

# **The Diagnosis of Chiari Abnormalities**

Ulrich Batzdorf, M.D.

Department of Neurosurgery

David Geffen School of Medicine at UCLA

Los Angeles, CA

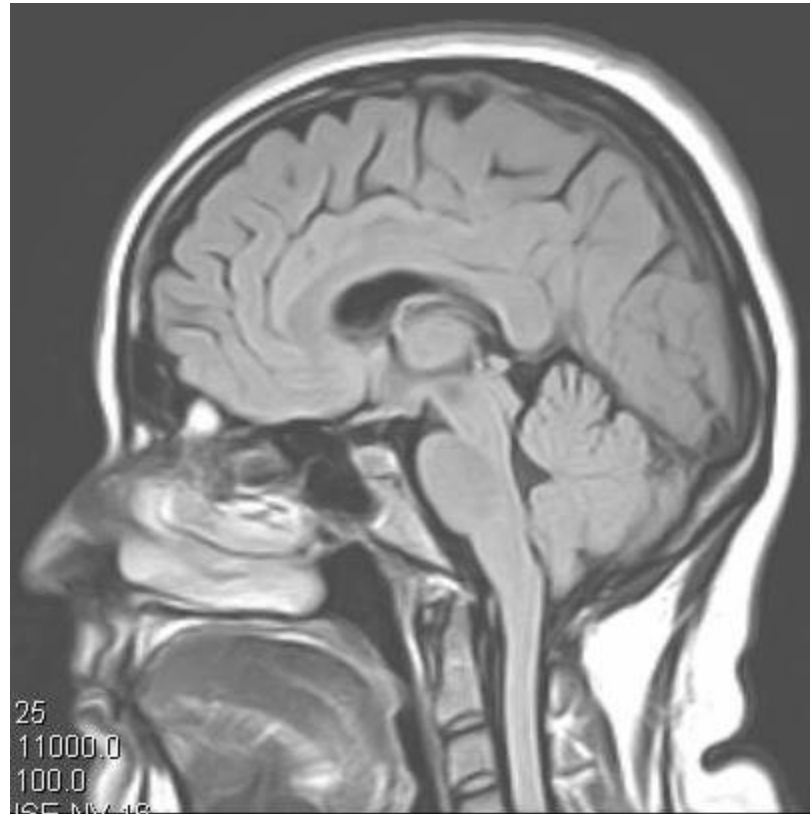
**1. Designations used by  
Radiologists for Low-Lying  
Cerebellar Tonsils**

**2. Variations in Posterior  
Fossa Anatomy seen in  
Association with Chiari  
Abnormalities**

# Case # 1

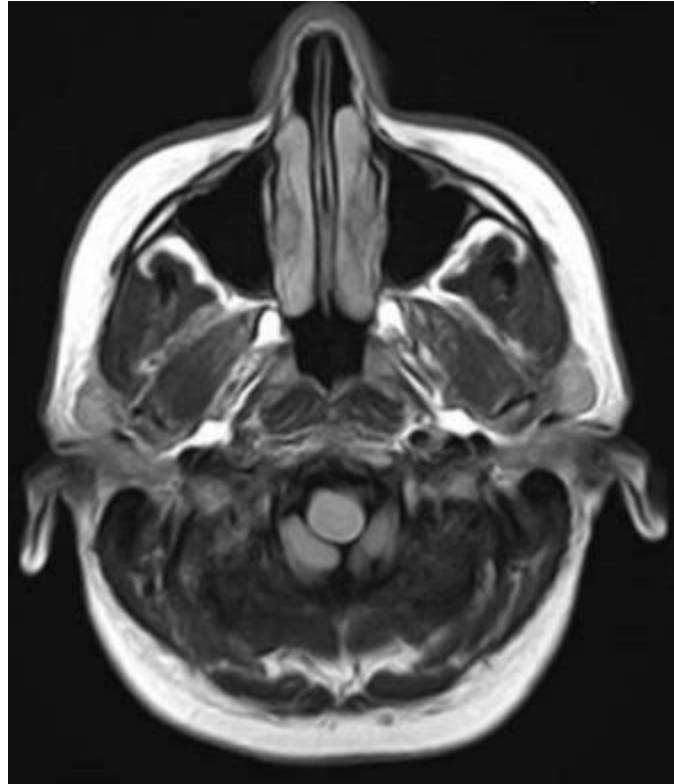
“Chiari I malformation with moderate stenosis at the level of the foramen magnum”.

