

Case	(132) Complicated acute otomastoiditis
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## CASE PRESENTATION

6-year-old girl with acute otitis media, adjacent soft tissue swelling and protrusion of the right ear.

## DISCUSSION

The inflammation of mastoid air cells that results from the obstruction of the mastoid antrum is defined as mastoiditis. Acute mastoiditis is the most common complication of acute otitis media and characteristically is seen in childhood. *Streptococcus pneumoniae* and *Haemophilus influenzae* are the most frequently encountered pathogens. The typical clinical presentation consists of postauricular tenderness, erythema, and swelling causing protrusion of the ear.

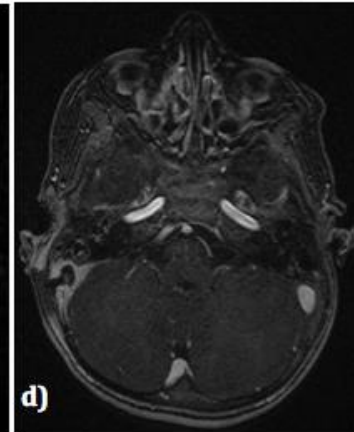
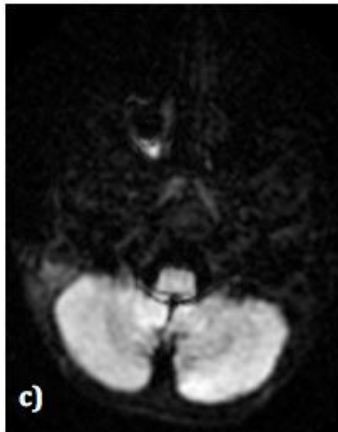
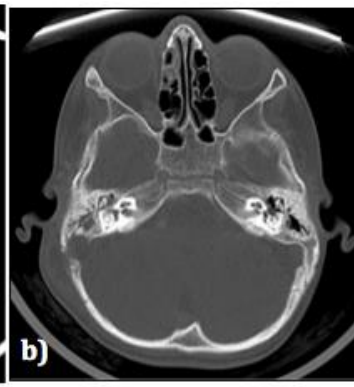
CT is the initial imaging study due to its higher disponibility, and excellent spatial resolution when visualising the anatomy of the temporal bone. The administration of intravenous contrast might be helpful in the assessment of associated soft tissue or intracranial complications.

When the mastoid air cells coalesce into larger cavities filled with purulent exudates, the term coalescent mastoiditis should be used. Acute mastoiditis can further cause osteolysis of the lateral wall of the mastoid, leading to subperiosteal abscess or muscular abscess, also called Bezold abscess when the sternocleidomastoid muscle is involved. An epidural or perisinus abscess can develop when there is erosion of the internal mastoid cortex. Inner ear and intracranial complications may also occur.

MR is most useful in the assessment of the complications mentioned above, showing a much higher sensitivity to detect areas of cerebritis, cerebral abscesses and venous infarcts.

## CONCLUSION

Otomastoiditis is a medical emergency where prompt diagnosis and precise evaluation of the complications are essential for the correct management of the condition. CT is the preferred initial imaging modality, however, MR should be used to rule out intracranial complications.



**a) Axial CT viewed at a bone window setting: right mastoiditis with complete opacification of the mastoid air cells by secretions with associated bone destruction.**  
**b) Axial CT viewed at a soft tissue window setting after intravenous contrast administration: subperiosteal abscess and absence of post contrast enhancement in the sigmoid sinus.**  
**c) B1000 DWI: diffusion restriction in the aforementioned area (confirmed with ADC not shown).**  
**d) T1W fat saturated image after intravenous contrast administration: thrombus in right sigmoid vein is confirmed with adjacent soft tissue enhancement.**

## BIBLIOGRAPHY

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