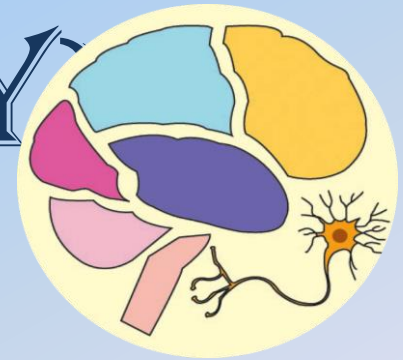


TBI/CONCUSSION CASE REVIEWS

(POST-TRAUMATIC EPILEPSY)

THURSDAY JANUARY 24, 2019



JAVIER CHAPA DÁVILA

NEUROLOGIST - NEUROPHYSIOLOGIST - EPILEPTOLOGIST -

NEUROLOGIST

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

Disclosures

- Nothing to disclose
- Author didn't receive any monetary compensation for this work/presentation.
- No conflict of interest

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Objectives

- Understand the pathophysiology of post-traumatic epilepsy
- Discuss post-traumatic epilepsy cases and neuroimaging findings

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Post-traumatic Epilepsy (PTE)

- * Posttraumatic MRI changes can be the cause or the consequence of epilepsy
- * Leading cause of epilepsy in young adulthood
- * About 50% of the patients with PTE undergoing surgery have Mesial Temporal Sclerosis (MTS)
 - * Most common in children
- * Post-traumatic seizures
 - * Immediate: < 24 hours
 - * Early: > 1 day but <1 week
 - * Late: > 1 week = post-traumatic epilepsy = 1 late onset seizure not attributable to other causes (Differ from traditional epilepsy definition).

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Post-traumatic Epilepsy (PTE) Epidemiology

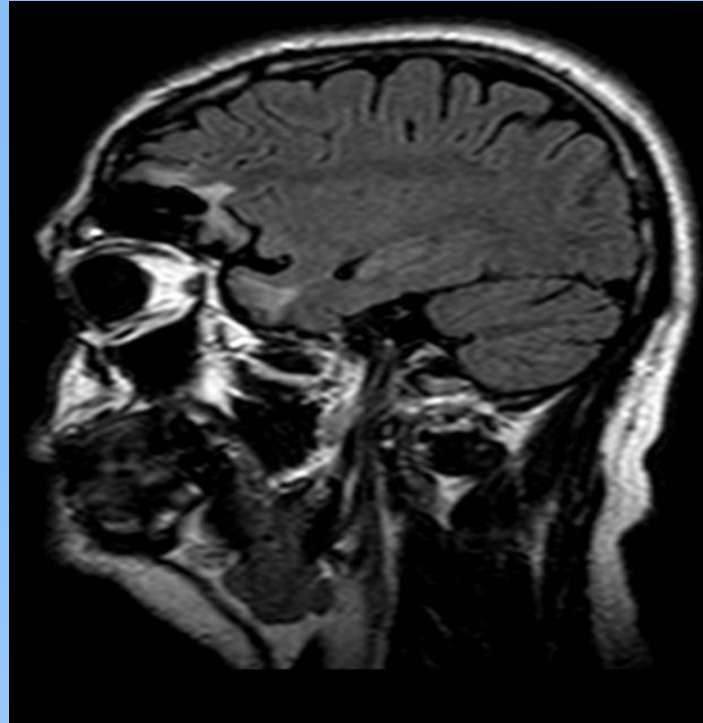
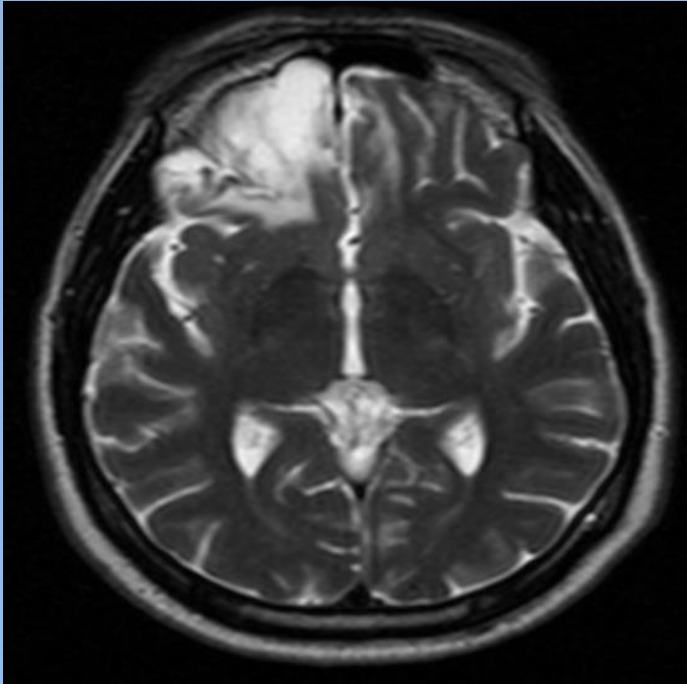
- * Seizures (szs) occurs in 10-15% of adults and 30-35% of children after severe head trauma
- * 15-20% of patients with severe TBI develop PTE
- * PTE occurs in 20-25% of patient with early szs vs. 80% with late szs.
- * 80-90% develop first unprovoked szs within 2 years of TBI
- * About half of patients with PTE have only 3 szs or fewer and go into spontaneous remission.

