



2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

## **CASE PRESENTATION:**

Case of posterior fossa  
ependymoma in an adult patient

MENTOR: DR. PRADEEP GOUDAR

KAHER UNIVERSITY

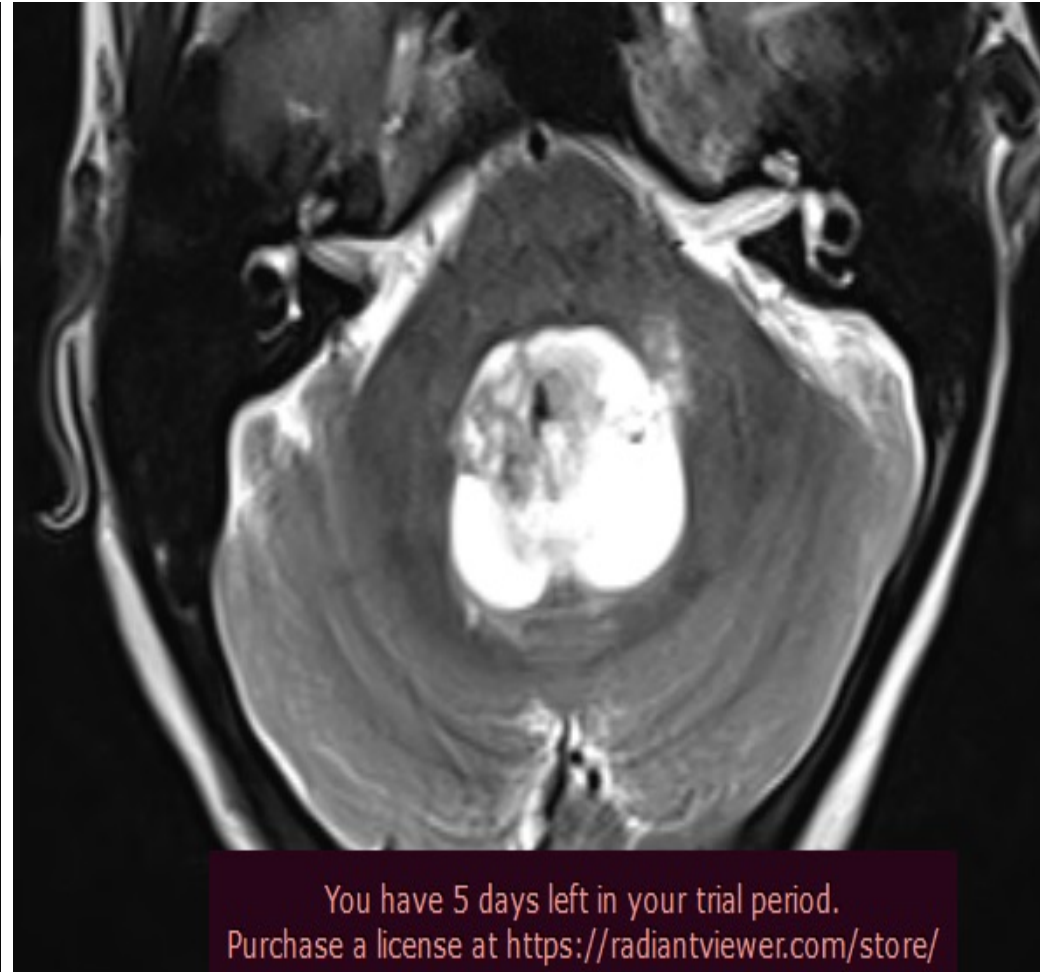
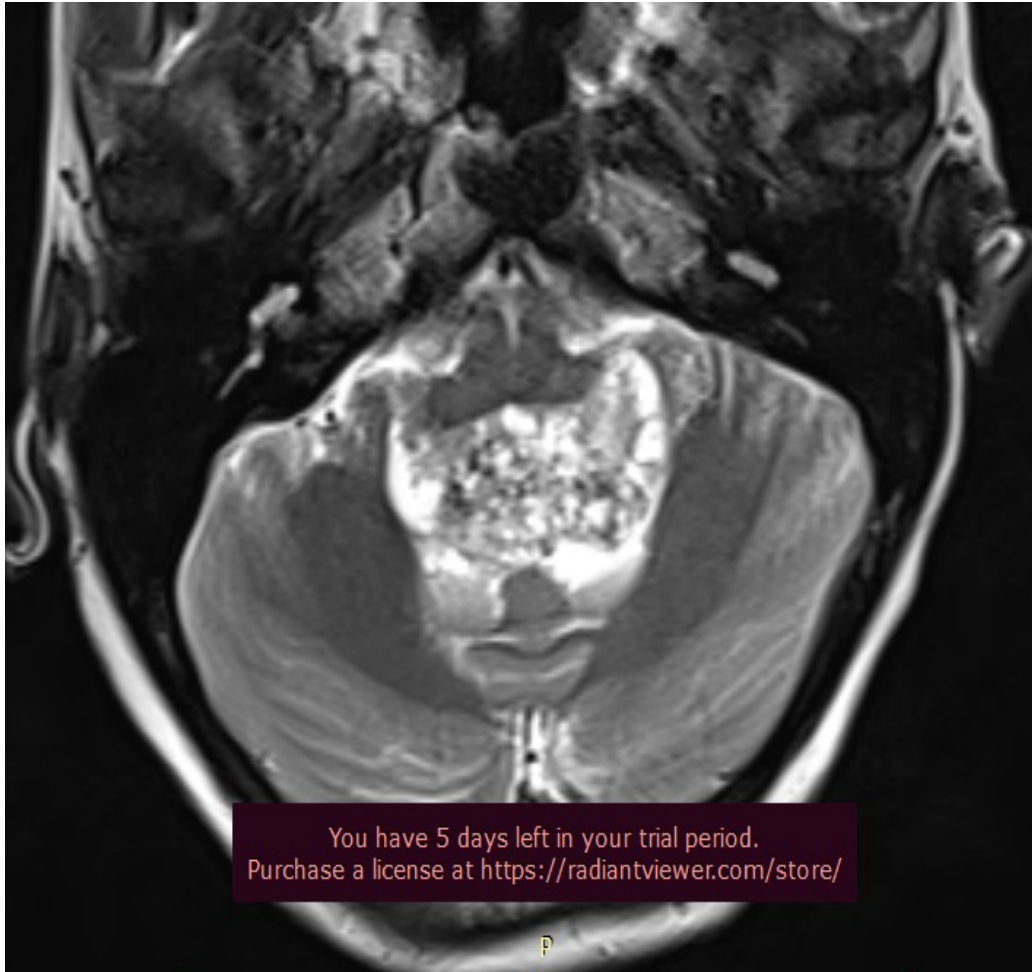
J.N.MEDICAL COLLEGE ,BELAGAVI

