Case Report

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Mastoiditis and Citelli's abscess: a case report

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ABSTRACT

Citelli's abscess is a rare often undocumented complication of otitis media. This is a case of a 52-year-old lady with learning difficulties, who presented with right sided mastoid swelling. On initial consultation the patient denied any otological symptoms but after being discharged and returning with her mother it was revealed she suffered with otalgia the previous month. On her return, the mastoid swelling had increased in size and there was also a large swelling across the right side of the neck. CT scan showed mastoiditis with Citelli's abscess. The patient underwent a cortical mastoidectomy and myringotomy as well as drainage of the neck abscess. The report emphasises the importance of a clear, concise history and urgent surgical intervention to prevent further spread of the infection and potential intracranial complications.

Keywords: Citelli, Mastoiditis, Otitis media, Abscess

INTRODUCTION

Citelli's abscess is an extratemporal complication of otitis media. It develops when pus from the mastoid tip passes down inferiorly along the posterior belly of the digastric muscle to the occipital and cervical region. It is an unusual presenting complication of chronic otitis media with very little available data.¹

CASE REPORT

A 52-year-old female with learning difficulties presented to the emergency department with the main complaint of a right mastoid swelling for 3 days. She was reviewed and sent home after denying any pain along with normal infectious/inflammatory markers.

She returned one week later with her mother. The patient reported worsening swelling and pain across the right mastoid region as well as a large swelling across the right lateral aspect of the neck.

The medical history revealed a short episode of right sided ear pain one month earlier which had resolved, this was not disclosed by the patient on her first visit. She had surgical history of aortic root replacement the previous year.

On clinical review, she was apyrexial, haemodynamically stable and cranial nerve examination was unremarkable. The head and neck examination revealed a large indurated painful right mastoid and laterocervical swelling, normal neck range of movement. Examination of the oropharynx revealed no signs of infection.

There was a significant mastoid swelling and otoscopy revealed mild oedematous swelling of the external auditory canal.

Lab results WBC 10.6 CRP: 257

A CT scan with intravenous contrast of the head, neck and temporal bones revealed opacification of the right mastoid air cells, right middle ear canal and EAC. Extending inferiorly from the right mastoid air cells is a large enhancing collection which measures 4.5×3 cm in the axial plane at the level of the mastoid air cells, as it extends inferiorly it divides into separate collections, in the more anterior collection lying under SCM and the posterior collection lying within the posterior paravertebral muscles. Both these collections extend about 9 cm in the craniocaudal dimension. The opacification within the right mastoid air cell and bony erosion is in close proximity to the right sigmoid sinus opacification is seen within the right sigmoid sinus (Figure 1-4).



Figure 1: Opacification of right mastoid air cells.

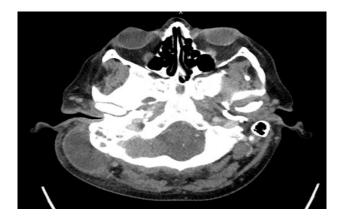


Figure 2: Large mastoid abscess 4.5 x 3 cm.



Figure 3: Abscess extending inferiorly dividing into separate collections.

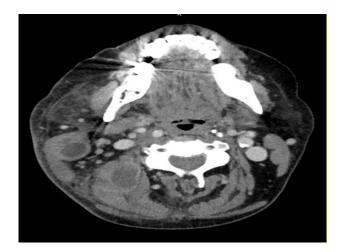


Figure 4: Anterior collection lying under SCM and posterior collection within paravertebral muscles.

The patient was admitted for urgent surgical drainage of the abscess as well as a cortical mastoidectomy.

The neck abscess was drained first with a small stab incision into the most fluctuant area. Around 500ml amount of foul-smelling pus was expressed.

Cortical mastoidectomy was then performed using a postauricular incision, pus was expressed from the mastoid cavity and subsequently washed out.

Examination of the right ear then exposed multiple pieces of cotton buds which were removed. An anterior-inferior myringotomy revealed further purulent discharge.

The patient recovered well over the course of the next few days as she remained an inpatient on IV antibiotics. She was discharged on oral antibiotics for one week.

Cultures taken in theatre grew Streptococcus intermedius.

DISCUSSION

Citelli abscess was first described in 1901 by Salvatore Citelli, it is rarely mentioned in literature compared to Bezold abscess. He described cells in posterior and superior part of mastoid process that may create a corridor for pus heading the neck during mastoiditis. This abscess is located posteriorly to mastoid process-between the mastoid and occipital bone.² Another hypothesis of Citelli abscess genesis involves mastoid emissary vein route or occipitomastoid suture pathway.³

The gravitational abscesses spread from mastoid process either inferiorly or posteriorly along the sternocleidomastoid or digastric muscle. Moreover, the space between those two muscles contains the attachment of splenius and longissimus capitis muscle, which may contribute to the spread of an abscess along these structures. The simplest division of these abscesses is based on their location: Bezold abscess emerges under

the mastoid process, while Citelli posteriorly to mastoid process. Decision whether Bezold or Citelli does not change the scope of surgical treatment but may direct the surgeon within the mastoid.⁴

CONCLUSION

Neck abscesses in adults are a rare but significant complication of otitis media. It emerges when destruction of lateral or inferior temporal bone surface develops.

In this case the patient did not display typical signs of infection on initial presentation. The case stresses the importance of a clear history, as the cotton bud remnants which the patient did not recall, turned out to be the cause of otitis media and subsequent development of the abscesses.

Urgent radiological investigation followed by surgical drainage of pus was key. Postsurgical antibiotics are also crucial to prevent abscess recollection.

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