



## CASE STUDY

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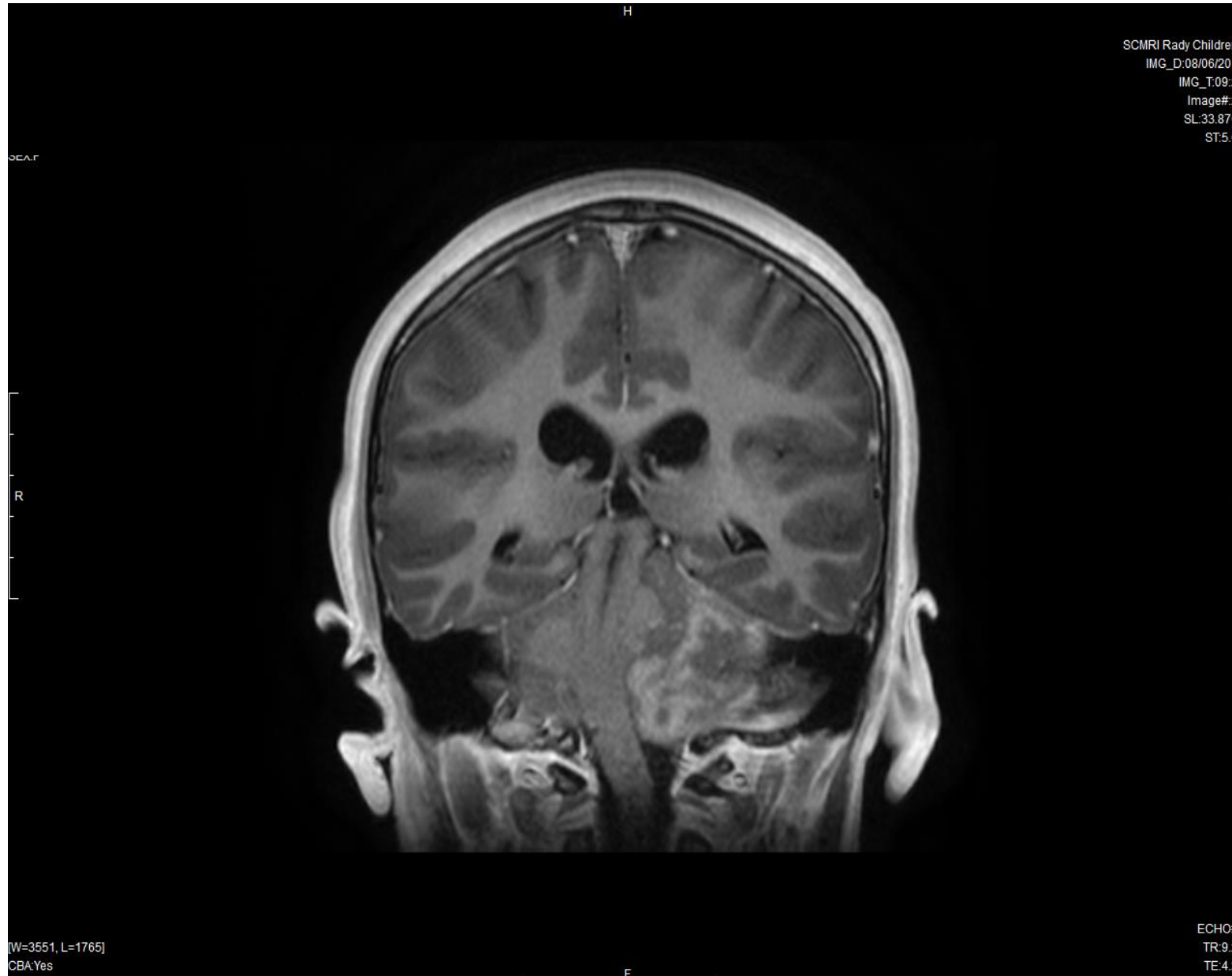
# History

- Ten year old female
- Four months of worsening vomiting and headaches
- One month history of left ear hearing loss
- Sleeping more, tired
- Finger rub test abnormal on the left