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

44y/o man after MVA develop seizures



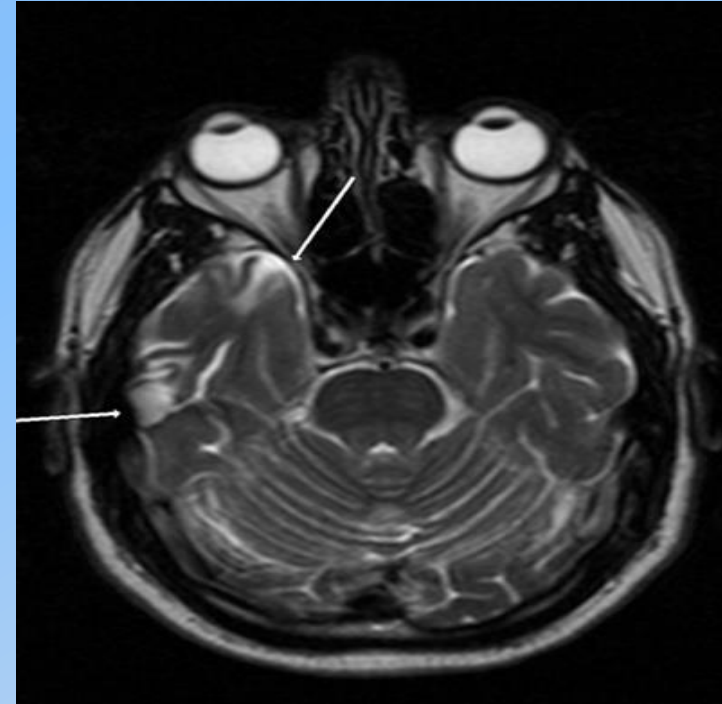
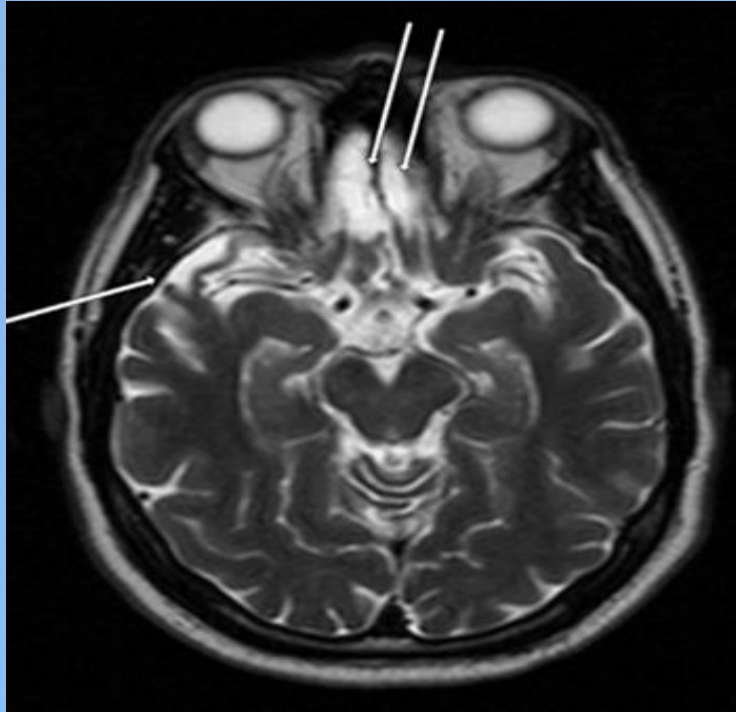
- The MRI lesion represent the “tip of the iceberg” and non visible tissue on MRI are actually highly epileptogenic.
- Extensive resection in post-traumatic epilepsy are highly recommended

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

44y/o man after MVA develop seizures



Selective vulnerability of the hippocampus after blunt head trauma is well documented

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

Present History

- 30 y/o right handed man with PTE since 10/2010 after been involved in a fight with subsequent head trauma and cranial surgery.
 - Pre-ictally: none (sleep)
 - Ictally: dialepsis > right version > GTCSz.
 - (+) tongue bite, (+) urinary incontinence, (+) drooling
 - Post-ictally: patients feels tired and disoriented.
- Duration 1-2 minutes, occurs only during sleep
- Patient complains of memory loss
- Status Epilepticus present = no
- On Keppra and Lamictal

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Physical Exam

- General exam: bradyphrenia, slow cognition
- Neurological exam: non-focal deficits

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Epilepsy Classification

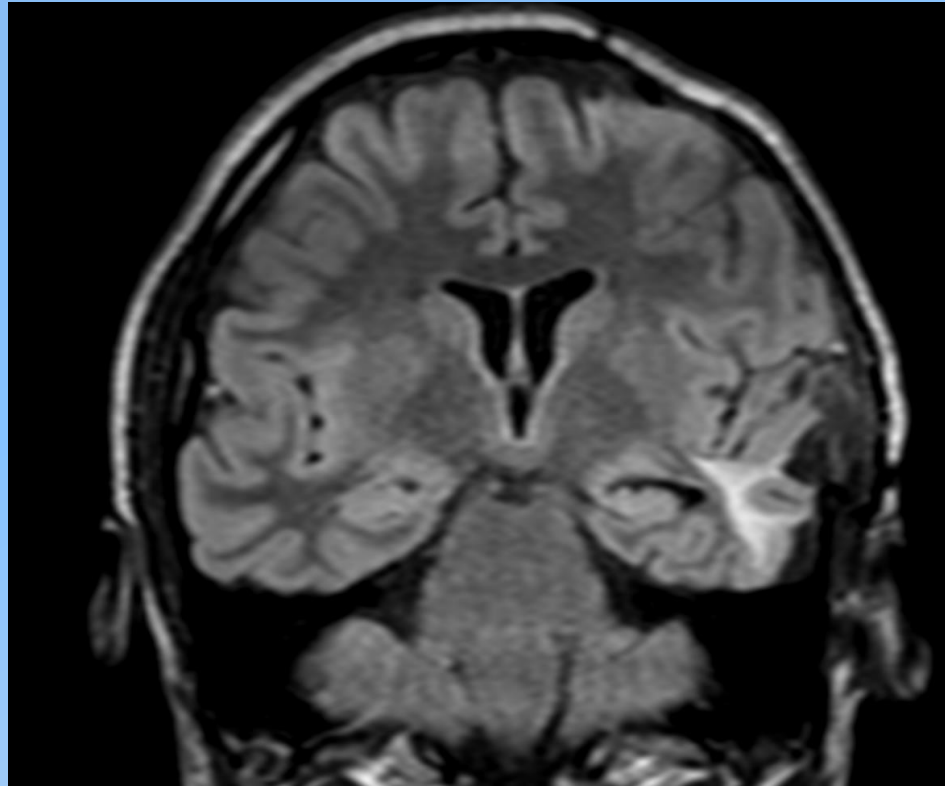
- **Epileptogenic Zone:** Left Lateral temporal lobe
- **Semiology:**
 - Dialepsis > right version > generalized tonic-clonic seizure
 - **Onset:** 2010 (post-traumatic)
 - **Frequency:** 2016 > 6/2018 > 9/17/18 > 10/18/18
- **Etiology:** left lateral temporal encephalomalacia
- **Related Medical Conditions:** amnesia