# Case # 1





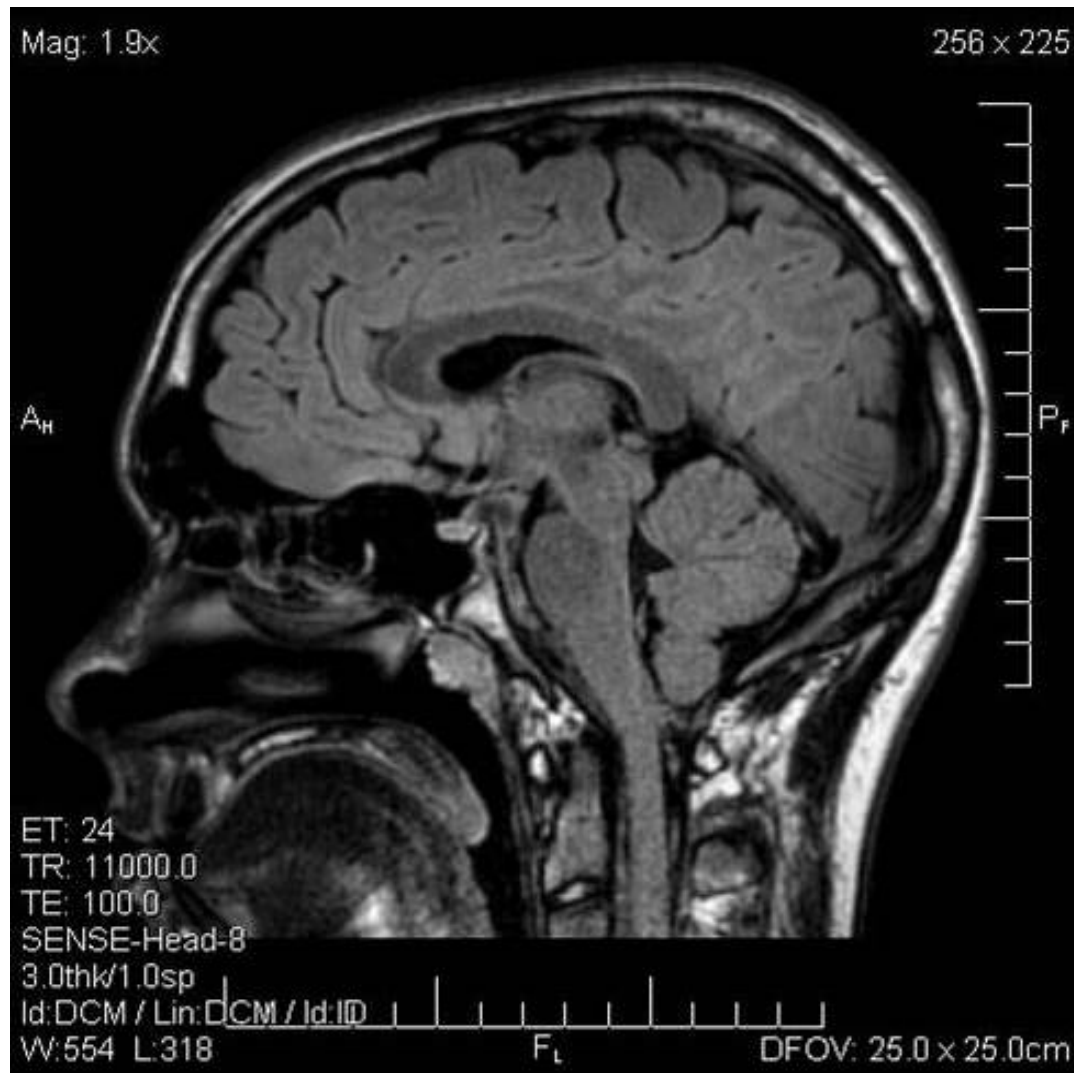
# Case # 1



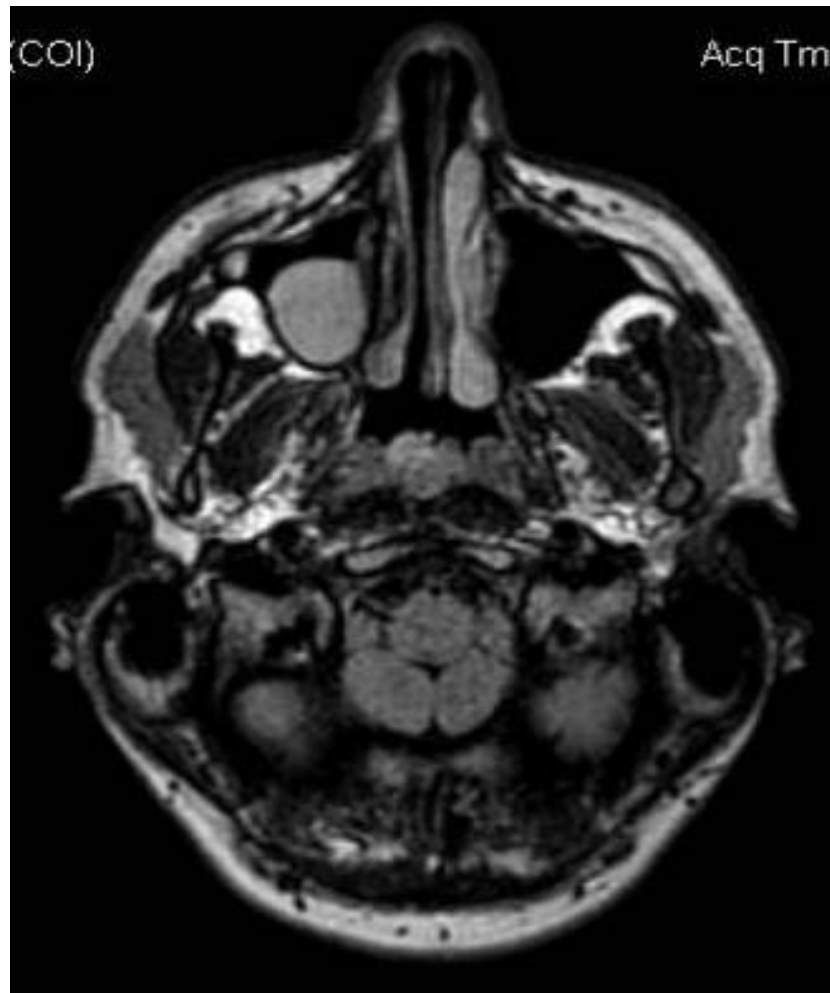
# Case # 2

“Chiari I malformation. CSF flow study recommended”.

# Case # 2



# Case # 2



# Case # 3

“Chiari I Malformation”