PRESENTER:DR. ABHISHEK REGHUNADHAN

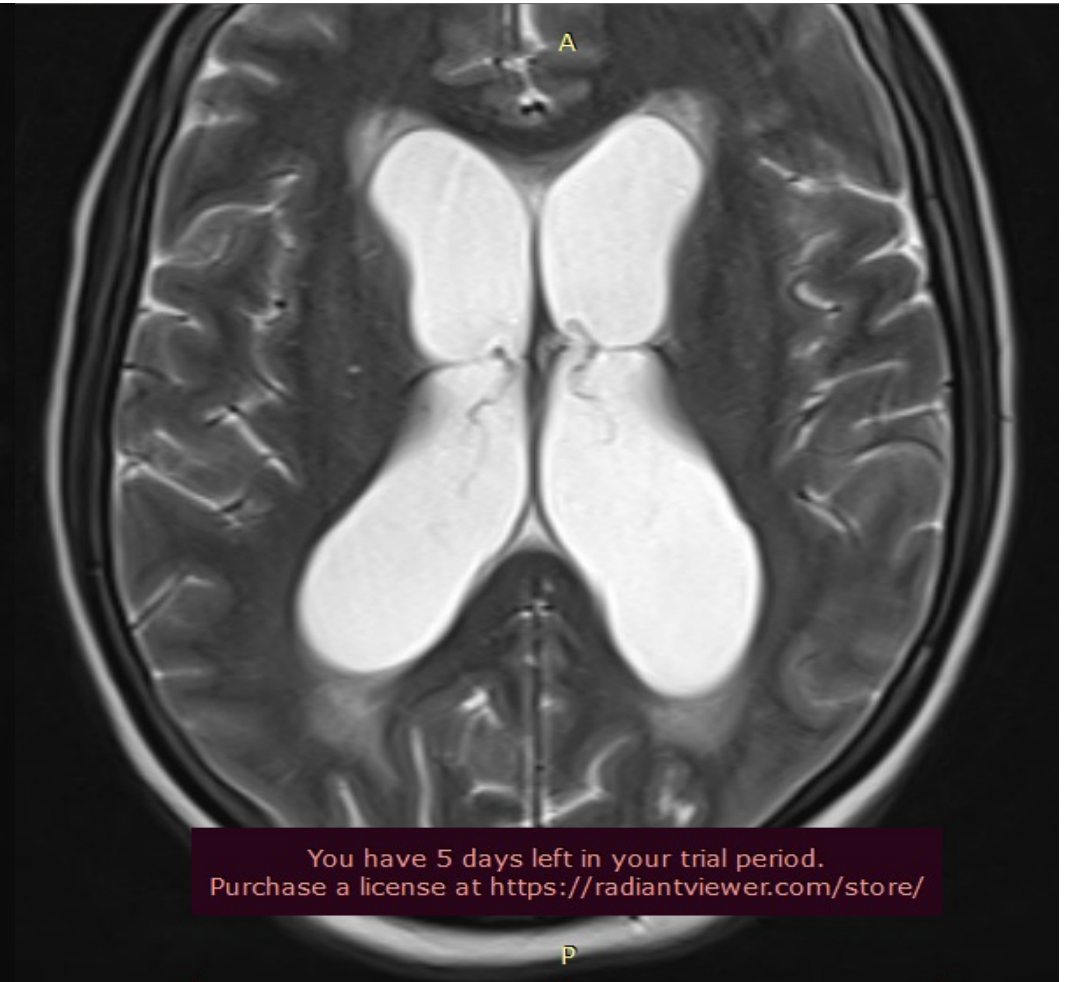
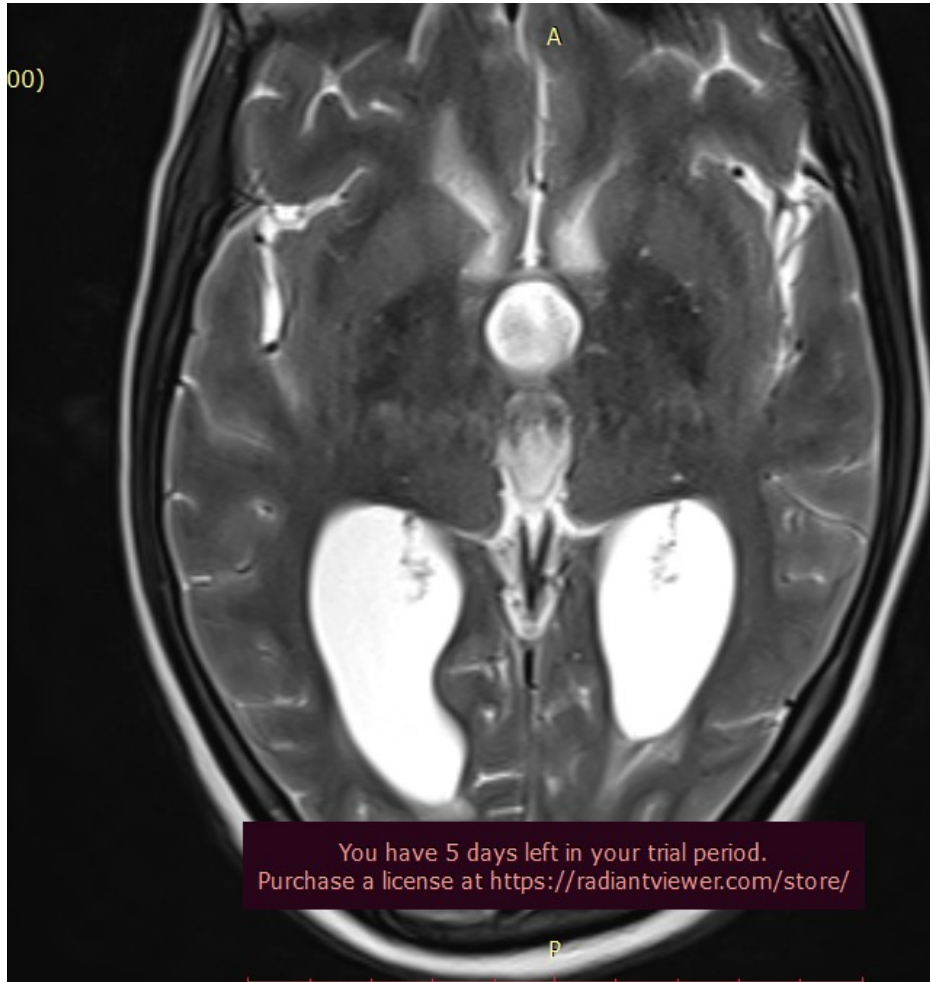
# CLINICAL HISTORY:

- AGE: 60 year old female patient
- SYMPTOMS:
  - Loss of balance while walking since 6 months.
  - Headache, giddiness, nausea & vomiting since 2 days
  - One episode of loss of consciousness.
- PAST HISTORY: Known diabetic. Non hypertensive.
- CLINICAL EXAMINATION: Bilateral plantar reflexes were decreased.
- BLOOD INVESTIAGATIONS: Unremarkable.
- IMAGING TEST: MRI BRAIN (P+C)

