



Intractable Epilepsy due to Cerebellar Ganglioneural Hamartoma: Evidence for Seizures Originating From Cerebellum

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INTRODUCTION

- In the past, the cortex was often considered to be the site of seizure origin.
- Findings from histopathological, electrophysiological, and imaging studies indicate that subcortical structures play a crucial role in behavioral manifestations, propagation, and in some cases, initiation of epileptic seizures.

CASE REPORT

A four-year-old male patient ;

- Intractable seizures since birth
- Focal-onset motor seizures with impaired awareness >100 / day : the deviation of the head and eyes to right, pulling of the corner of the mouth to left, and flexion of the left arm
- Examination: Right hemifacial spasm
- Laboratory: Biochemistry and first-step metabolic screening were normal
- Interictal EEG: Normal → non-epileptic phenomenon?
- Ictal EEG: Generalized voltage attenuation more pronounced in the right hemisphere
- MRI: Cerebellar mass lesion → epileptic lesion ?
- PET/CT: A hypermetabolic focal lesion in the right cerebellar peduncle compatible with MRI **Figure 1**
- Surgical resection → Ganglioneural hamartoma
- The patient is seizure free for 18 months without anti-seizure medication.

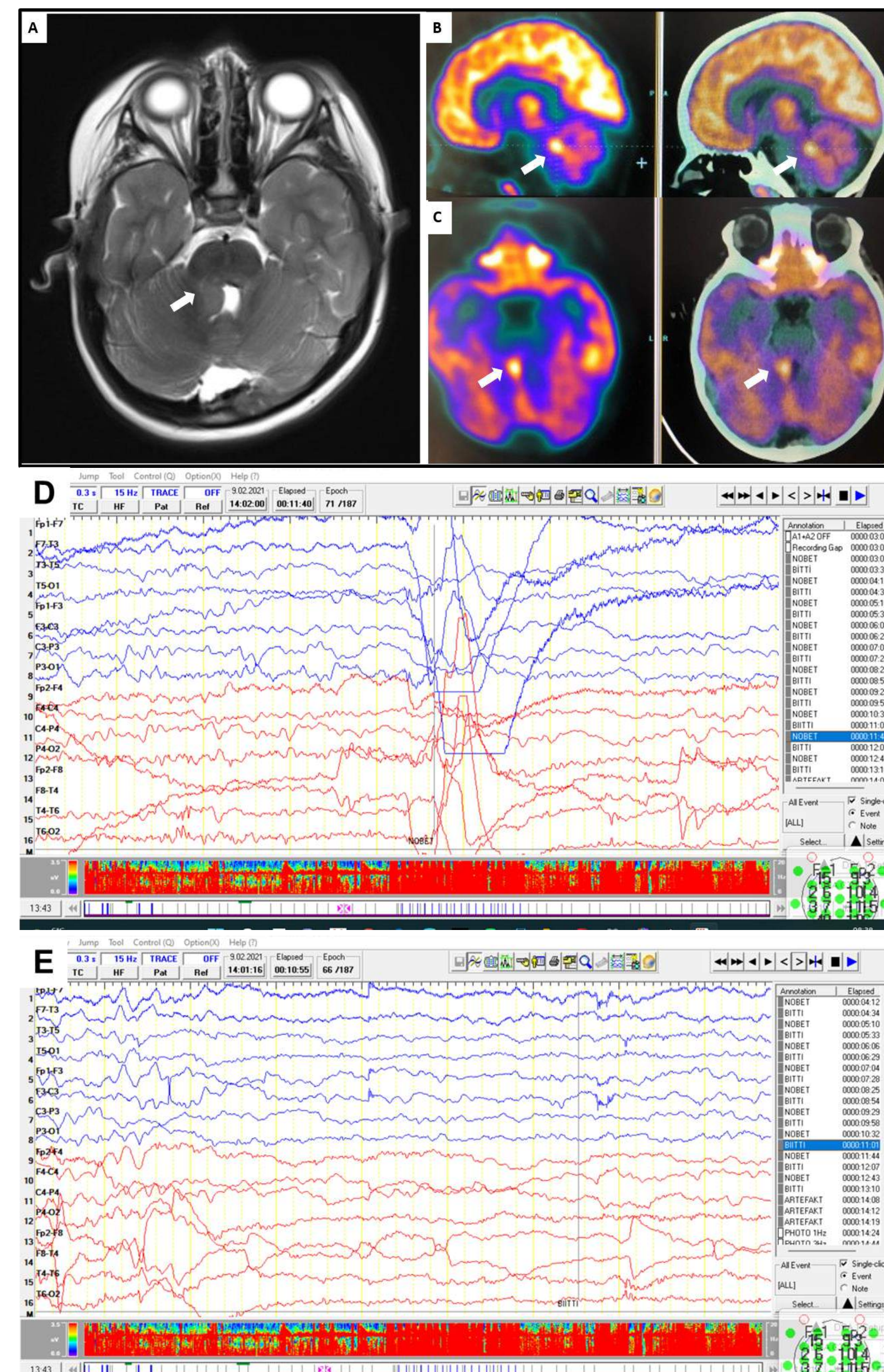


Figure 1. (A) Axial T2-weighted MRI revealing the cerebellar hamartoma in the right cerebellar peduncle, (B) sagittal, and (C) axial PET/CT images revealed ictal hypermetabolic area in the right cerebellar peduncle. (D) generalized voltage attenuation more pronounced in the right side during the ictal video-EEG recording., (E) normal interictal EEG recording.

Brief paroxysmal phenomenon in the form of hemifacial spasm

- >100/day
- EEG Normal

- Duration got longer
- Mild impairment of awareness
- Cognitive impairment

Ictal EEGs

- Generalized voltage attenuation more pronounced in the right hemisphere

MRI;

- Cerebellar mass lesion
- PET/CT;
- A hypermetabolic focal lesion in the right cerebellar peduncle

Ongoing intractable seizures;

- SURGERY

Seizure free without anti-seizure medication



SCAN ME:
Seizure video

CONCLUSIONS

- Cerebellar lesions can cause epilepsy especially when they are in close proximity to the cerebellar peduncles.
- Surgical resection offers a chance of seizure-freedom and excellent prognosis if complete resection is achieved early in life.

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