# Case # 3



# Case # 3



# Case # 4

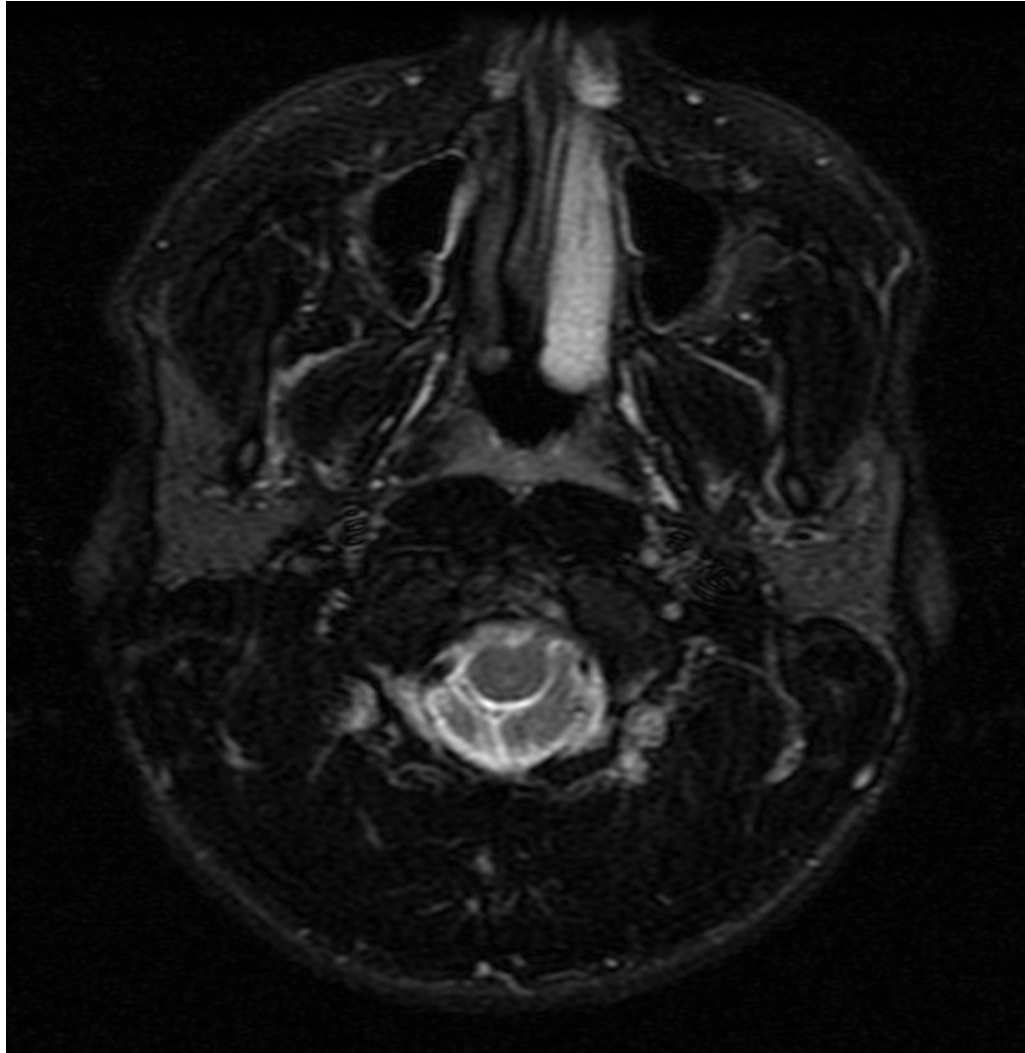
“There is fullness of the foramen magnum suggestive of a Chiari 1 malformation”



# Case # 4



# Case # 4



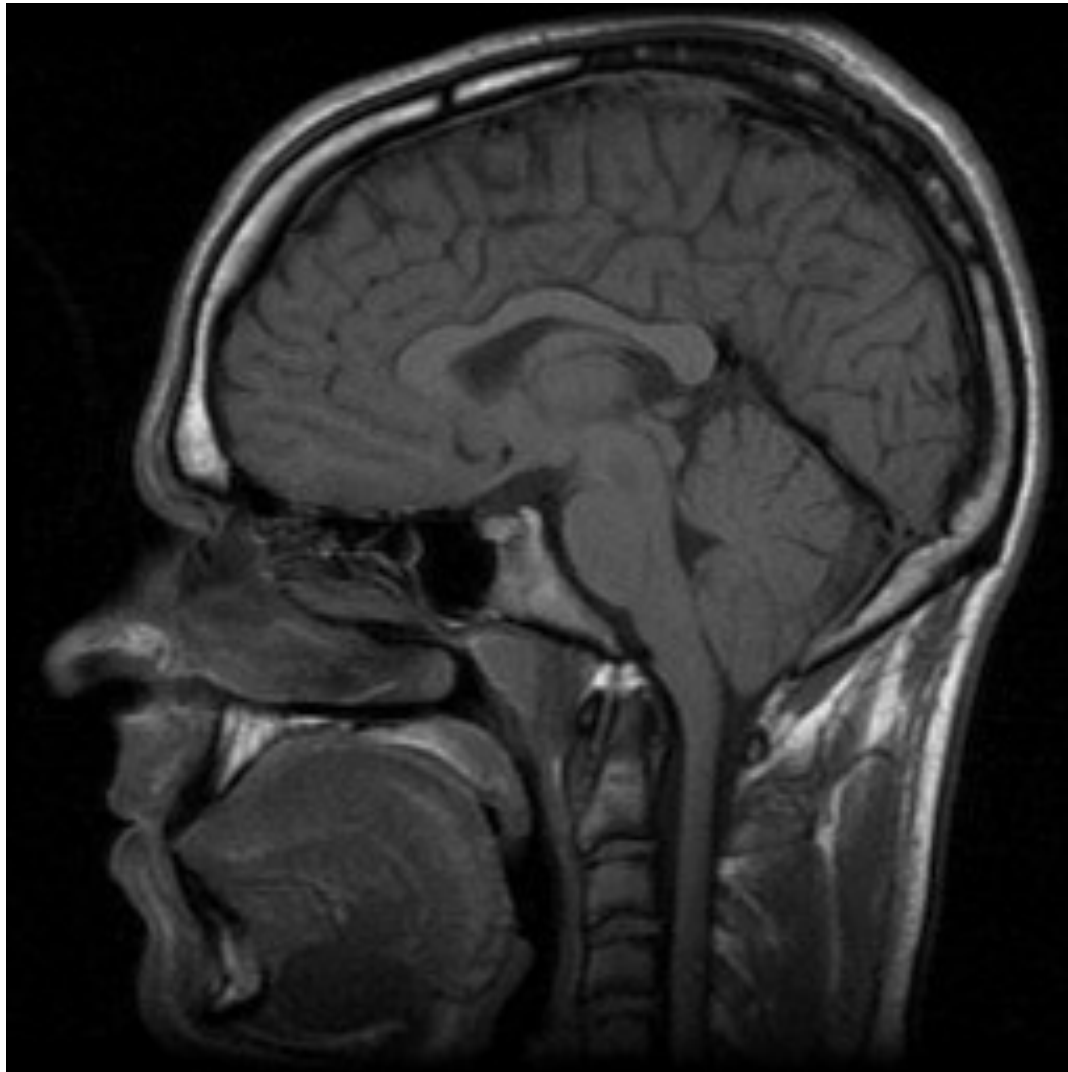
# Case # 5

“Chiari I malformation”