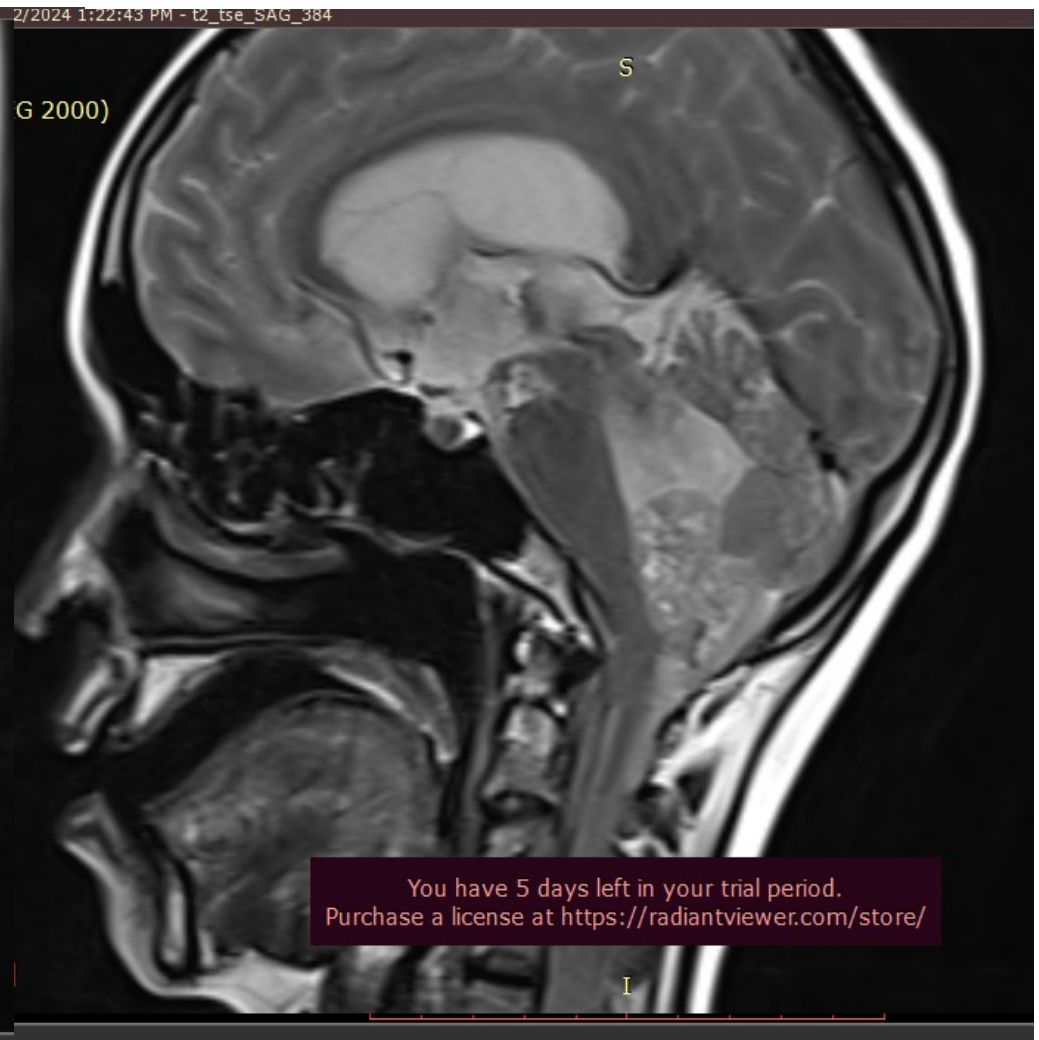
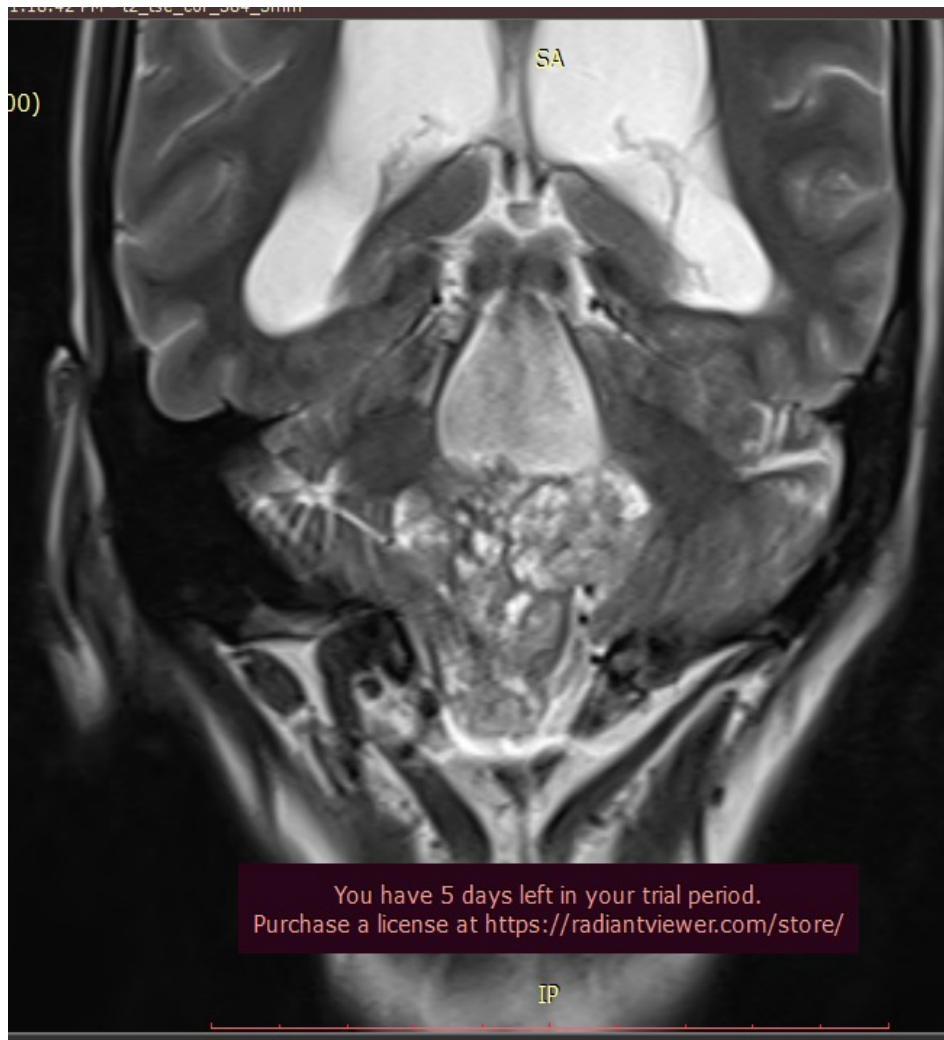
## T2WI:



