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A case report of a silent petrous apicitis without Gradenigo's syndrome

Filipova F. MD, Minkov T. MD, Diba M. MD, Dimitrov R. MD, Doykov I. Assoc. prof.

Department of ENT, Kaspela University Hospital, Plovdiv, Bulgaria

Introduction

Petrous apicitis is a rare but potentially life-threatening complication of otitis media. During the preantibotic era it manifested with the classical triad of the Gradenigo's syndrome. Petrous apicitis continues to occur rarely and mostly with an atypical presentation. We present a case of a 51-year-old man who complained of a sudden hearing loss and was subsequently diagnosed via MRI with petrous apicitis. He was treated successfully with a conservative therapy.

Case Presentation

A 51 years old man presented to our clinic with a severe left-sided hearing loss occurred 10 days after acute otalgia on the same side. He had treated himself with oral amoxicillin / clavulanic acid for 10 days. Otalgia faded away, but a severe hearing loss occurred without any other complaints. **On otoscopic examination** - thick tympanic membrane with visible anatomical marks and no evidence of effusion in tympanic space. On rhinoscopy-purulent discharge in the middle nasal meatus and hypertrophic inferior turbinates. Pure tone audiometry (PTA) shown a **sensorineural hearing loss on the left ear - 60 dB**. Laboratory tests showed elevated Erythrocyte Sedimentation Rate (ESR) - 42 . Left myringotomy for diagnostic purpose was performed, but was negative. On MRI performed on the day of admission evidences of pathological changes affecting the mastoidopetrosal complex were observed (Fig. 2.).

Figure 1. PTA on left ear - results:

1. On the day of admission - X

2. On the 7th day after admission - X

3. 1 month after admission - X

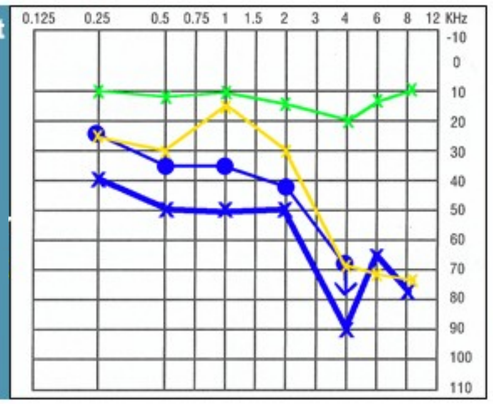

Figure 2. Dynamic presentation - Evolution of the MRI findings

The patient was successfully treated with I.V. antibiotics for 4 weeks, I.V. corticosteroids for 2 weeks and nootropic agents for 1 month (10 days I.V. and 20 days per oral).
On the follow-up he showed an improvement in the PTA hearing assessment and on the MRI.

Discussion

Petrous apicitis (PA) is a rare, but potentially life-threatening complication of otitis media. Clinical presentation of the classical Gradenigo's syndrome is even rarer. With the widespread use of antibiotics the incidence of PA decreased, but sporadic cases continue to occur.

In 1904, Professor Guseppe Gradenigo of Turin, Italy first described a triad of symptoms related to petrous apicitis, including *acute suppurative otitis media, deep facial pain* resulting from trigeminal involvement and abducens nerve palsy. This triad became known as Gradenigo's syndrome.

The petrous apex is a complex region of the temporal bone and is in contact with important vascular and neural structures. *Only a thin layer of dura mater separates the trigeminal ganglion and the abducent nerve* and makes them susceptible to extradural inflammation of PA.

Complications of PA include cranial nerves palsies, labyrinthitis, meningitis, intracranial abscess, venous sinus thrombosis and death.

The cases reported in the literature show that PA can have **various clinical presentation** and an alert clinician along with a proper investigation modality can avoid further morbidity and mortality.

CT scanning is the first-line investigation for lesions of the petrous apex. MRI is useful to establish the extent of the inflammatory changes and to discern different pathologies affecting the apex.

With the advance in the imaging and the widespread use of antibiotics early diagnostic and successful conservative therapy of the petrous apicitis are available.

In the preantibiotic era **treatment was mainly surgical**. Nowadays, most of the reported cases were **treated successfully with a conservative management alone.** However, vigilance must be maintained in patients who fails to show improvement within 24 to 48 hours. If condition progress and worsens a surgical treatment must be performed.

Conclusion

Petrous apicitis is a rare, but a serious condition with serious complications. Various ways of clinical presentation are reported and clinicians must be alert for this insidious condition. The advances in the medical imaging and the widespread use of antibiotics allow early diagnosis and successful conservative management.

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