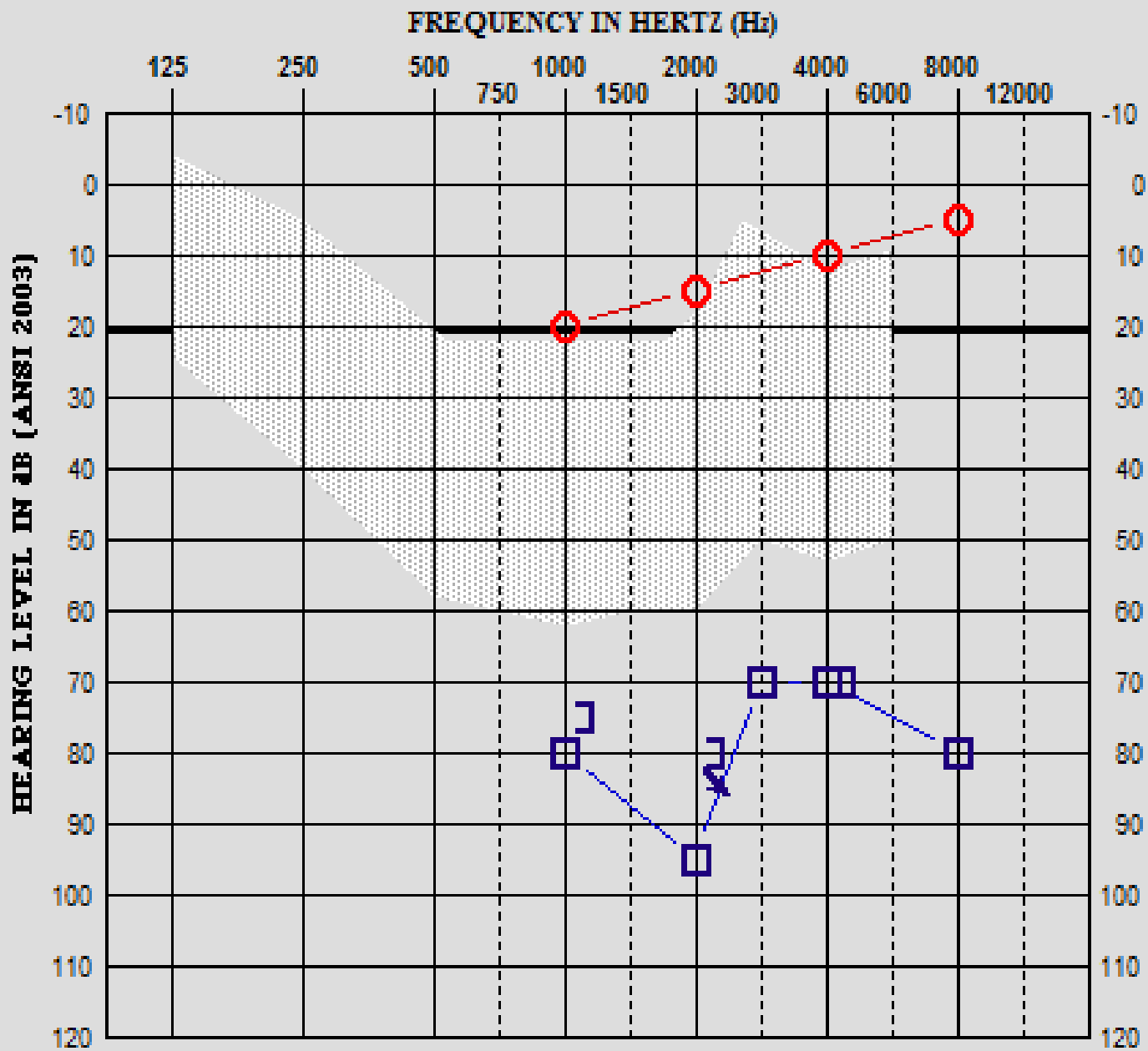
# MRI



SCMRI Rady Childre  
IMG\_D:08/06/20  
IMG\_T:09:  
Image#:  
SL:33.87  
ST:5

[W=3551, L=1765]  
CBA:Yes

ECHO:  
TR:9:  
TE:4



**OTOACOUSTIC EMISSION (OAE) TEST RESULTS**

Name: \_\_\_\_\_ ID#: \_\_\_\_\_  
 Ear: LEFT Result: \_\_\_\_\_ Ear: RIGHT Result: \_\_\_\_\_  
 Test#: 16802 Tester: \_\_\_\_\_ Test#: 16803 Tester: \_\_\_\_\_  
 Date: 08/07/18 11:56:51 Date: 08/07/18 11:57:29  
 Protocol: DP Ototoxic Prtc Protocol: DP Ototoxic Prtc