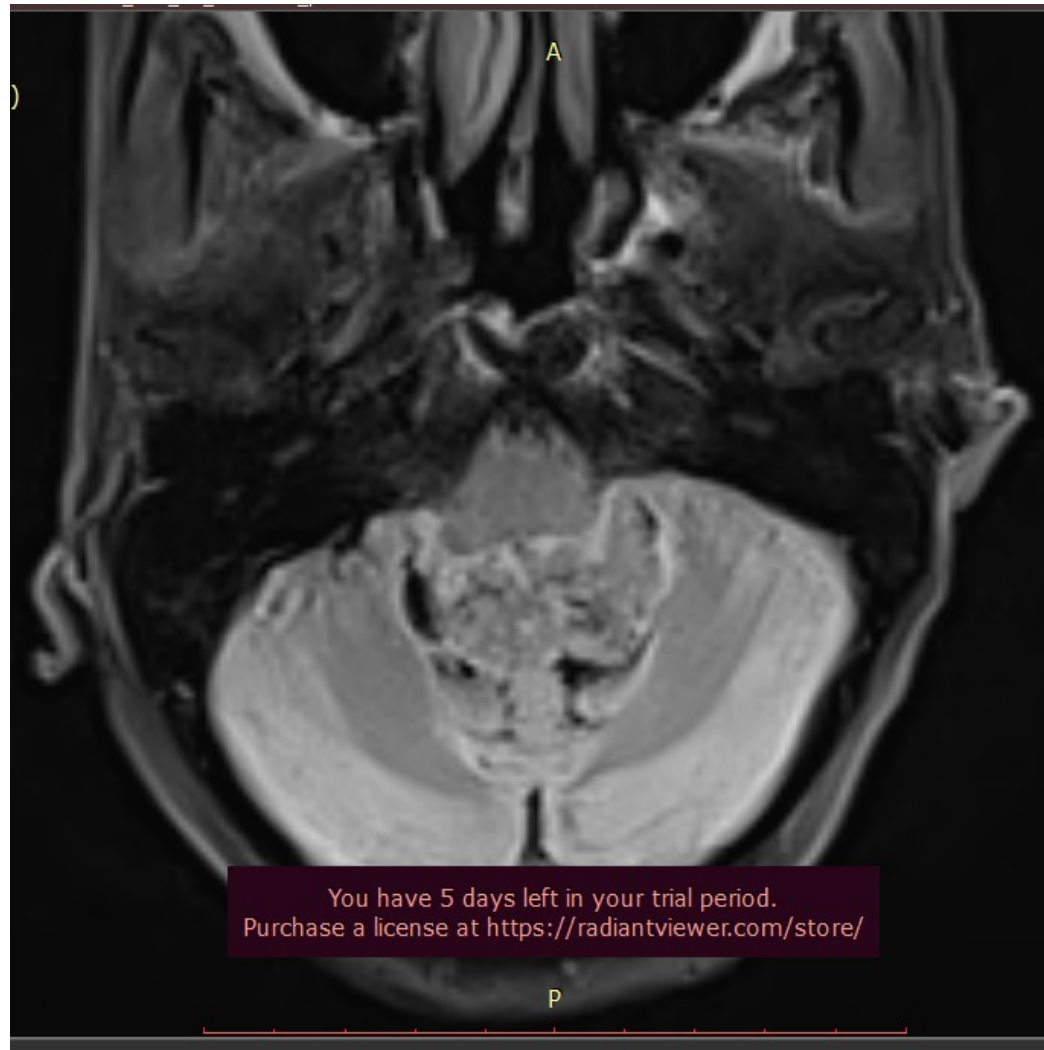
# T2WI



# T2WI

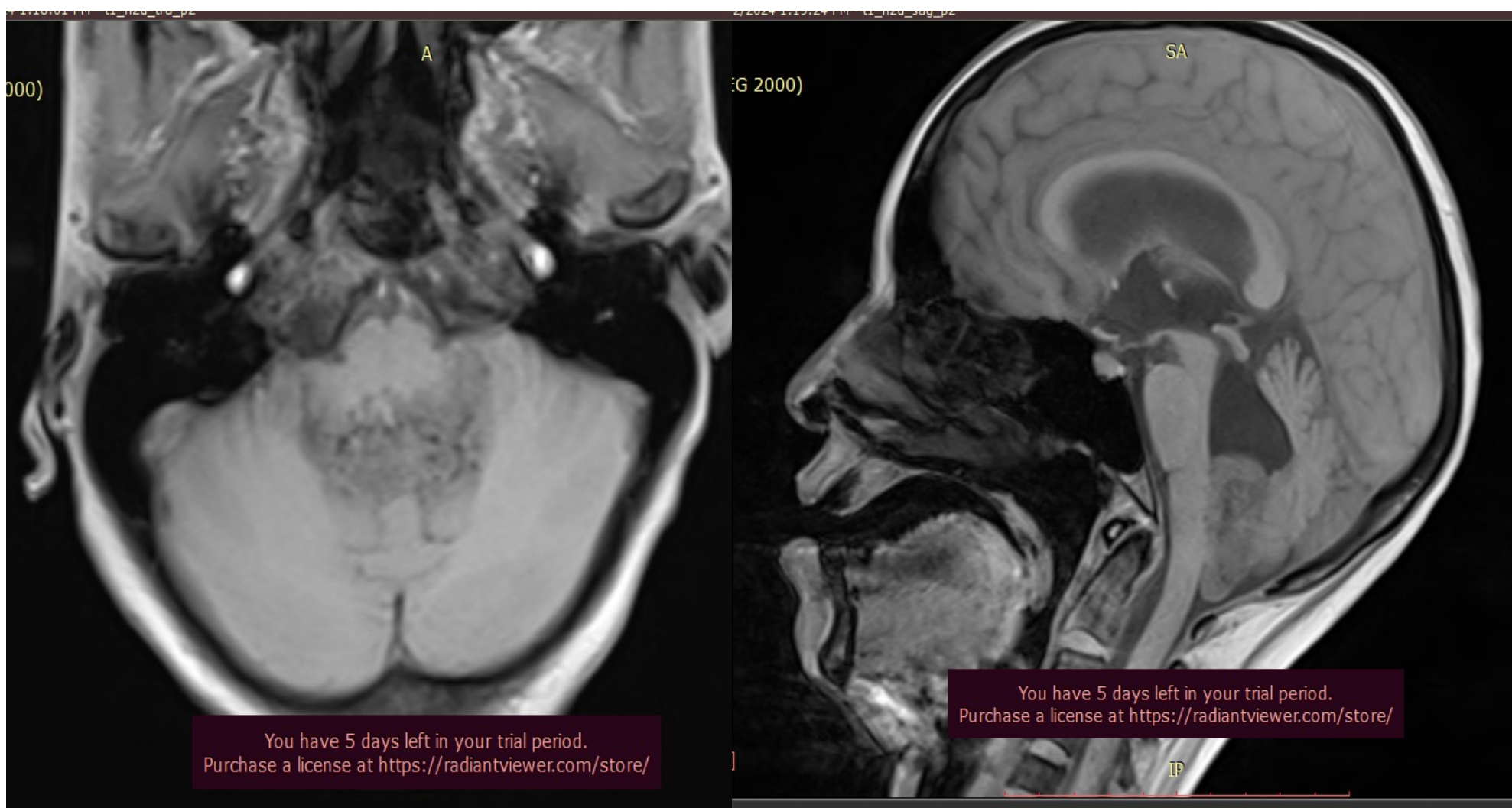