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

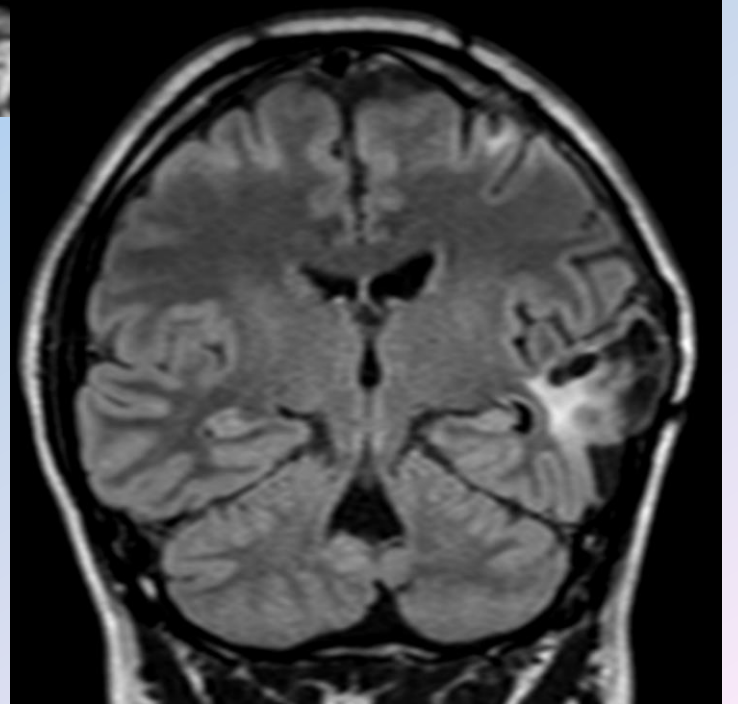
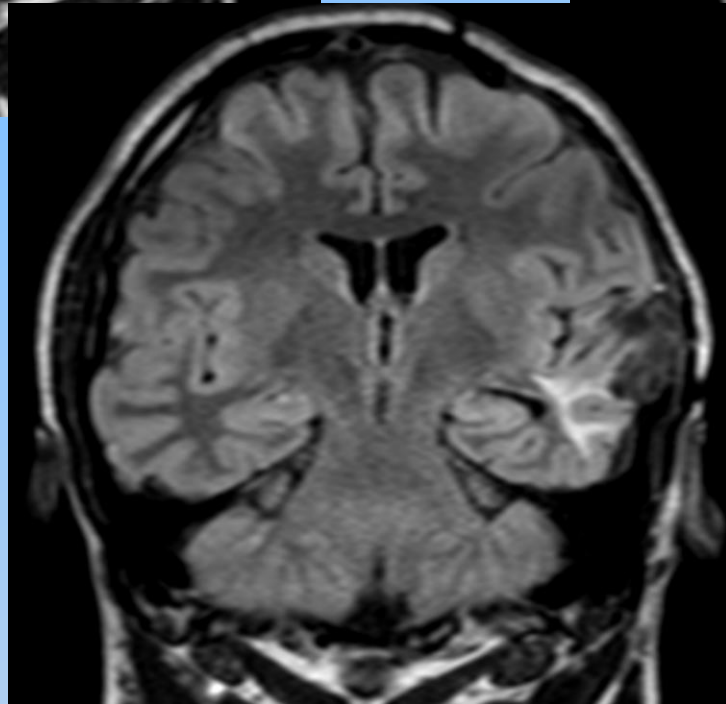
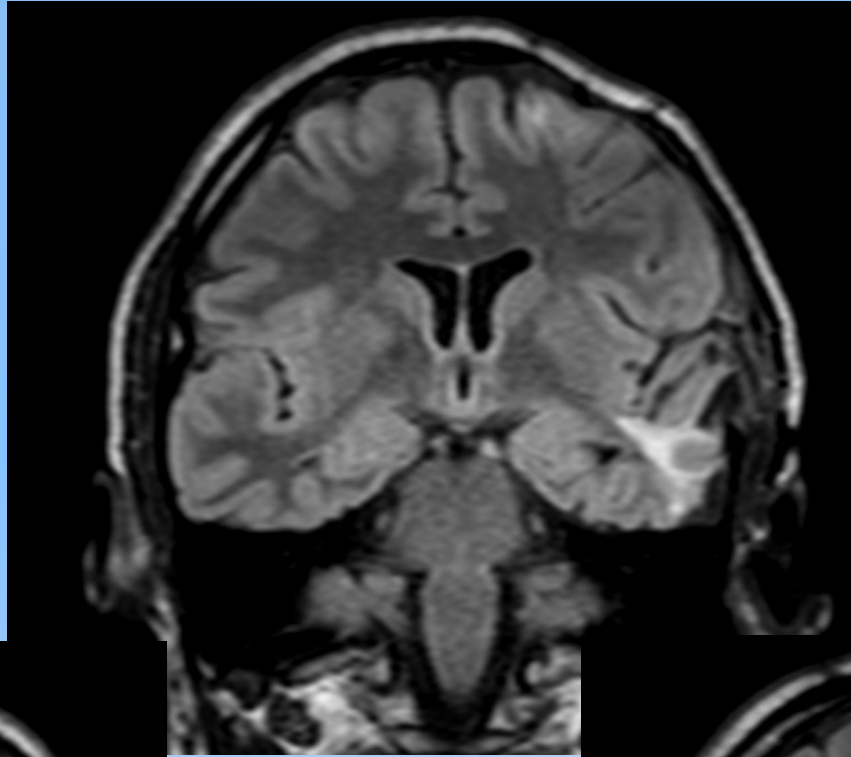
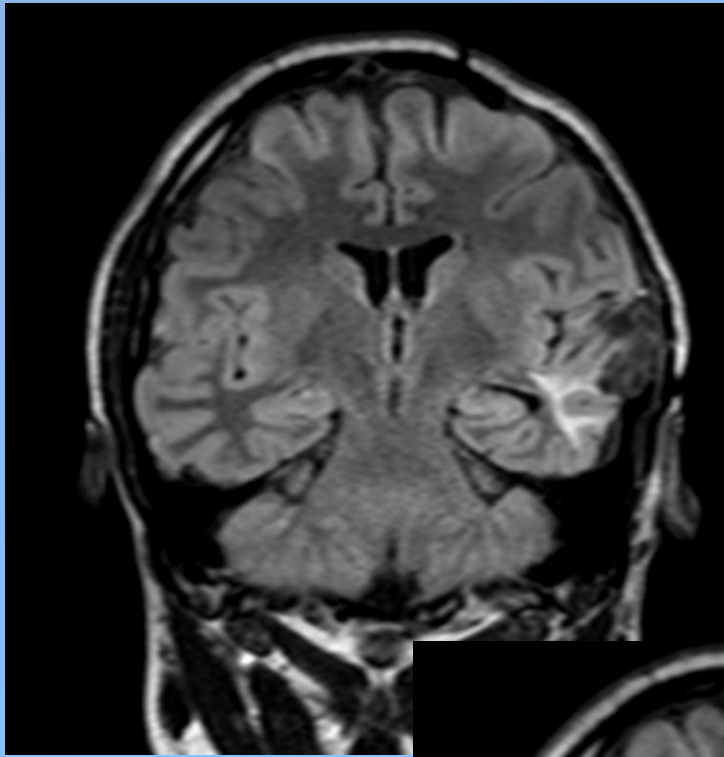
30 y/o man with (L) temporal PTE after fight