# Case # 5



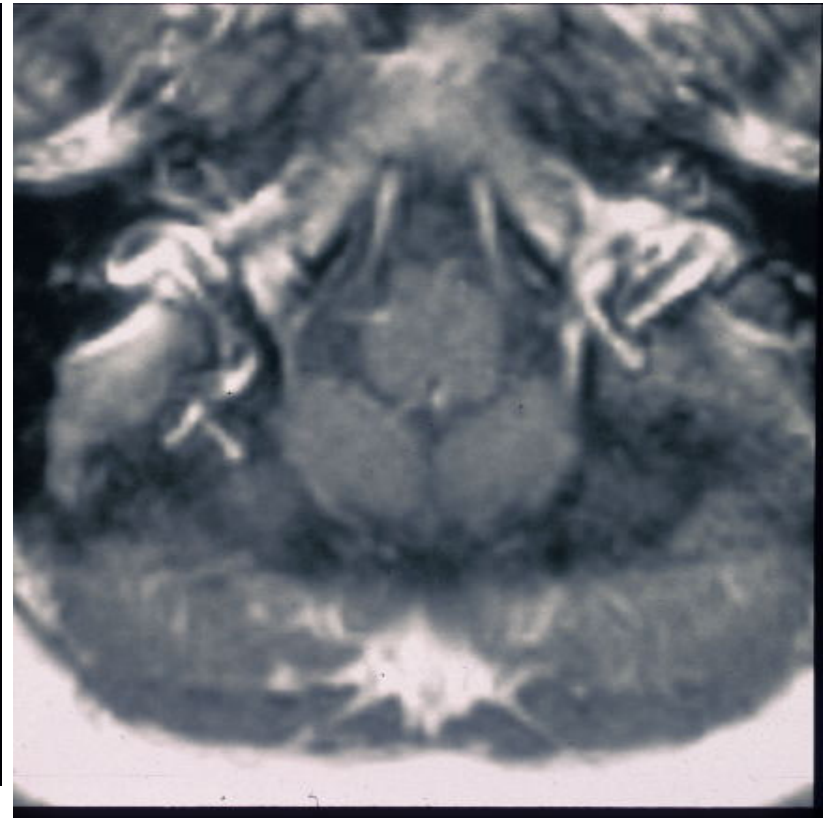
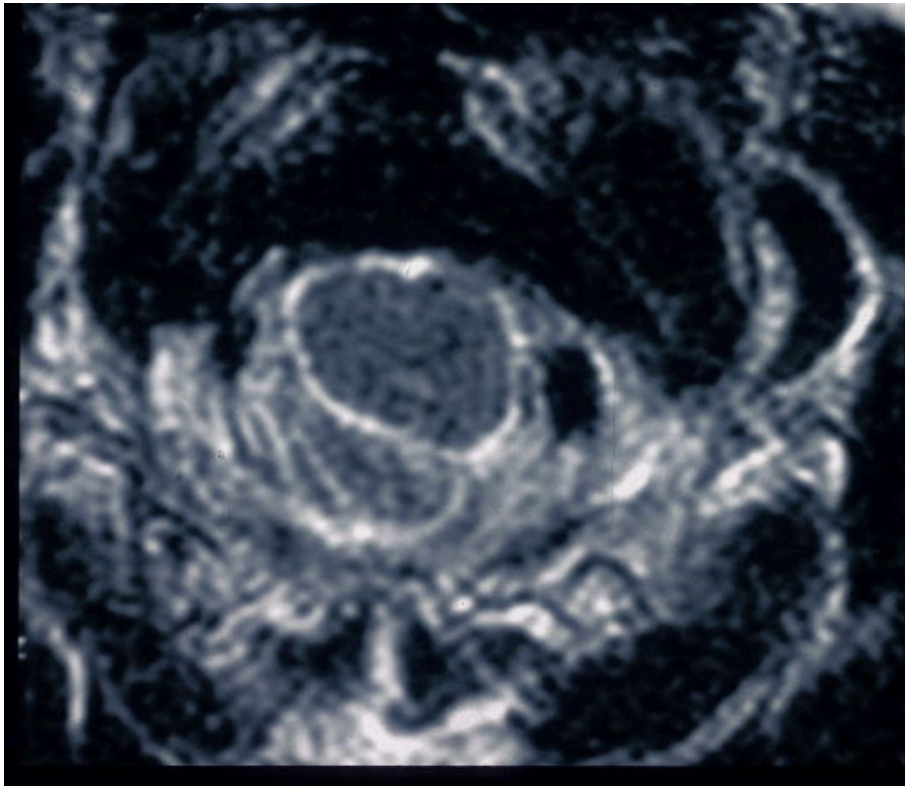
# Case # 5



# Case # 5



# Axial Images at/near the F.M.



# Chiari for sure -



but...