# FLAIR

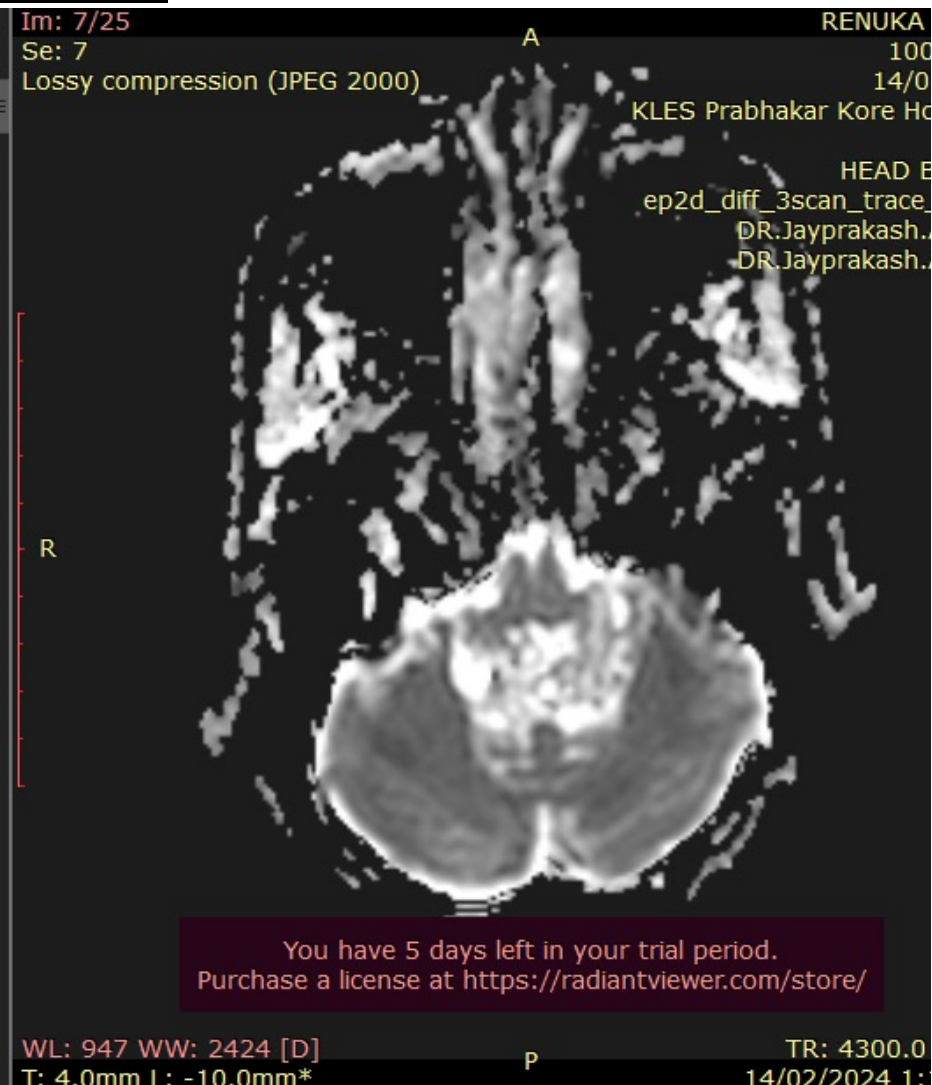




# T1WI

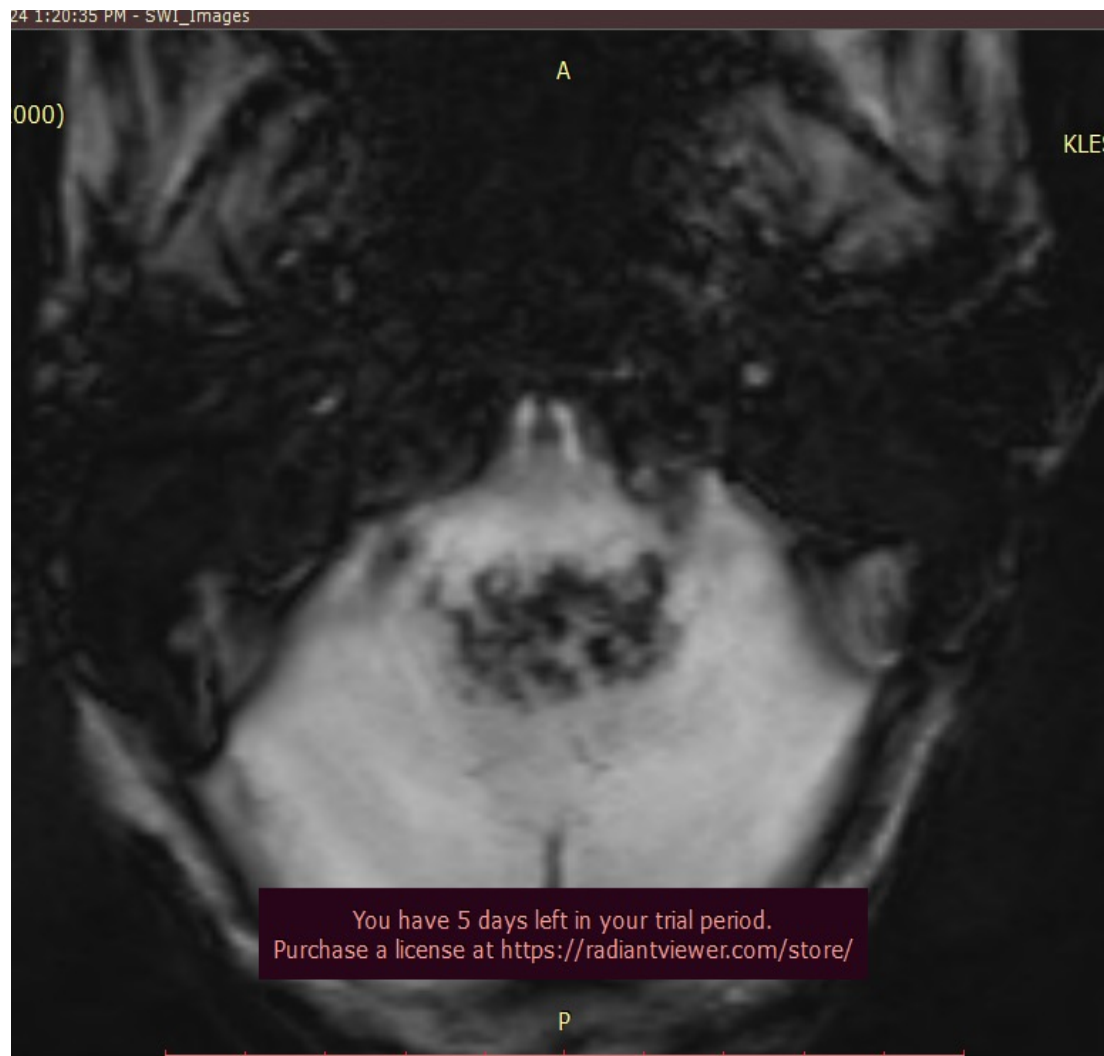


