KREP

2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

CASE PRESENTATION

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PRESENTER: DR SUMITRA M DESAI

JJMMC, DAVANGERE

- A 13 years old male child
- Fever on and off – 1 week, moderate to high grade, 2-3 spikes/day
- Headache on and off- 1 week
- Vomiting-2 days, 3-4episodes, projectile type
- Bilateral ear pain and discharge since 15 days

  -moderate amount, whitish mucoid type, foul smelling, blood tinged

  -Similar history of ear pain and discharge 3 years ago resolved on treatment

On examination:

CNS:

- HMF: normal
- Cranial nerve examination: Intact
- Sensory and motor examination: Intact / Normal
- Sympathetic and deep reflexes: Intact / Normal
- Meningeal signs: Neck rigidity (+)
- Romberg sign positive: swaying to the left

Ear examination:

	Right	Left
Pinna	Normal	Normal
EAC	Discharge +	Present
TM	Discharge + Central perforation	Debris Congested and bulged
Mastoid tenderness	Absent	Present
Nystagmus	Absent	Absent
B/L Facial nerves	Intact	Intact

Impression: Bilateral chronic otitis media, squamosal type, active with left mastoiditis

- TLC: 23,300 cells/ cu.mm
- DLC: (N:L) 93:3

  Neutrophils: 21,700 cells/cu.mm

  Lymphocytes: 3900 cells/cu.mm
- CSF: Glucose-64mg/dL,

  Protein-59mg/dL,

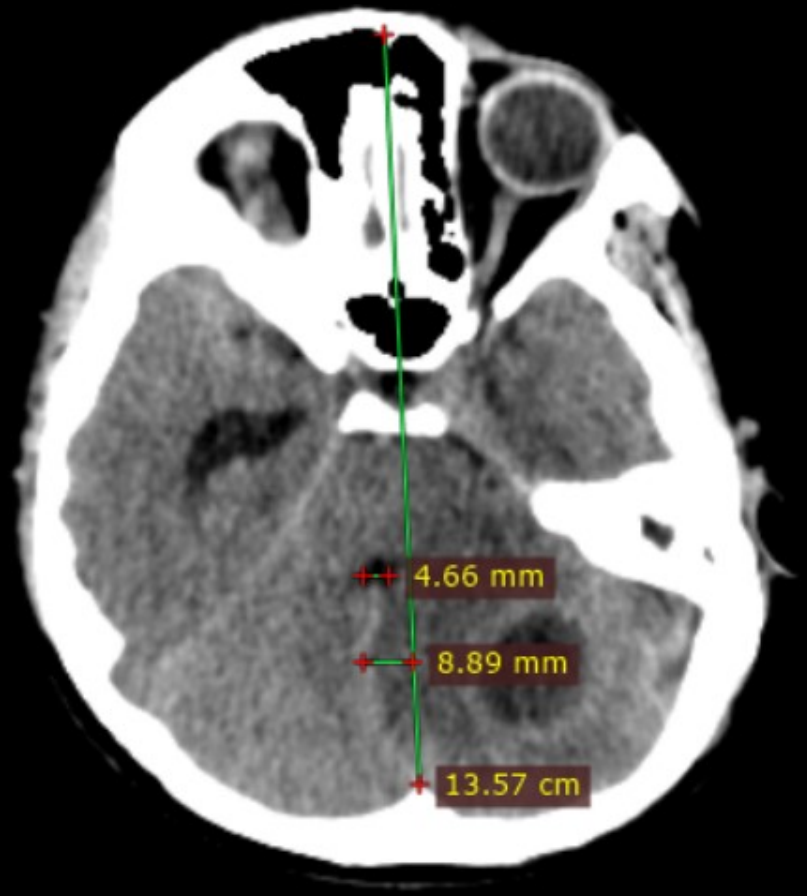
  Cl-119mmol /L

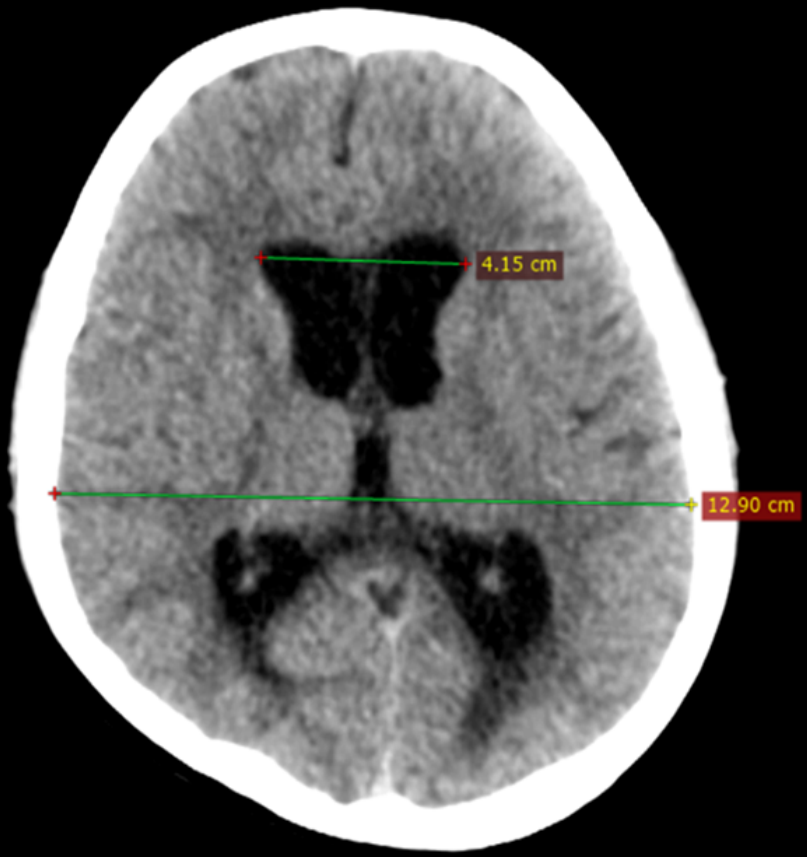
  } Normal

  Total cell count- 35 cells/cu.mm

  N-26% , L-63%, M-11%

AXIAL CT





Focal, well defined, intra-axial, round, central hypodense lesion with hyperdense rim noted in left cerebellar hemisphere with mild surrounding edema.

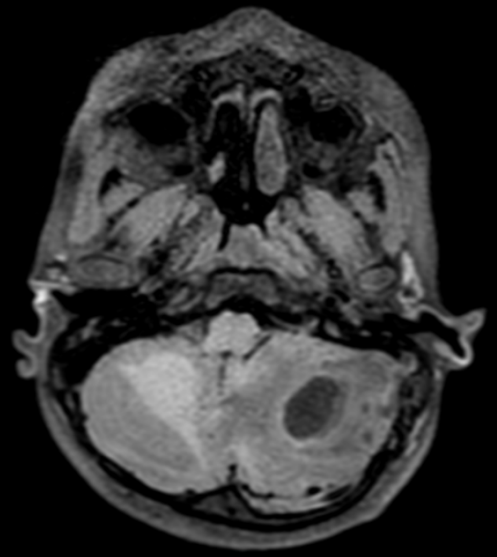
Lesion is causing mass effect on 4th ventricle and and causing retrograde dilalation of 3rd and bilateral lateral ventricle.


On axial section of CT brain at the level of mastoid: Bone window
Soft tissue density noted in left mastoid region and left inner ear with erosion of mastoid bone noted communicating with brain parenchyma

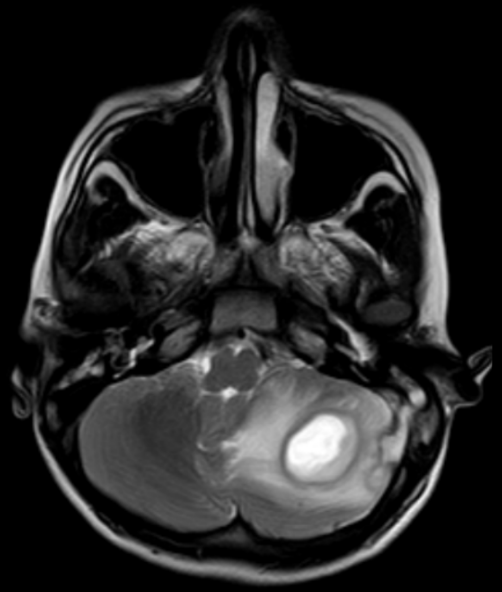
Findings:

- Focal, well defined, intra-axial, round, central hypodense lesion with hyperdense rim in the left cerebellar hemisphere with surrounding edema of left cerebellar hemisphere with midline shift to the right with mass effect over cerebellar folia and 4^{th} ventricle leading to retrograde dilatation of lateral and third ventricle.

