purulent material collection

Significant laboratory findings included an erythrocyte sedimentation rate (ESR) of 89 mm/hour, C-reactive protein (CRP) of 7.75 mg/dL, white blood cell (WBC) count of 13.7 k/uL, and fibrinogen activity of 672 mg/dL. Temporal bone computed tomography (CT) revealed thick secretions within the right middle ear and mastoid air cells, along with extracranial soft tissue edema.

The patient was admitted and initiated on intravenous vancomycin, cefepime, and prednisolone. After 48 hours, revaluation by otolaryngology specialists showed persistent edema, unchanged from initial findings. No new otorrhea was noted, but pain and swelling over the sternocleidomastoid muscle had increased. Fever persisted despite treatment, and laboratory values remained unchanged.

At this point, a cervical ultrasound was performed, revealing increased echogenicity of the sternocleidomastoid muscle, surrounding soft tissue edema, multiple reactive lymph nodes, and evidence of mastoid bone destruction. Given the inadequate response to antibiotic therapy, surgical intervention was deemed necessary.

The patient underwent a complete cortical mastoidectomy with tympanostomy and abscess drainage. The retro auricular incision was extended along the anterior border of the sternocleidomastoid muscle to facilitate pus evacuation. Surgical drains were placed to aid secretion clearance. Postoperatively, drainage was maintained for three days.

By postoperative day five, the patient showed clinical improvement, with afebrile status and normalized laboratory parameters. Intravenous antibiotic therapy was de-escalated to ceftriaxone. The patient was subsequently discharged with appropriate follow-up recommendations.

3. Discussion

BA is a rare but severe extracranial, extratemporal complication of acute suppurative mastoiditis. A review of English-language literature from 2005 to 2024, encompassing scientific databases such as PubMed and the New England Journal of Medicine, confirms its infrequent occurrence[1,2,3]. While additional cases exist outside these sources, their omission from major scientific publications does not alter the condition's rarity.

According to literature review data, BA was more common in males (19/32, 60%) than females (13/32, 40%) and more frequently diagnosed in adults (20/32, 60%) than in individuals aged 18 years or younger (13/32, 40%). [4,5,6] The reported age range for BA cases extends from 10 weeks to 77 years [7]

4. Conclusion

BA represents a rare but serious extracranial complication of acute suppurative mastoiditis. Due to its variable clinical presentation, diagnosis requires a high degree of suspicion.

This study highlights the necessity for early diagnosis and a multidisciplinary approach in managing BA, combining medical and surgical interventions to improve outcomes. By increasing awareness among healthcare professionals, we can promote timely diagnosis and treatment, ultimately reducing morbidity and preventing life-threatening complications. Furthermore, this study contributes valuable clinical insights that may aid in refining treatment guidelines and improving patient care.

Future research should focus on identifying risk factors that predispose certain individuals to BA, optimizing treatment protocols, and exploring potential preventive strategies. With continued advancements in imaging, surgical techniques, and antibiotic therapy, the management of BA can be further improved, leading to better prognoses and reduced healthcare burdens on society.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Diagnosis and treatment of the complications of otitis media in adults. Case series and literature review. Govea-Camacho LH, Pérez-Ramírez R, Cornejo-Suárez A, et al. Cirugía y Cir (English Ed) 2016;84:398–404. [PubMed] [Google Scholar]

[2] Bezold's abscess in children: case report and review of the literature. Marioni G, de Filippis C, Tregnaghi A, Marchese-Ragona R, Staffieri A. Int J Pediatr Otorhinolaryngol. 2001;61:173–177. [PubMed] [Google Scholar]

[3] Bezold's abscess arising with recurrent cholesteatoma 20 years after the first surgery: with a review of the 18 cases published in Japan since 1960. Uchida Y, Ueda H, Nakashima T. Auris Nasus Larynx. 2002;29:375–378. [PubMed] [Google Scholar]

[4] A unique case of Bezold's abscess associated with multiple dural sinus thromboses. Zapanta PE, Chi DH, Faust RA. Laryngoscope. 2001;111:1944–1948. [PubMed] [Google Scholar]

[5] Bezold's abscess: an extremely rare complication of suppurative mastoiditis: case report and literature review. Lyoubi H, Berrada O, Lekhbal A, Abada RA, Mahtar M. https://doi.org/10.1016/j.ijscr.2020.11.052. Int J Surg Case Rep. 2020;77:534–537. [PMC free article] [PubMed] [Google Scholar]

[6] Life threatening complications after partially treated mastoiditis. Jose J, Coatesworth AP, Anthony R, Reilly PG. https://doi.org/10.1136/bmj.327.7405.41. BMJ. 2003;327:41–42. [PMC free article] [PubMed] [Google Scholar]

[7] Bezold's abscess following chronic mastoiditis in a newborn. Schöndorf HJ, Roth B, Streppel M. https://doi.org/10.1177/000348940411301013. Ann Otol Rhinol Laryngol. 2004;113:843 845. [PubMed] [Google Scholar]