# DWI / ADC

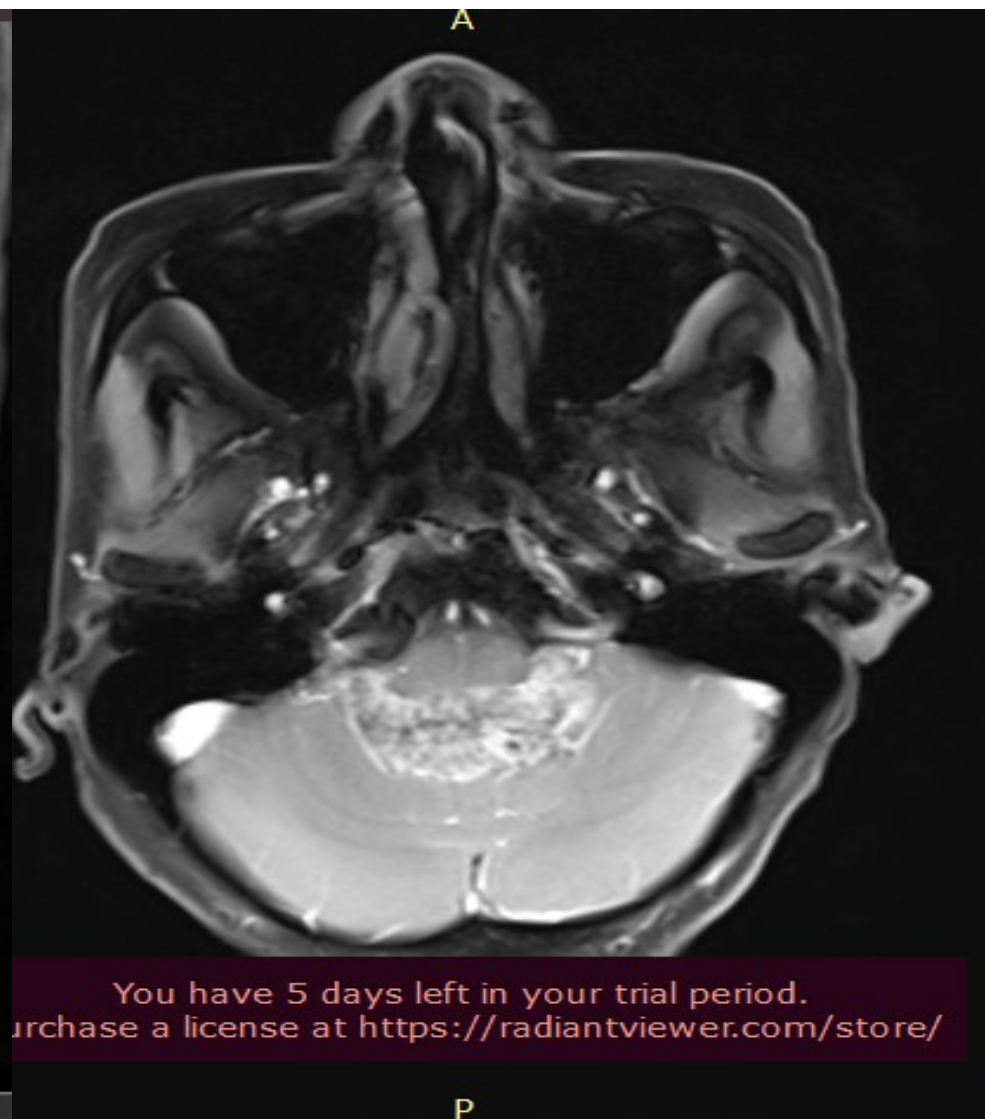
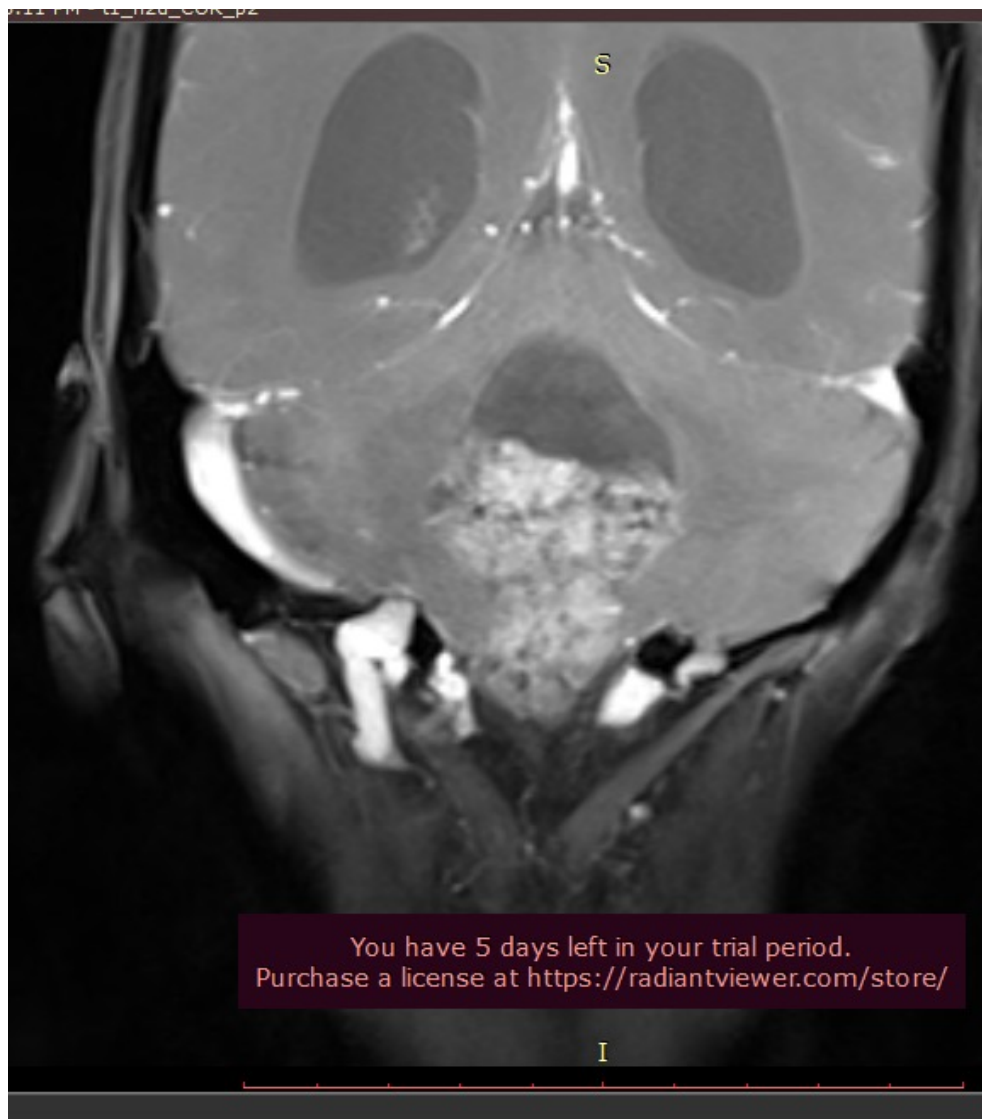