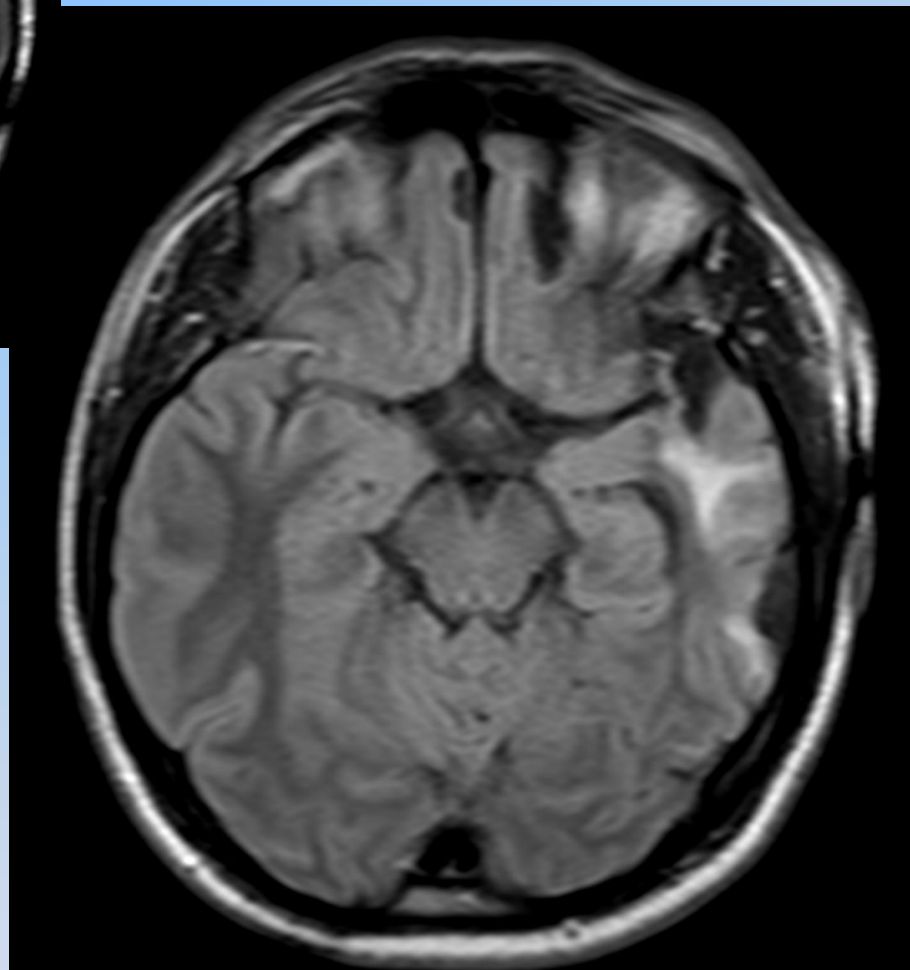
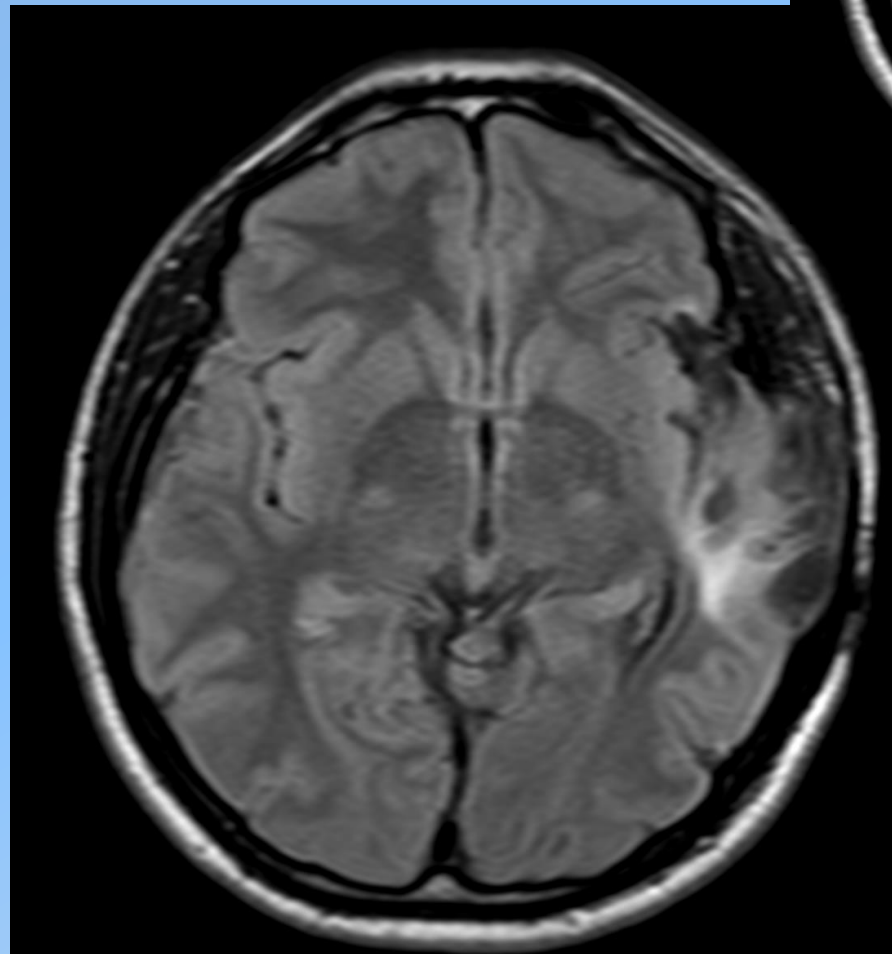
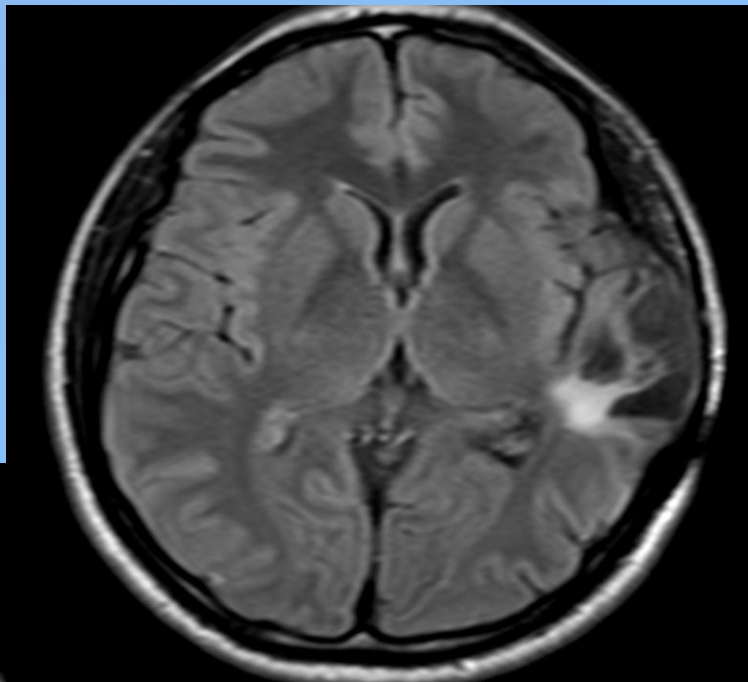