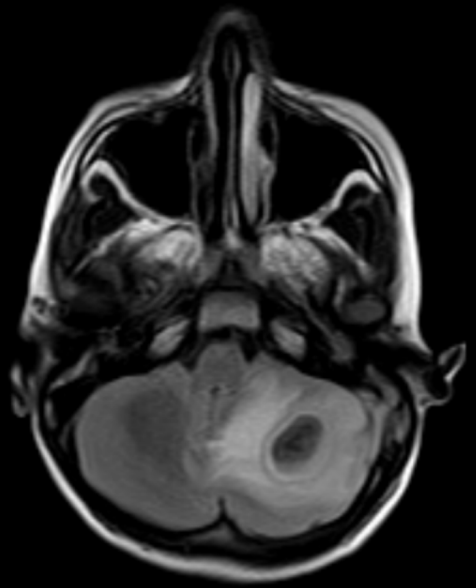
T1 AXIAL



T2 AXIAL

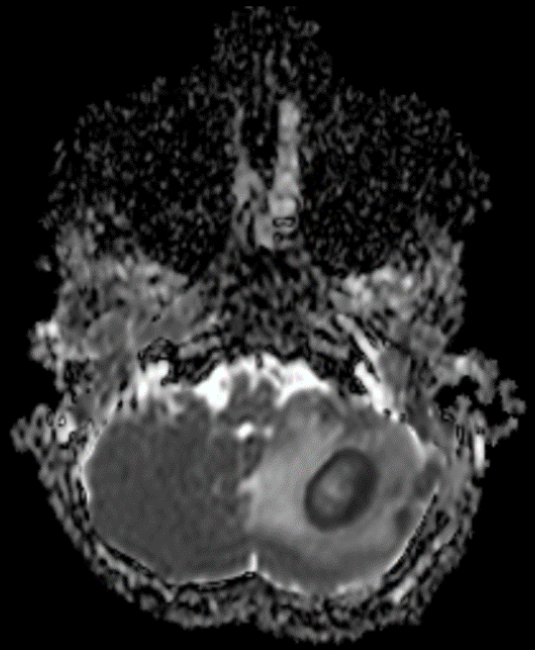


FLAIR AXIAL

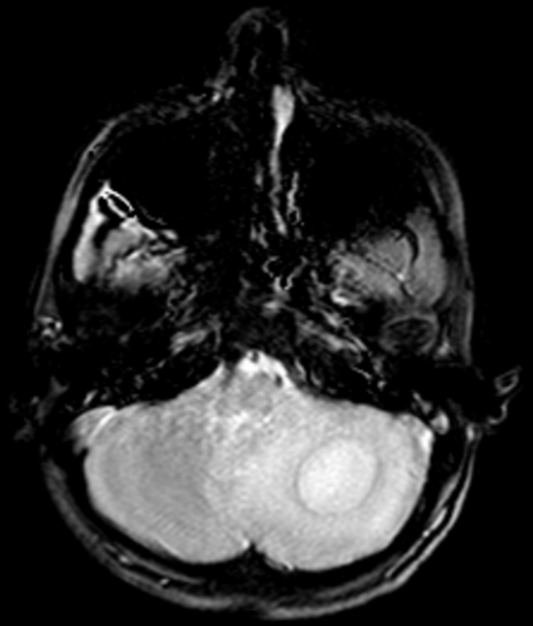


DWI

ADC

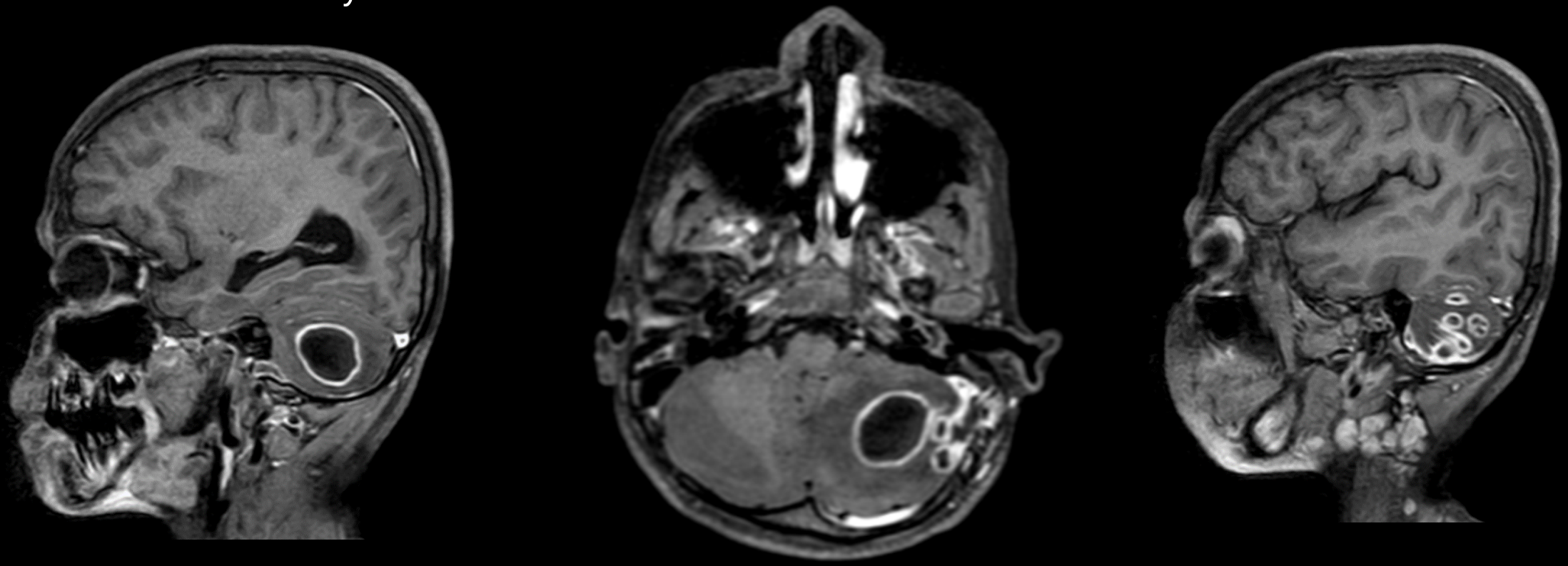


GRE



Axial sections of brain : T1,T2 and FLAIR at cerebellar level, a well defined, intra-axial, central T1 hypointense and T2 hyperintense lesion with peripheral T1 iso to hyperintense rim and T2 hypointense rim with central lesion suppressed on FLAIR with perilesional edema in left cerebellar hemisphere measuring causing midline shift to the right of 3.4mms and causing mass effect on Cerebellar folia and compressing on the 4th ventricle . Few small lesions noted of similar signal characteristics adjacent to the lesion.

Post contrast study: T1



On post contrastT1 , peripheral ring enhancement of the lesion and the daughter cysts noted.

Impression:

- Multiple, well defined, thick walled, intra-axial lesions in the left cerebellar hemisphere with peripheral enhancement on post contrast study and mass effect and hydrocephalus as described

→F/S/O Left cerebellar abscess (Early capsular stage) likely pyogenic etiology.

- Left mastoiditis with mastoid abscess as described.

Follow up

- Sub-occipital craniotomy was done and abscess was drained
- On Culture/Sensitivity of drained abscess:

  -Enterococci

  -Acinetobacter baumannii

Cerebral abscess: Localised infection of the brain parenchyma

1.Direct spread:

- Otitis media
- Mastoiditis

→ Temporal lobe/ cerebellar abscess

- Frontal sinusitis
- Ethmoidal sinusitis
- Dental infection

→ Frontal lobe abscess

2.Thrombophlebitis: From lateral sinus to cerebellum,
From superior petrosal sinus to temporal lobe

3.Hematogenous spread

4. From normal anatomical pathways- oval and round windows, cochlear and vestibular aqueducts, dehiscence of tegmen tympani

THANK YOU