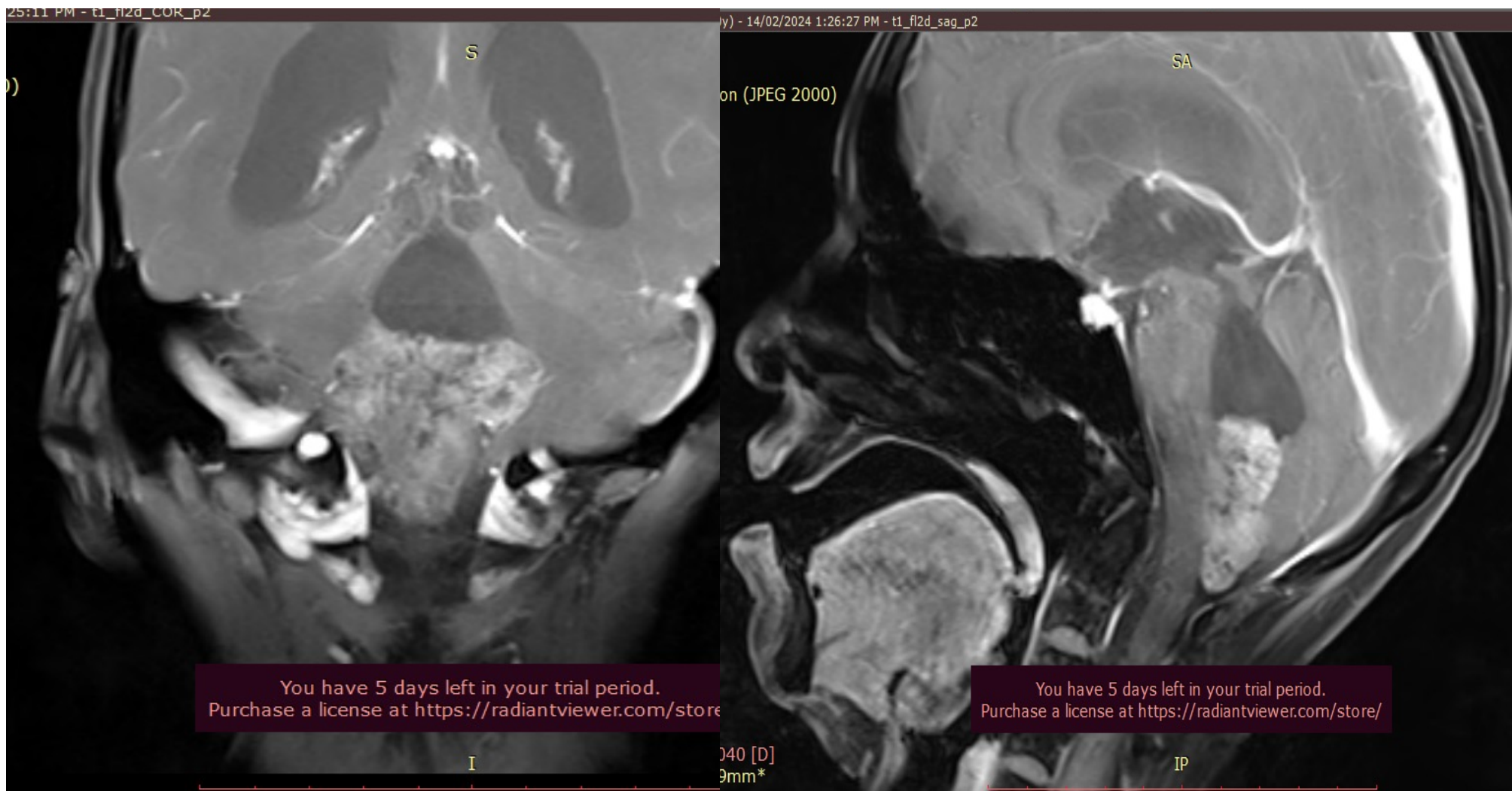
# SWI



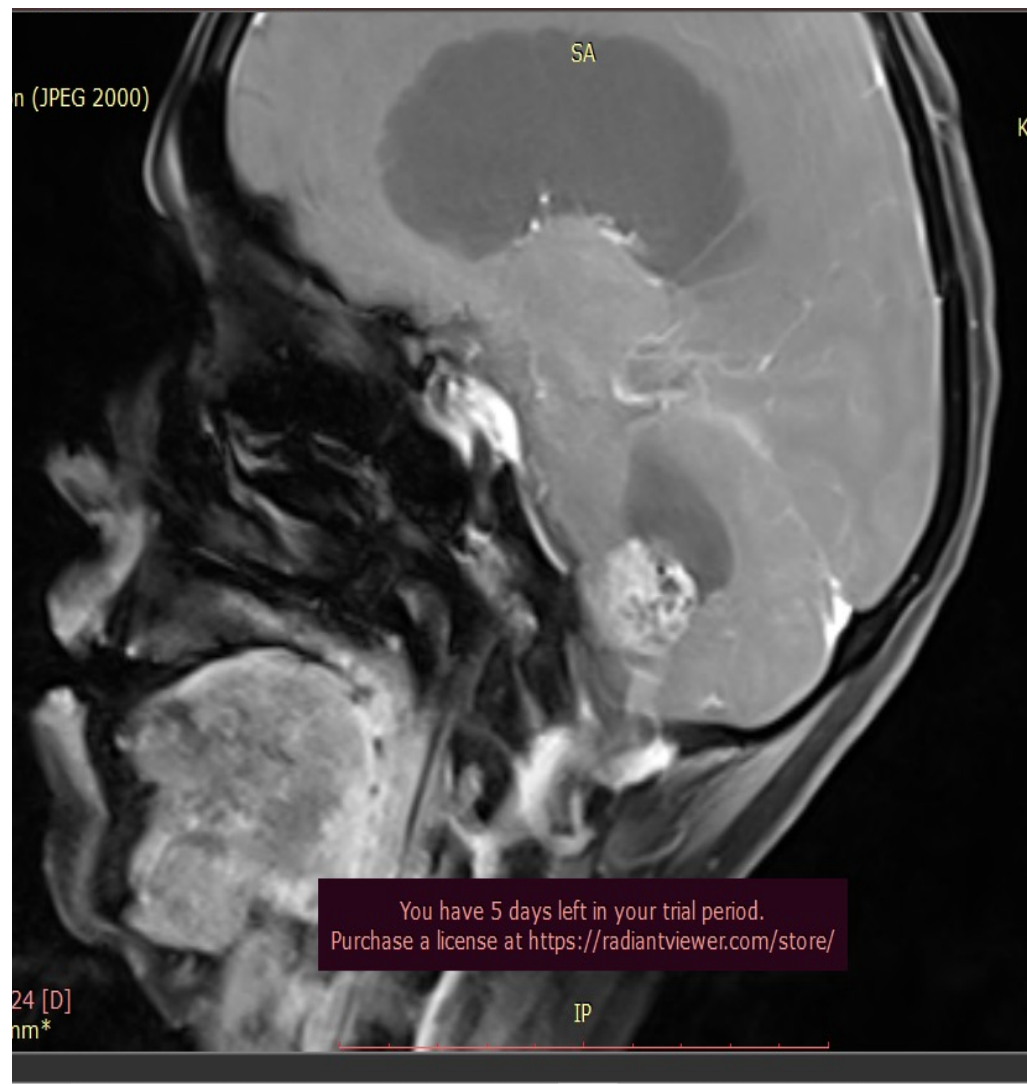
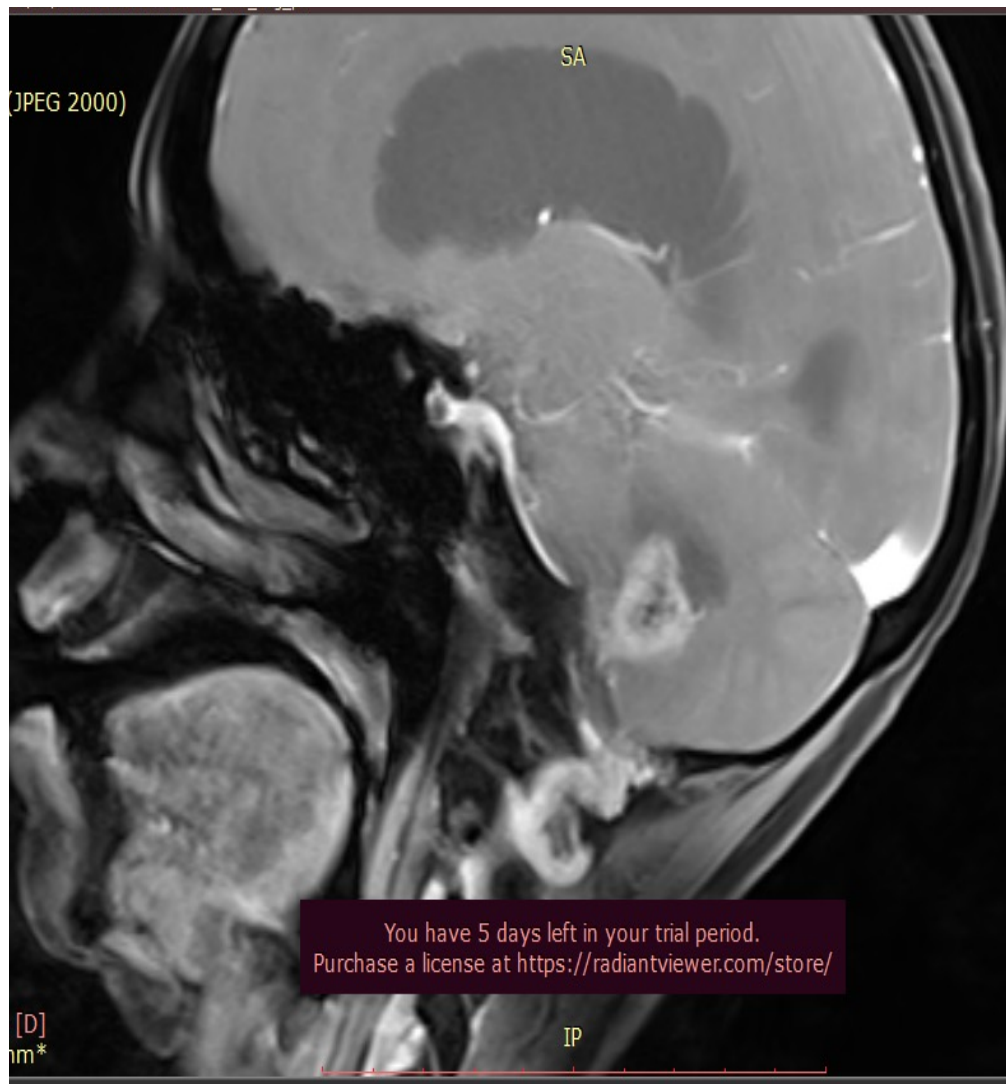
## T1 POST CONTRAST