**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**

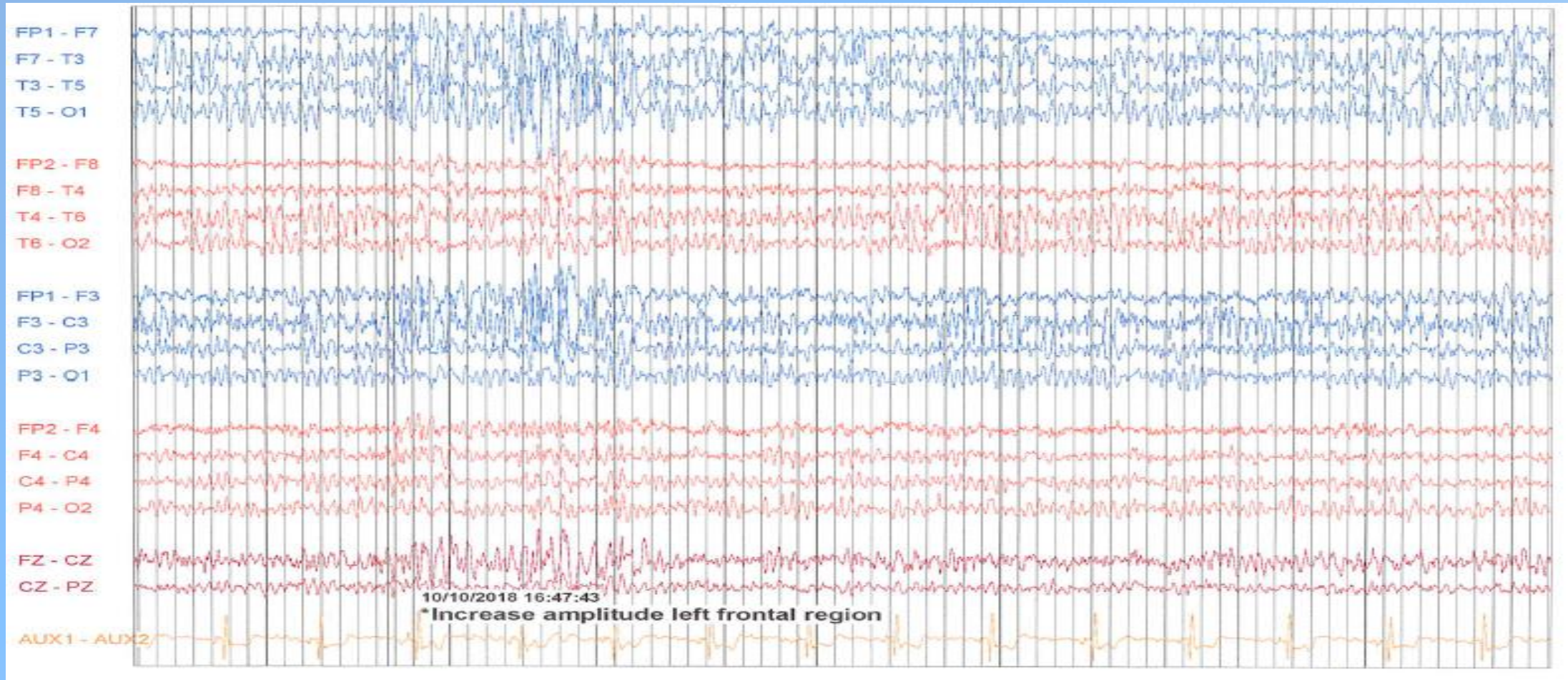


PUERTO RICO ★





Increase amplitude 2ry to skull defect



**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★



Present History

- 30 y/o right handed woman with history of seizures since 2004 after MVA with severe head trauma.
 - Pre-ictally: patient reported HAs
 - Ictally: dialepsis > right version > GTCSz.
 - (+) tongue bite, (+) urinary incontinence, (+) drooling
 - Post-ictally: patients feels tired, unable to speech and with palpitations.
- Duration 1-2 minutes, occurs awake and sleep
- Of note events are exacerbated stress + anxiety and non compliance of AED
- Status Epilepticus present = yes
- AED: Keppra and Zonisamide

