

Submitted by: Waqas Abid, Nadir Khan, Zafar Sajjad

Department of Radiology, Aga Khan University Hospital, Karachi, Pakistan.

PJR July - September 2011; 21(3): 142-143

### Clinical History:

History of discharge from the left ear with seizures like activity.

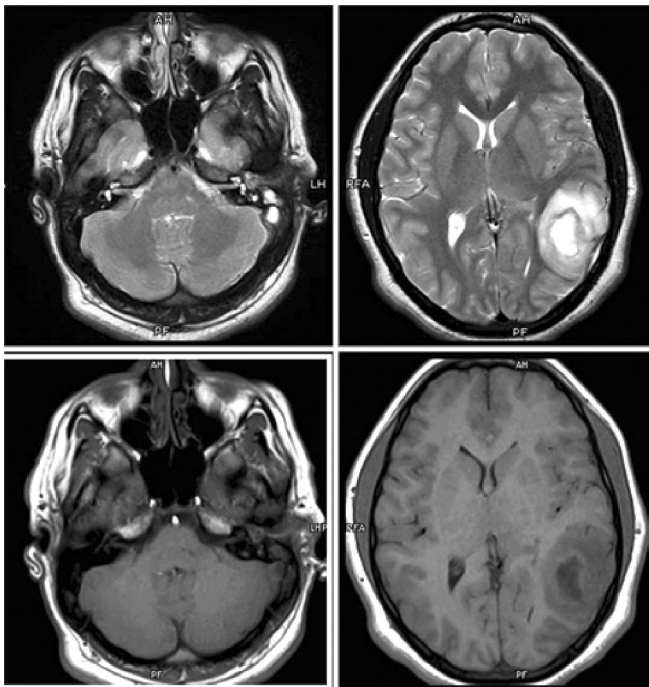


Figure A

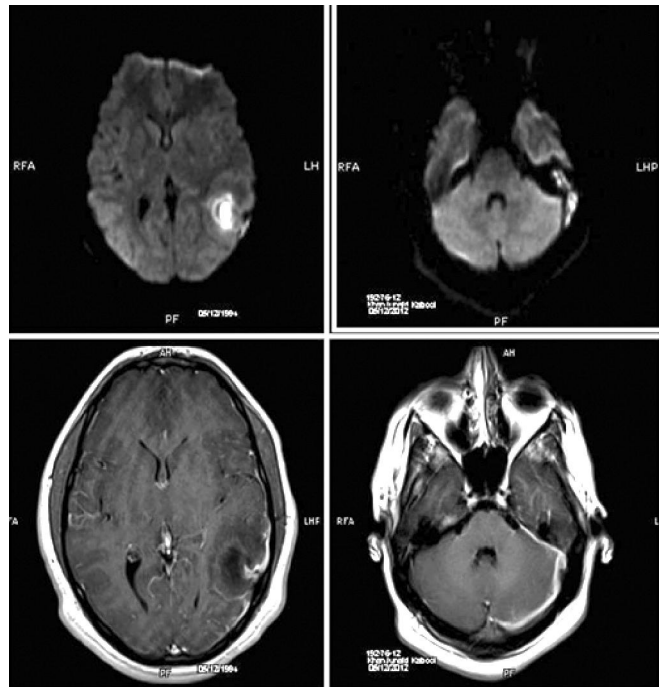


Figure B

### Questions

- Q1. What are the findings?
- Q2. What is the most likely diagnosis in this case?
- Q3. What other investigation will be helpful?
- Q4. What are the likely complications?

## QUIZ 1

### Answers

**Answer 1:** First row figure A are T2 and second row are T1 images. In Figure B first row is Diffusion images and second row are Gadolinium contrast enhanced T1.

Fluid signals in the left mastoid and middle ear cavity with enhancement.

Abnormal signal intensity area in the left parieto-occipital lobe appearing predominantly hyperintense on T2 and hyperintense on T1-weighted images. It is showing central area of necrosis as well as diffusion restriction.

Patchy enhancement is noted around the margins of this lesion on post contrast images with surrounding oedema and dural enhancement.

Small collection adjacent to this lesion.

#### Answer 2:

Left sided otomastoiditis.

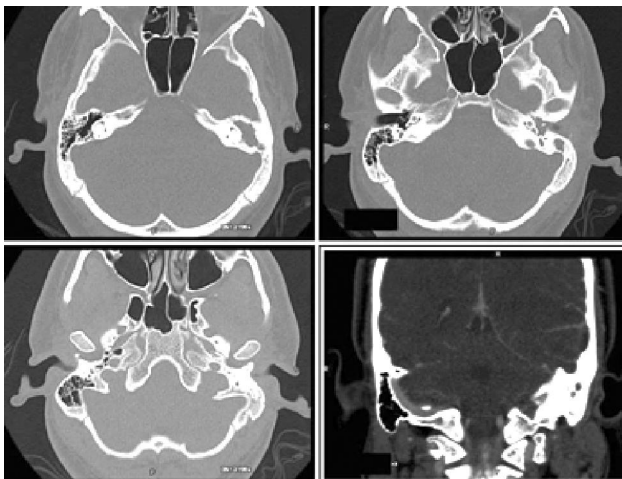
Cerebritis with abscess formation.

Epidural collection.

No evidence of acute infarct.

Thrombus in left

**Answer 3:** CT Temporal bone to look at pathology involving the middle ear and mastoid air cells as that appears to be the source. MRV to look for extent of deep venous thrombosis.



**Figure:** CT Temporal bone with thin cuts shows chronic left-sided otitis media and mastoiditis. Soft tissue opacification of left middle ear cavity and part of left external auditory canal with ossicular thinning and remodelling seen suggesting chronic otitis media. Spread of infection intracranially has caused cranial venous sinus thrombosis involving left transverse and sigmoid sinuses with resultant epidural abscess formation and left posterior parietal intraparenchymal abscess.

**Answer 4:** Complications of mastoiditis include the following:

In the ear: Hearing loss, facial nerve palsy, Gradenigo syndrome (Otitis media, retro-orbital pain, and abducens palsy)

Intracranial extension: Meningitis, cerebral abscess, epidural abscess, subdural empyema, Sigmoid sinus thrombosis and Abscess formation. Venous thrombosis can lead to brain venous infarct.

### References

1. Luntz M, Brodsky A, Nusem S, Kronenberg J, Keren G, Migirov L, et al. Acute mastoiditis--the antibiotic era: a multicenter study. *Int J Pediatr Otorhinolaryngol.* Jan 2001;**57(1)**: 1-9.