# T1 POST CONTRAST



## T1 POST CONTRAST



## IMAGING FINDINGS:

- Fairly well defined lobulated T1 isointense to hyperintense and T2 heterointense mass lesion is noted involving the inferior aspect of the 4th ventricle near the obex approximately measuring 2.9 (AP) x 3.8 (ML) x 3.8 (CC) cm. The lesion shows multiple areas of tiny T2 hyperintensities that suppress on FLAIR images suggestive of cystic changes.
- *Anteriorly*, the lesion is seen to show indistinct interface with the floor of the 4th ventricle (pons and medulla) and is seen to cause its mass effect and splaying of medulla.
- *Anterolaterally*, the lesion is seen to show extension into the bilateral foramen of Luschka (left > right)
- *Posteriorly*, the lesion is seen to cause mass effect on the cerebellar vermis.
- *Inferiorly*, the lesion is seen to extend into the cisterna Magna via the foramen of Magendie.
- *Superiorly* the lesion is seen to cause upstream dilatation and expansion of the 4th ventricle, dilatation of the 3rd and bilateral lateral ventricles with periventricular seepage of CSF suggestive of obstructive hydrocephalus.
- The lesion does not show evidence of any peritumoral edema involving the brainstem or cerebellum.
- The lesion does not show evidence of diffusion restriction on DWI imaging.
- The lesion shows evidence of blooming on SWI, suggestive of hemorrhages / calcification.
- On post contrast study, the lesion shows heterogeneous contrast enhancement.



## **DIFFERENTIAL DIAGNOSIS:**

- Posterior fossa ependymoma (type B)
- Subependymoma
- Choroid plexus papilloma

## POSTERIOR FOSSA EPENDYMOMA:

<u>POINTS IN FAVOUR</u>	<u>POINTS AGAINST</u>
Age of the patient	-
Arising from the floor of the 4th ventricle	-
Extension into the CPA cisterns and cerebellomedullary cistern via the foramen of Luschka and Magendie	-
CT - Heterodense; MRI - T1 hypointense and T2 heterointense	-
Absence of diffusion restriction	-
Foci of blooming on SWI sequence	-
Heterogenous enhancement pattern	-



## SUBEPENDYMOMA:

<u>POINTS IN FAVOUR</u>	<u>POINTS AGAINST</u>
Age - more commonly seen in middle aged and elderly	Absence of contrast enhancement
T1 hypointense and T2 & FLAIR heterointense	
Absence of diffusion restriction	
Foci of blooming on SWI sequence	

## CHOROID PLEXUS PAPILLOMA:

<u>POINTS IN FAVOUR</u>	<u>POINTS AGAINST</u>
Most common site of origin in adult patients is 4th ventricle.	Intense homogenous contrast enhancement
T1 hypointense and T2 & FLAIR heterointense	Arises from the roof of the 4th ventricle
Absence of diffusion restriction	
Foci of blooming on SWI sequence	

Follow up (at NIMHANS institute): Biopsy result came out as WHO grade 3 posterior fossa ependymoma

 **National Institute of Mental Health and Neuro Sciences**  
Hosur Road, Bengaluru, 560029  
**Department of Neuropathology** 

UHID: EXT24006755  
MRD No :  
Patient Name: Mrs. RENUKA ISHWAR NADONI  
Age : 60 years  
Gender: Female  
Ward Name/Collection Centre: Biopsy Room

Referring Hospital:  
Referring Dept:  
Sample Collection Date: 02/04/2024 02:09 PM  
Lab Reference No: X-1571/24  
Report Generated Date: 08/04/2024 03:44 PM  
Lab Name: Neuropathology

Dr. Praful Meste, KLE's Dr. Prabhakar Kore Hospital, Belagavi-590010

**Sample Details : H-2404020036 (Tissue)**

**SURGICAL BIOPSY - Date: 08/04/2024 03:44 PM**

**Nature Of Specimen:**  
Received multiple grey white soft tissue bits altogether measuring 0.8x0.5x0.3cm. All processed -A1.  
Grossed by Dr. Rumela. Dt: 3/4/2024

**Histopathology Report:**  
Sections show an ependymal tumour composed of cells arranged in perivascular pattern. Cells show moderate to marked nuclear atypia with epithelioid differentiation. Scattered mitosis is seen. No microvascular proliferation seen. No necrosis is seen. Areas of haemorrhage and haemosiderin laden macrophages are noted.

**Immunohistochemistry:**  
GFAP - Positive  
Olig2- Negative  
EMA - Shows perinuclear dot positivity  
H3 p.K27me3 - Retained nuclear expression  
MIB1 labelling index - 8-10% in the hotspots.

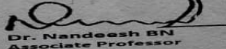
**Final Impression:**  
Posterior fossa ependymoma, NOS, CNS WHO grade 3, Fourth ventricle.


**Drafted By:**  
Dr. Janani. A  
Senior resident  
08/04/24

**Reported By:**  
Dr. Nandeesh BN  
Addl. Professor  
08/04/24

**Level 1 Entered by**  
( Dr.Abhishek Chowdhury )

**Level 2 Verified by**  
( Dr.Nandeesh B N )

  
Dr. Nandeesh BN  
Associate Professor  
Authorized Signatory

 Shot on OnePlus