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Physical Exam

- General exam: bradyphrenia, slow cognition
- Neurological exam: non-focal deficits

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Epilepsy Classification

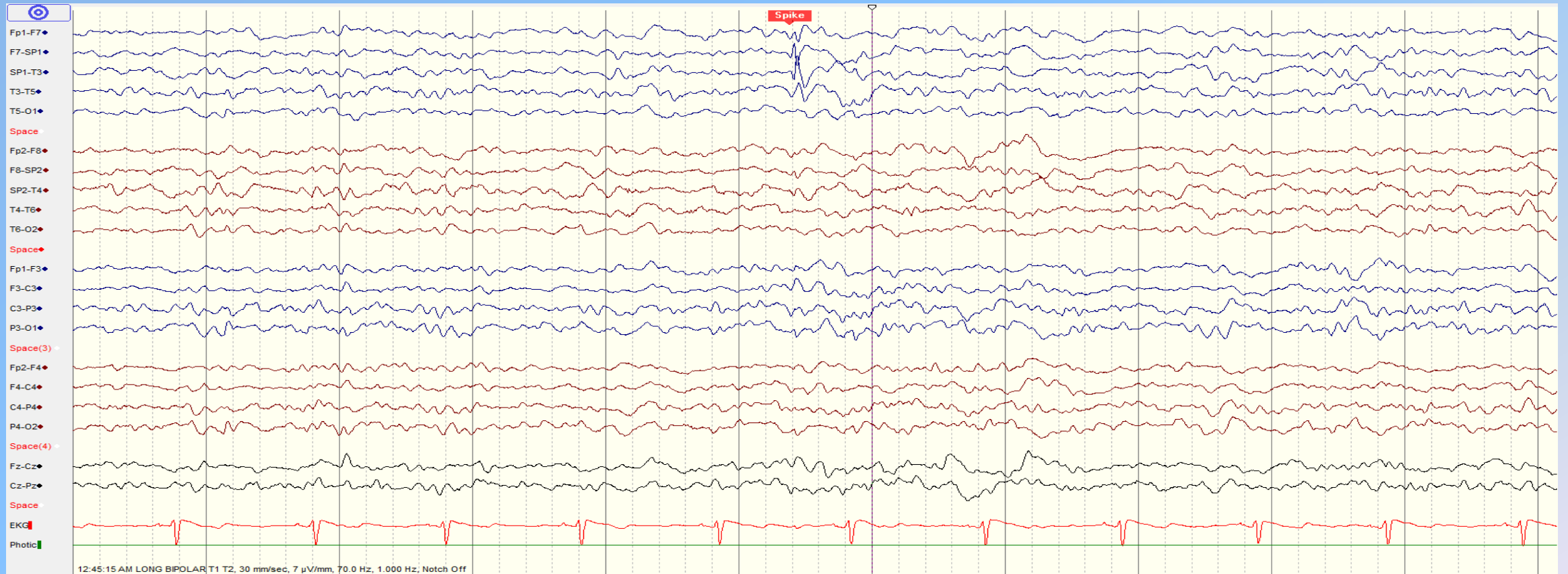
- **Epileptogenic Zone:** Left temporal lobe
- **Semiology:**
 - Oral automatisms > Dialepsis > right version > generalized tonic-clonic seizure
 - **Onset:** 2004 (post-traumatic)
 - **Frequency:** 1-2 monthly GTCSz, cluster of 4-6 GTCSz some days
- **Etiology:** left lateral temporal encephalomalacia
- **Related Medical Conditions:** intractable HA, amnesia