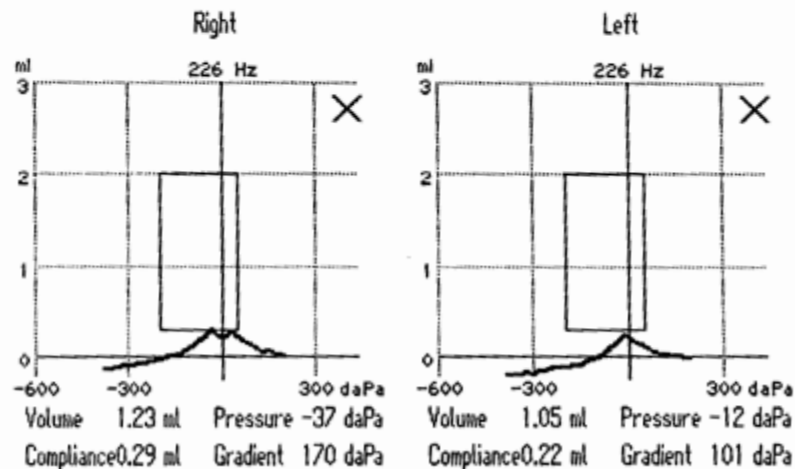
Freq.	Result	DP	DP-NF	Freq.	Result	DP	DP-NF
8000	PASS	7	27	8000	PASS	12	31
7000	PASS	4	24	7000	PASS	7	27
6000	PASS	6	26	6000	PASS	10	30
5000	PASS	3	23	5000	PASS	6	26
4000	PASS	7	26	4000	PASS	7	27
3000	PASS	11	30	3000	PASS	9	25
2000	PASS	20	38	2000	PASS	15	35
1500	PASS	22	29	1500	PASS	18	26



**easyTym**

Clinic name : RCHSDO  
 Patient name :  
 Date : 07-08-2018 13:41:06

**226 Hz Tympanogram**



# Surgical Approach

- Midline incisioninion to C2
- Far lateral transcondylar and retrosigmoid craniotomy for resection of cerebellopontine angle tumor



# IOM

- UE and LE SEPs, transcranial motor EPs, ABR, and cranial nerve EMG
- Left ABR intraoperative findings indicated wave I only with the absence of rostral brainstem generators
- Right ABR waves I-V with delayed IV-V latencies



# Pathology Report

- Anaplastic ependymoma, Grade III
  - Arises from the ependymal cells
  - Typically intracranial in a child
  - Fast growing and significantly unusual in shape
  - Third most common brain tumor in children





# Findings

- Gross total resection
- Intraoperative findings
  - Cranial nerves 7 & 8 complex rather than being deflected by the tumor instead tracked straight through the tumor and were completely encapsulated by tumor tissue



# Post-operative course

- Left facial palsy, House-Brackmann III-IV

III	Moderate	Normal	With effort, complete closure	Slightly affected with effort	Slight to Moderate movement
IV	Moderately Severe	Normal	Incomplete closure	Asymmetrical with maximum effort	None

- Left CN VI palsy
- Mild dysphonia and difficulty swallowing
- Post-op hearing test not yet completed
- Diplopia
- Wide based gait; ataxia

# What is next?

- Local recurrence is possible with ependymoma
- Anaplastic ependymoma cells grow quickly and spread to surrounding brain tissue
- Proton beam radiation
- Maintenance chemotherapy
  - Vincristine, Etoposide, Cisplatin, and Cyclophosphamide



# Will chemo help?

- Numerous drugs have been identified with activity against ependymoma in single-agent chemotherapy regimens in phase II trials. Of these, **platinum** compounds have been the most active (eg, cisplatin is the most effective single agent, with a 30% response rate).
- Despite these findings, combination chemotherapeutic regimens for ependymoma have yielded disappointing results. The most encouraging data have been reported in infants using postoperative therapy consisting of **cisplatin**, cyclophosphamide, etoposide, and vincristine, with deferred radiation (2-y survival rate of 74%).
- Current trials are evaluating the benefits of this regimen in older children with postoperative residual disease. At present, no definitive conclusions can be drawn.



# Prognosis

- With surgery and radiotherapy, the overall 5-year survival rate is approximately  
55%-72%
- Can be as much as 80%



# Considerations

- Otoprotectants
  - sodium thiosulfate
- Vestibular referral
- Audiological expectations
  - Improved hearing??



# Other considerations...

- Amplification options for SSD
  - CROS
  - BiCROS
  - BAHA
  - CI (?)





# The End