# Variations in Posterior Fossa Architecture seen with Chiari Abnormalities



A

MF 1.00

TR 400.0

TE 14.0

TA 01:16

BW 90.0

M/ND

A1/SAT1

HE

\*20211 1.00

10cm

E

SP R6.0

SL 5.0

FoV 230\*230

384\*512 I

Sag

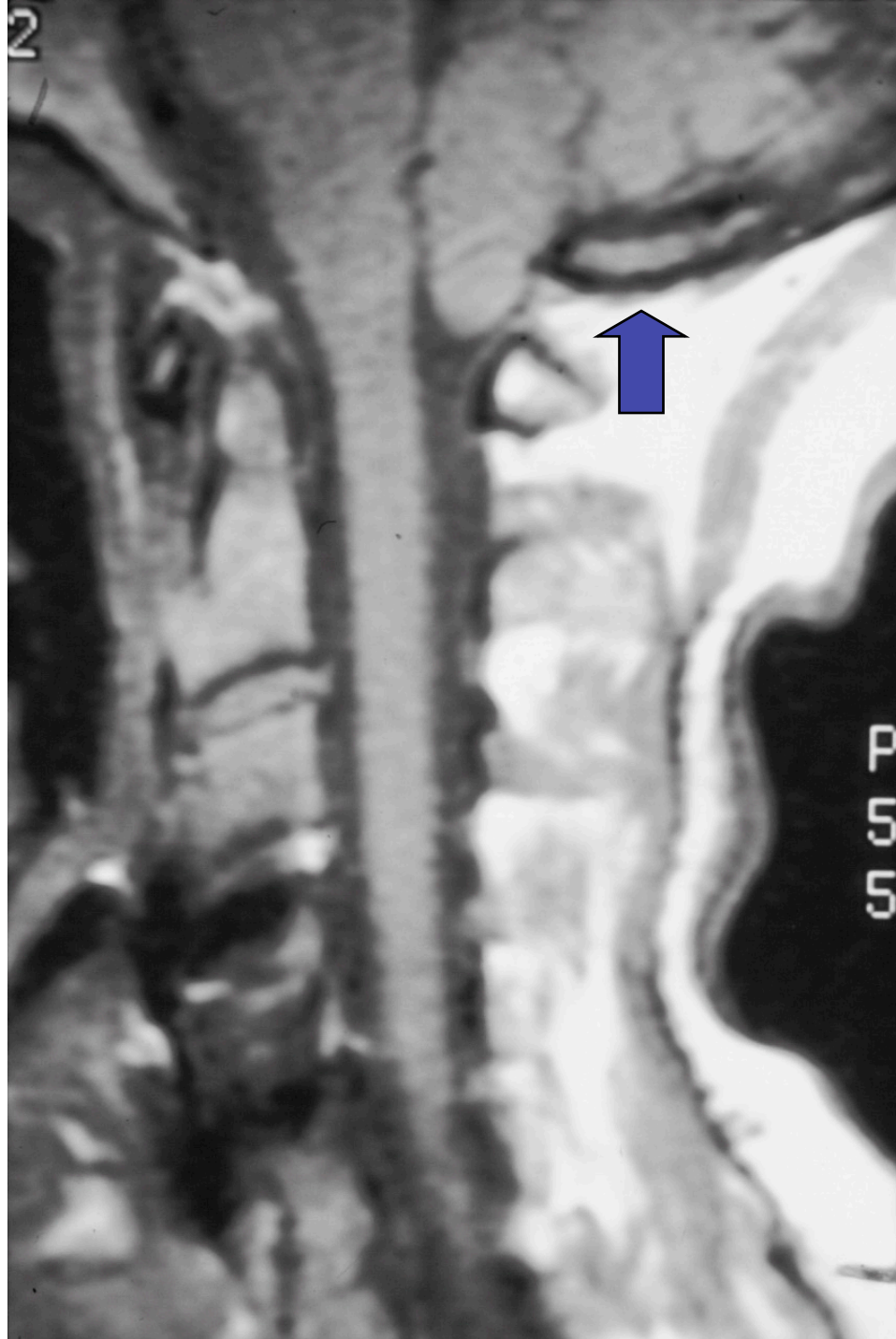
W 925

**Normal P. F. Architecture**

# Shallow Posterior Fossa



“Floor Type”

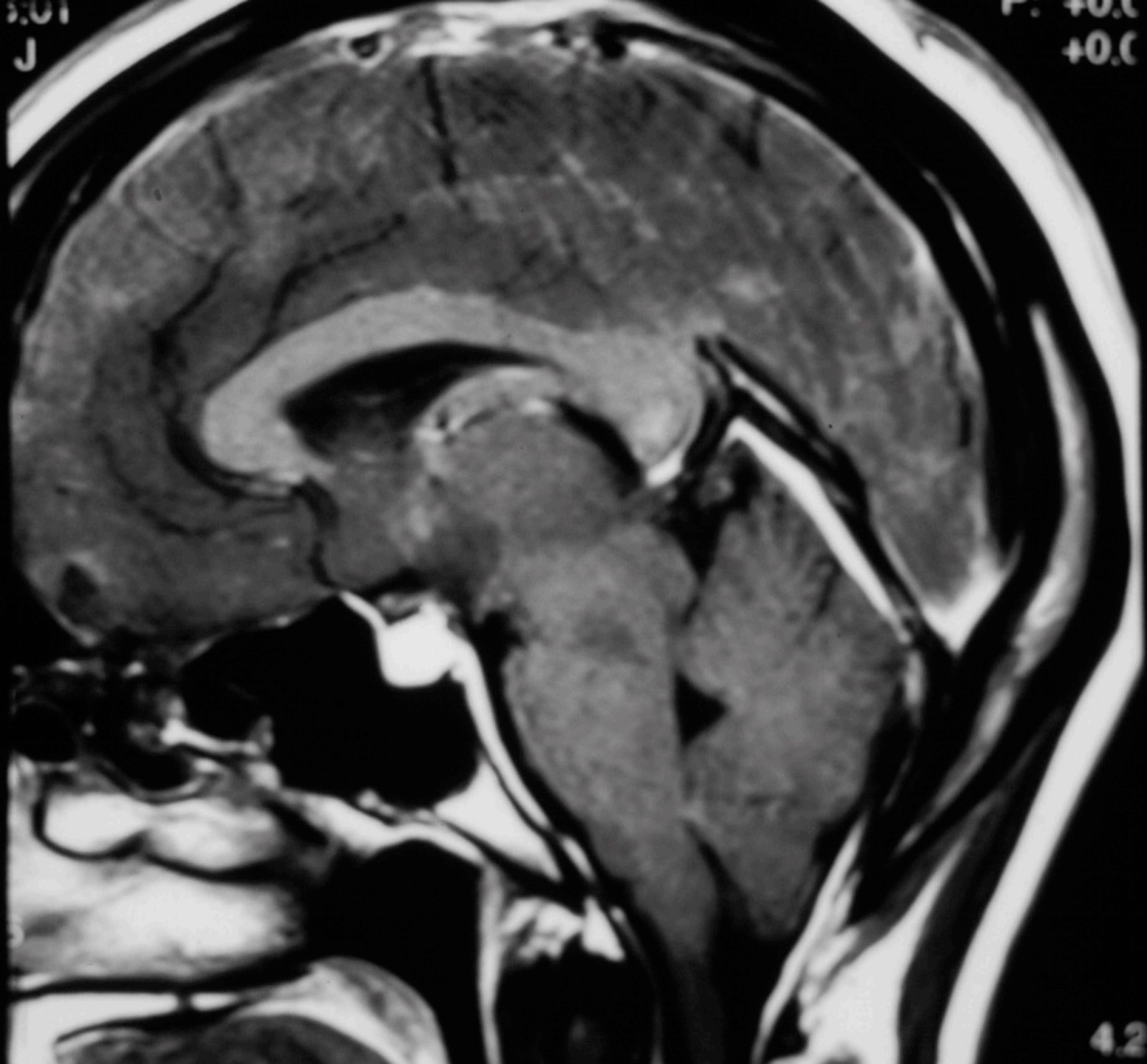




# Low Insertion of Torcula



“Roof Type”