**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO 

Interictal activity Sphenoidal 1

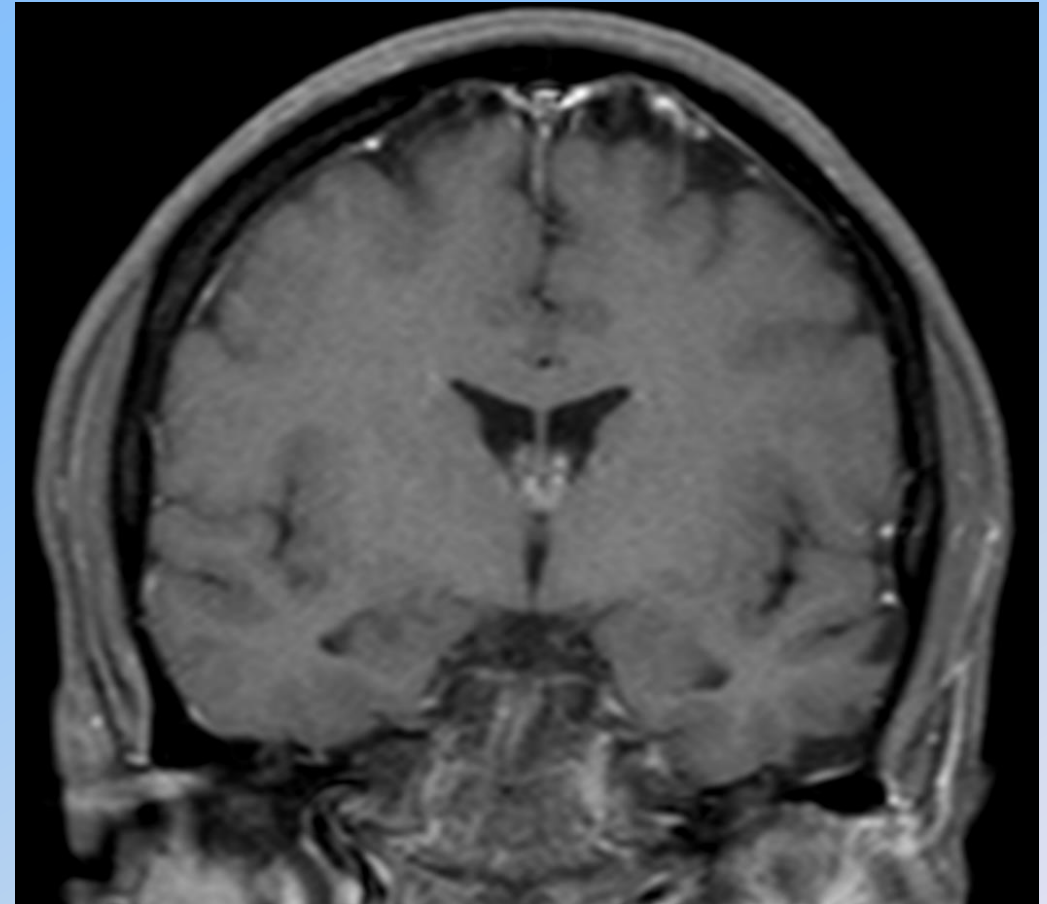
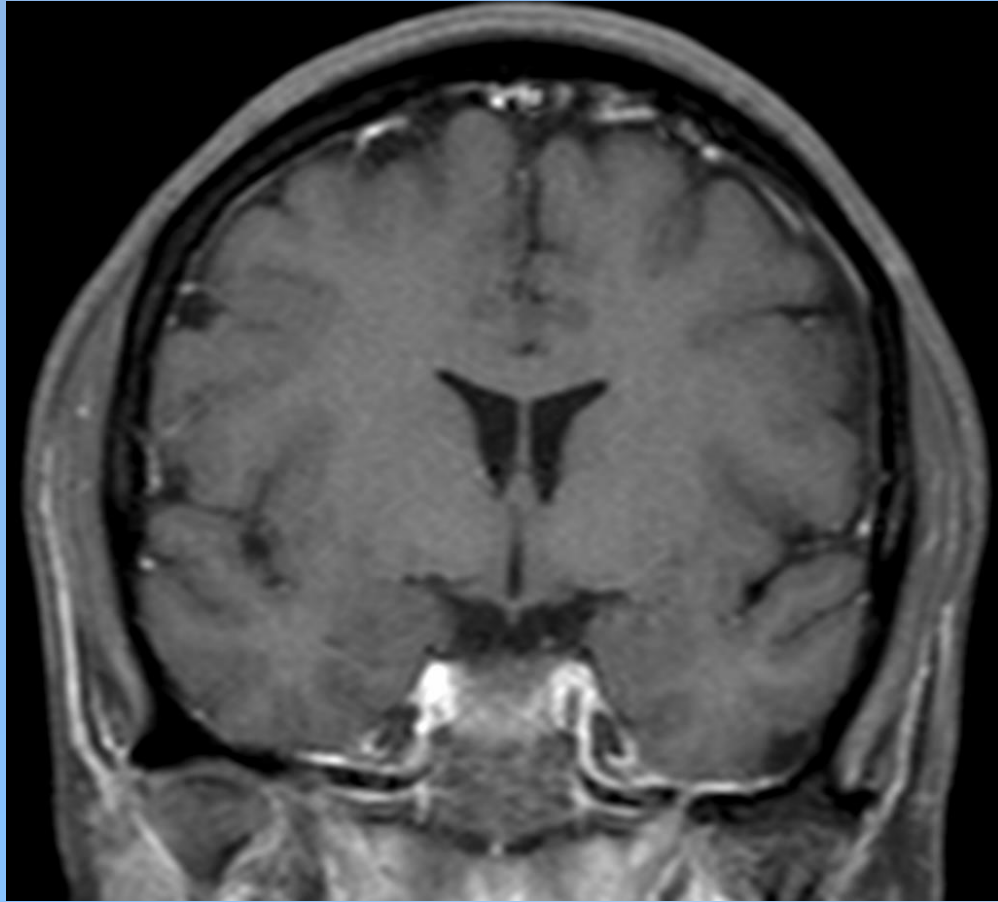


