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Résumé

Objectif: Avec l'utilisation de plus en plus fréquente des antibiotiques, la mastoïdite de Bezold est devenue extrêmement rare. Elle complique exceptionnellement une otite moyenne aiguë. Nous rapportons un cas de mastoïdite de Bezold et nous rappelons les modalités diagnostiques et thérapeutiques de cette entité.

Observation : Il s'agit d'un homme âgé de 26 ans qui présentait une otalgie droite évoluant depuis 6 jours associée à une tuméfaction latéro-cervicale homolatérale qui augmentait progressivement de volume. Le bilan clinique et paraclinique a conclu à une otite moyenne aiguë, compliquée d'abcès cervical et de thrombose du sinus latéral. Une mastoïdectomie et un drainage de l'abcès cervical ont été effectués avec bonne évolution.

Conclusion : Bien que rarement rapporté, l'abcès cervical de Bezold peut parfois compliquer une otite mal traitée. Le diagnostic est suspecté cliniquement mais c'est l'imagerie qui permet de le confirmer. Le traitement, qui doit être précoce, repose sur la chirurgie et une antibiothérapie adaptée.

Mots clé : Mastoïdite, abcès de Bezold, otite moyenne, chirurgie, radiologie.

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Summary

Objective: Bezold's abscess is a rare complication of mastoiditis in the antibiotics era. Deep neck abscess arising from acute otitis media is extremely rare.

We report a recent case of Bezold's abscess to underline diagnostic and therapeutical modalities.

Case report: A 26-year-old man was admitted with a 6 days history of right-sided otalgia, and gradually increasing swelling in the right upper part of the neck. Physical examination and tomodensitometry revealed lateral sinus thrombosis and cervical abscess secondary to right acute otitis media. Drainage of both deep neck abscess and mastoid was performed with a total recovery from the patient.

Conclusion: Bezold's abscess, is rare and often subsequent to inadequately treated acute otitis media. Diagnosis may be difficult clinically but often requires medical imaging. Surgical treatment in addition to wide spectrum antibiotics are the best therapeutical approach.

Key words: mastoiditis; Bezold's abscess; Otitis media; radiology; surgery

Introduction

Bezold's abscess was first described in 1881, as a deep neck abscess arising from an acute mastoiditis (1). In pre-antibiotic era, it was the most common cause of the otogenic deep neck abscess (2). Nowadays with the large use of antibiotics, the incidence of otitic complications including Bezold's abscess has significantly decreased. Owing to the depth of their location, Bezold's abscesses may be difficult to detect clinically. Therefore radiological examinations are helpful in diagnosis and therapeutic planning. We report a case of Bezold's abscess occurring in a 26-year-old man with acute otitis media to emphasize the contribution of radiological investigation to diagnosis and management of this complication of otitis.

Case report

A 26-year-old man was admitted with a 6 days history of right-sided otalgia, hearing loss and gradually increasing swelling and erythema in the right upper part of the neck with fever. There was neither history of vomiting, nor dizziness, nor facial paralysis and nor pus discharge.

Physical examination revealed a right cervical mass 4 cm in diameter, located below the angle of the jaw, along the sternocleidomastoid muscle. Erythema and tenderness on his right retroauricular region, without protrusion of the auricle were also observed.

Otoscopic examination revealed hyperhaemic but intact tympanic membrane.

Vestibular functional tests were performed and showed no abnormality.

General examination including the nervous system was unremarkable.

The audiogram registred showed a conductive hearing loss.

Cervical CT showed a deep neck abscess located in the posterior cervical space involving the carotid space, with peripheral and irregular enhancement after contrast administration (Fig.1). Temporal bone CT showed unilateral and complete opacification of middle ear and mastoid cavities. The ossicles and tegmen tympani were intact (Fig. 2).

Cranial MR imaging showed, lateral sinus thrombosis and thrombophlebitis of the ipsilateral internal jugular vein (Fig. 3, 4).



Figure 1: Axial contrast-enhanced CT: Large right-sided neck abscess, with peripheral and irregular enhancement



Figure 2: Coronal C T scan: middle ear and mastoid cavities opacification



Figure 3: Axial T2-weighted MR image: Hyperintense thrombus at the level of the sigmoid sinus



Figure 4: Coronal MR venogram: Absence of flow in the right sigmoid sinus

Broad spectrum antibiotics including Cefazidime and Metronidazole were administered intravenously.

A modified radical mastoidectomy with extensive neck abscess drainage under general anesthesia was performed. Intraoperatively, mastoid bony erosion was

found which created a communication for the neck abscess. Bacteriological analysis of the pus isolated *Staphylococcus aureus*. The abscess was evacuated by incision along the sternocleidomastoid anterior border, and a drain was positioned. The surgical followup was very good.

Discussion

Bezold's abscess occurs when a purulent mastoiditis erodes the mastoid tip bone, allowing the pus to track into the sternocleidomastoid muscle substance. Cervical abscess is usually confined to the posterior cervical and perivertebral spaces by the pharyngobasilar fascia and the deep layer of deep cervical fascia. It may extend into the carotid, prevertebral, and retropharyngeal spaces. By gaining the access into the danger space, an abscess may extend into the mediastinum or the skull base (3). Extension into the carotid space exposes the vessels to inflammation and infection and may result in thrombosis (3).

In the pre-antibiotic era, Bezold found that 20% of mastoiditis cases evolved into abscess he originally described in 1881 (2). Since the use of antibiotics, Bezold's abscess and other complications of mastoiditis are now more rare. Cervical abscess occurs in less than 2% of mastoiditis (4). This decreased incidence had led to decreased familiarity with this complication.

The otitic underlying diseases causing Bezold's abscess are usually chronic suppurative otitis media with or without cholesteatoma. Only few cases of reported cervical abscess arose from acute otitis media (5). Several studies have indicated cholesteatoma as one of the main risk factors for severe complications, including Bezold's abscess (6).

Aeration of the mastoid bone with resulting thinning of the osseous walls and prior mastoidectomy are believed to be predisposing factors for developing this abscess (3).

Incomplete mastoid pneumatisation in infancy and early childhood is responsible for the rare appearance of Bezold's abscess in infants and young children. Therefore, Bezold's abscesses are more common in adults (3).

Nowadays, Bezold's abscess can still occur, even in developed countries because of inadequate antibiotic use and increasing number of resistant bacteria (5).

Clinical diagnosis may be difficult due to the deep location of Bezold's abscess and the inaccessibility to physical palpation. The tympanic membrane might be hyperhaemic or even entirely normal (7).

In these cases, radiology is very helpful in diagnosis and therapeutic planning. CT helps identifying abscess in the neck and involvement of the mastoid process: erosion of the mastoid bone tip ipsilateral to the neck abscess. This technique is recommended for an accurate localization of the abscess because of the variability seen of the draining tracts in the neck and to detect other complications of mastoiditis (3). The involvement of meninges and veins are better assessed by magnetic resonance (MR). MR is indicated when complicated inflammatory lesions are suspected to extend into the inner ear or towards the sigmoid sinus or jugular vein (8). Surgery in addition to wide spectrum antibiotics are required.

All inflammatory tissues in the mastoid need to be removed. Drainage of both the deep neck abscess and the mastoid should be performed.

Streptococcus is the most common causative organism, even if other bacteria such as Gram-positive and Gram-negative or anaerobes can be isolated (9). If not treated, death generally occurs from extension of the abscess into the skull base or vertebrae (3).

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