**Clivus and tent are nearly parallel**

# Basilar Invagination



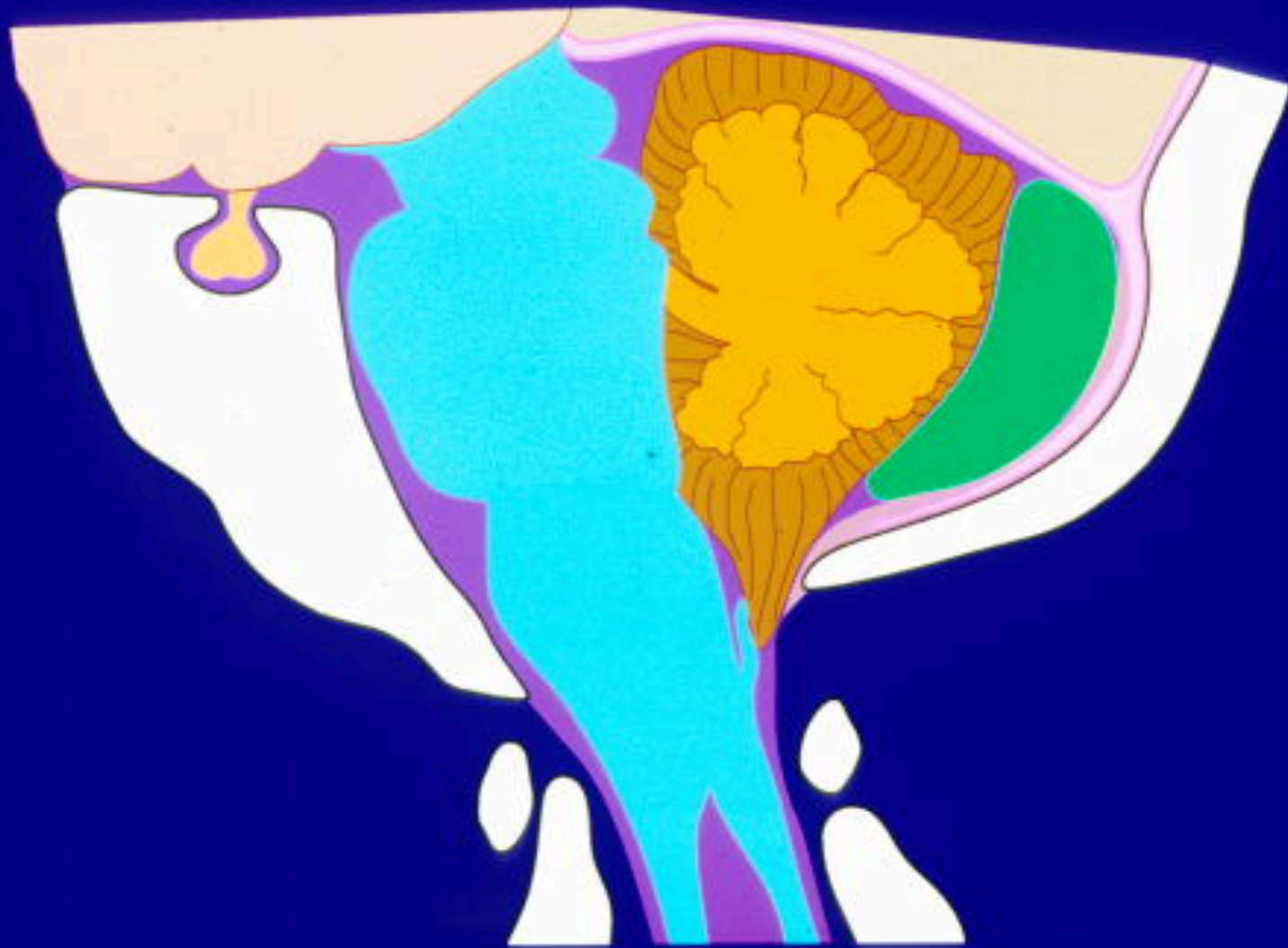
**“Anterior Type”**

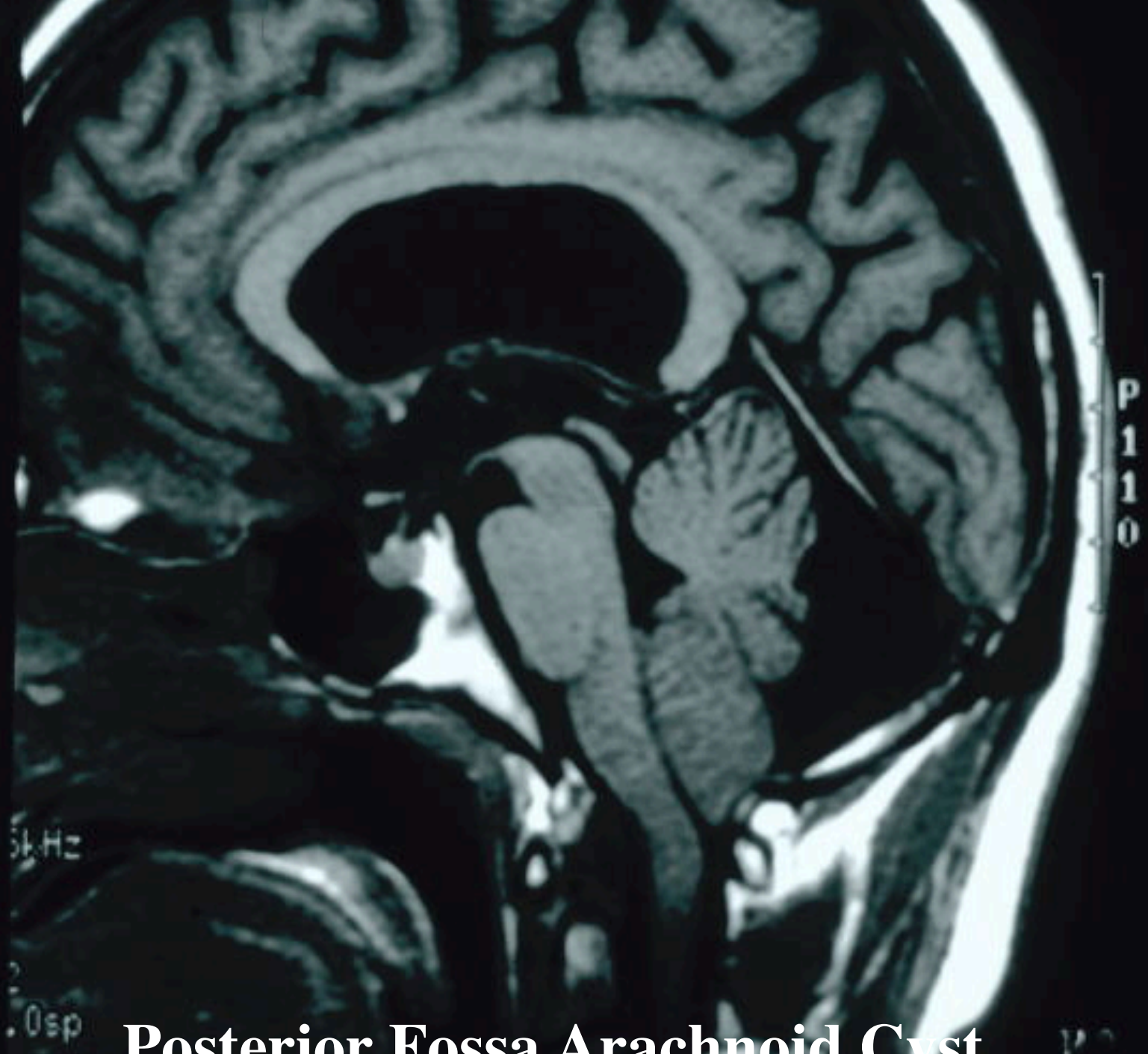






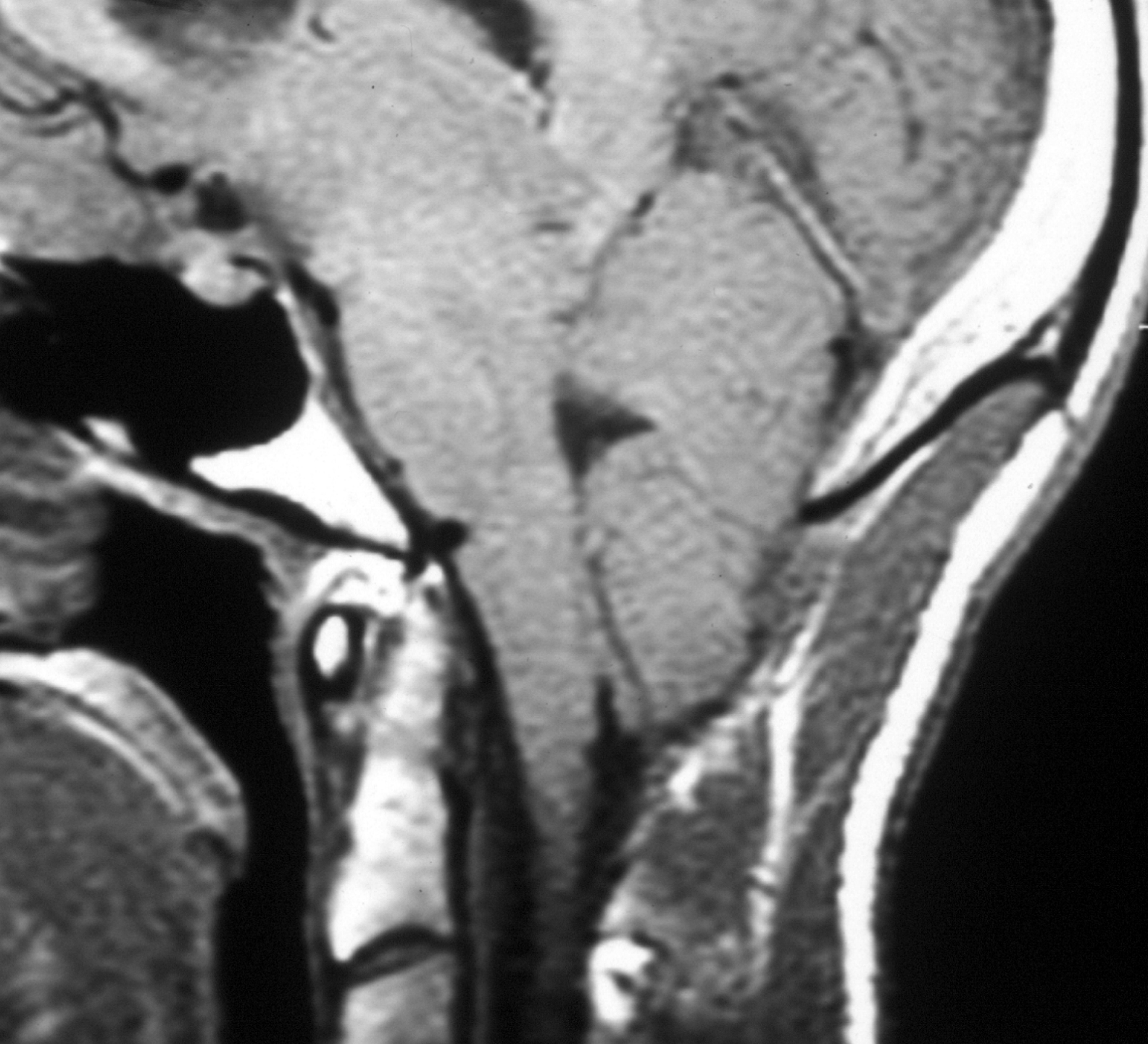
# Space Occupying Mass





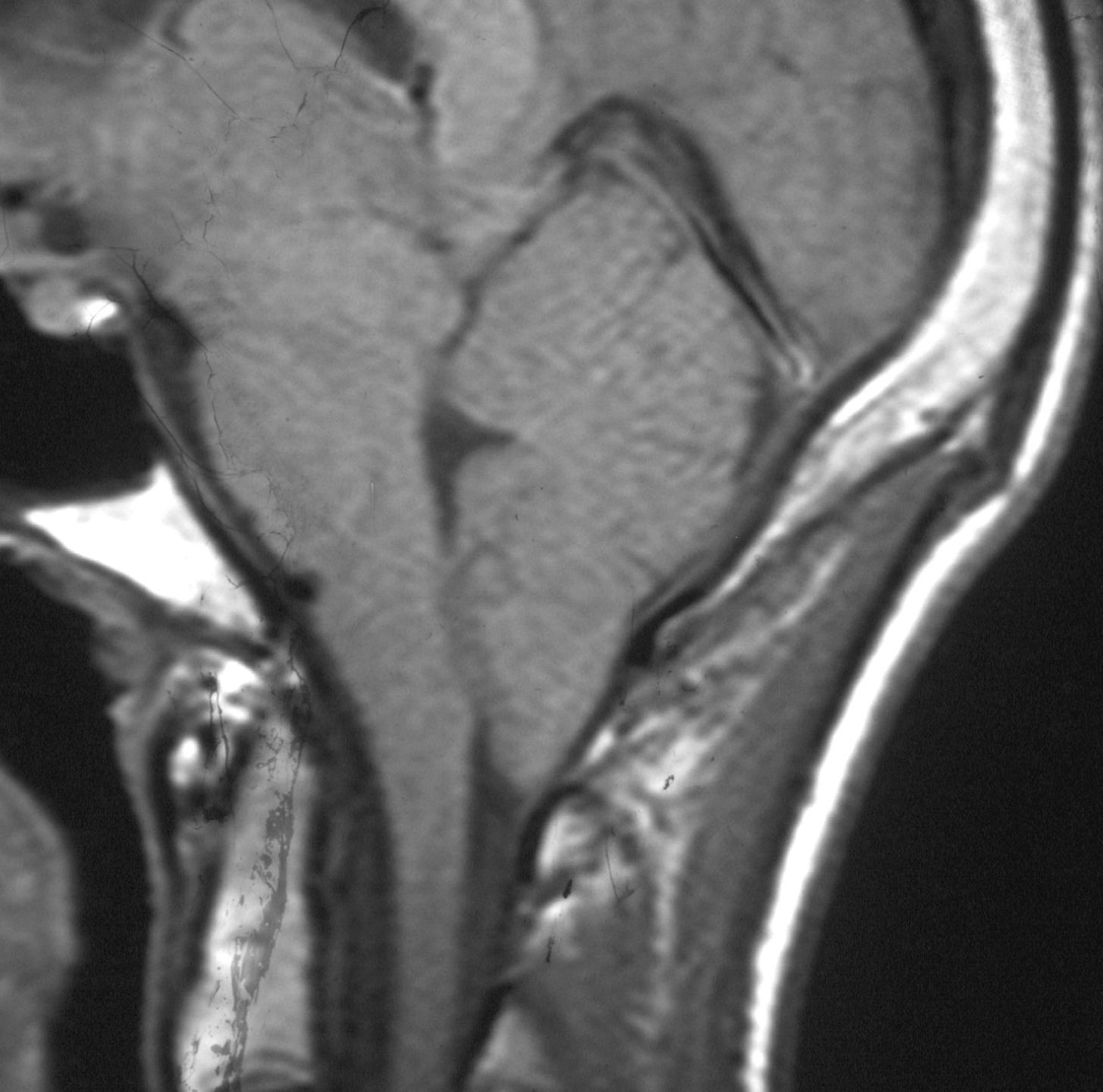
**Posterior Fossa Arachnoid Cyst**

Why this matters from a  
surgeon's perspective:



To  
Avoid  
This:

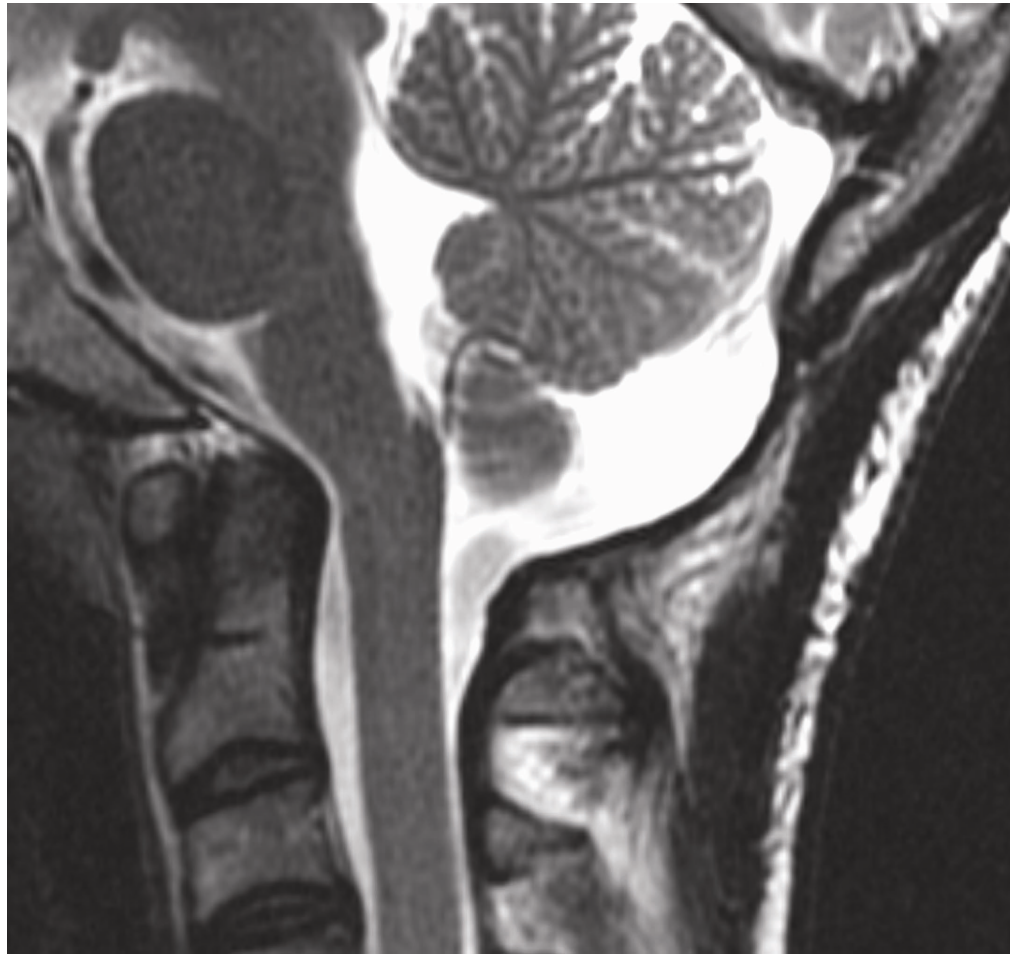




When  
You  
See  
That:

**Low  
Tentorium  
Insertion**

- And Avoid This When One Can Estimate Thickness of Bone from MR scan



Dural  
Ectasia