**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

Initially this MRI was read as normal

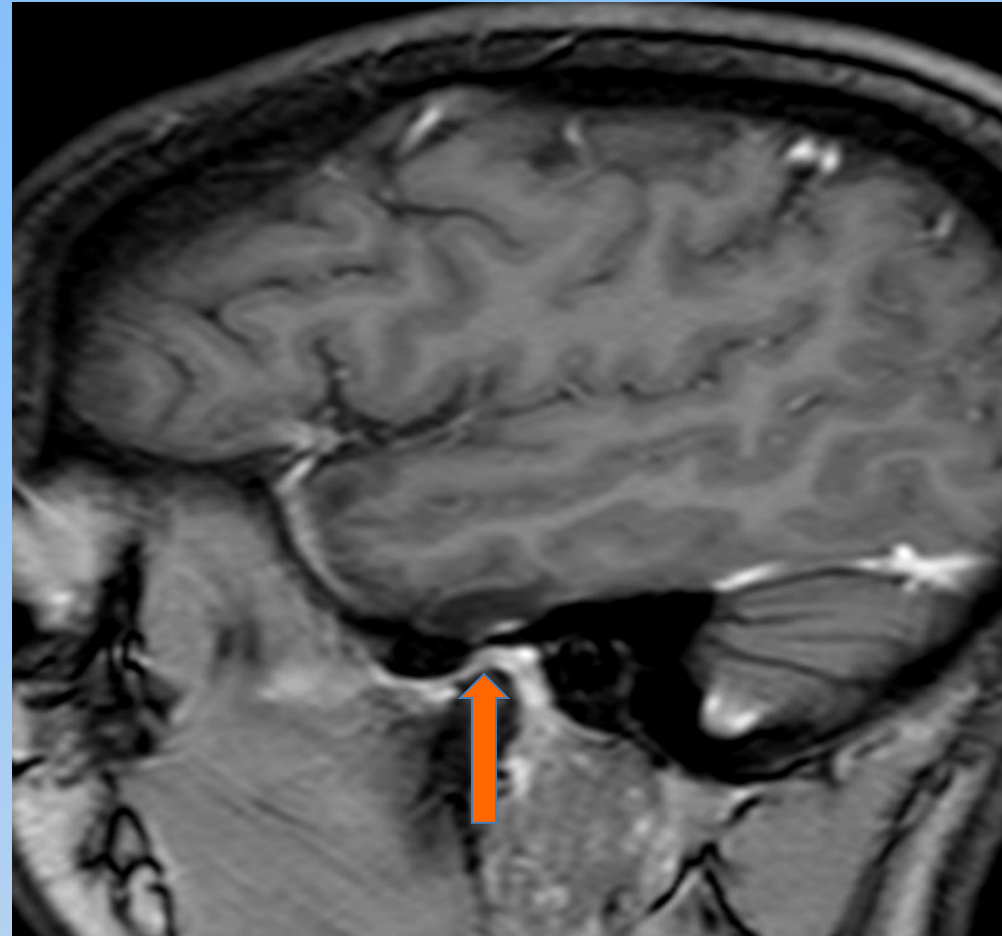
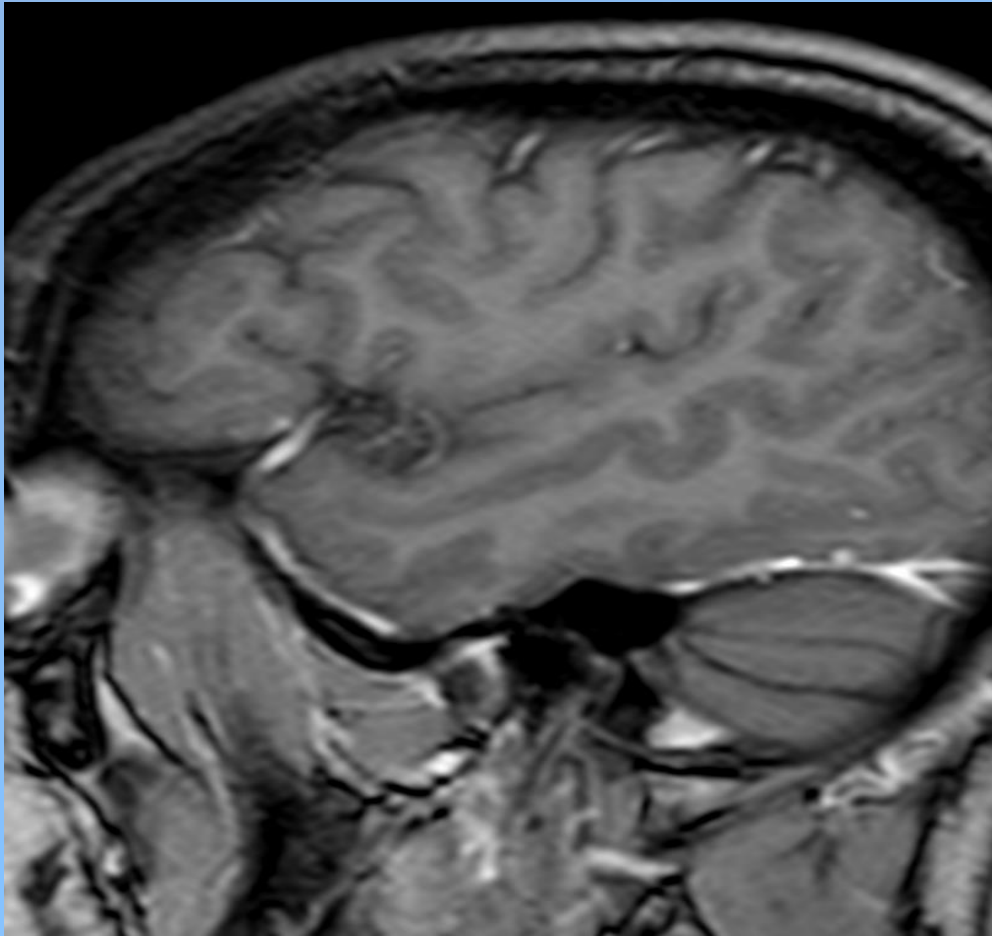


**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

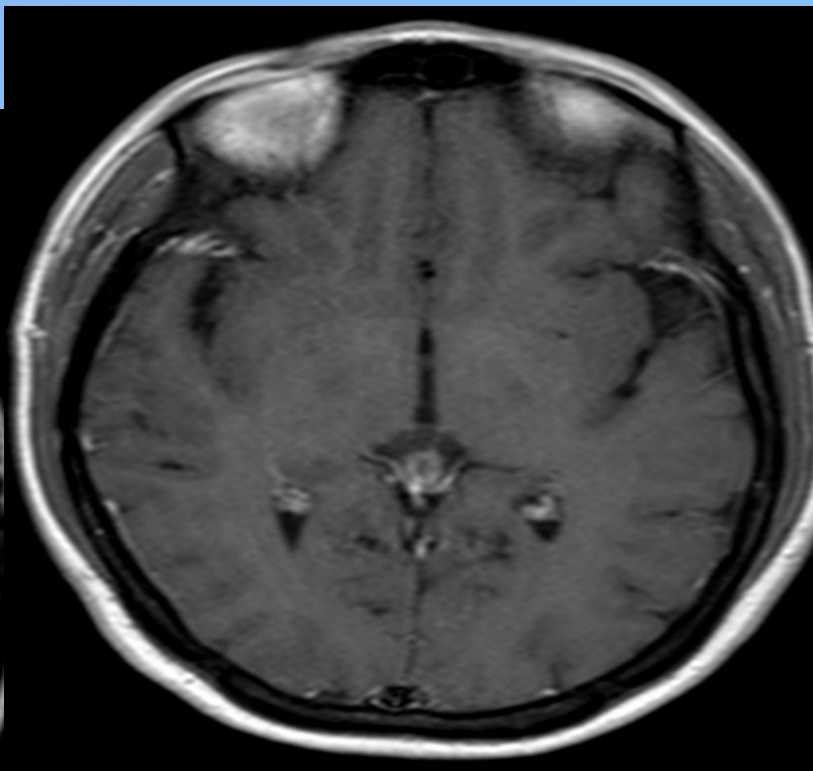
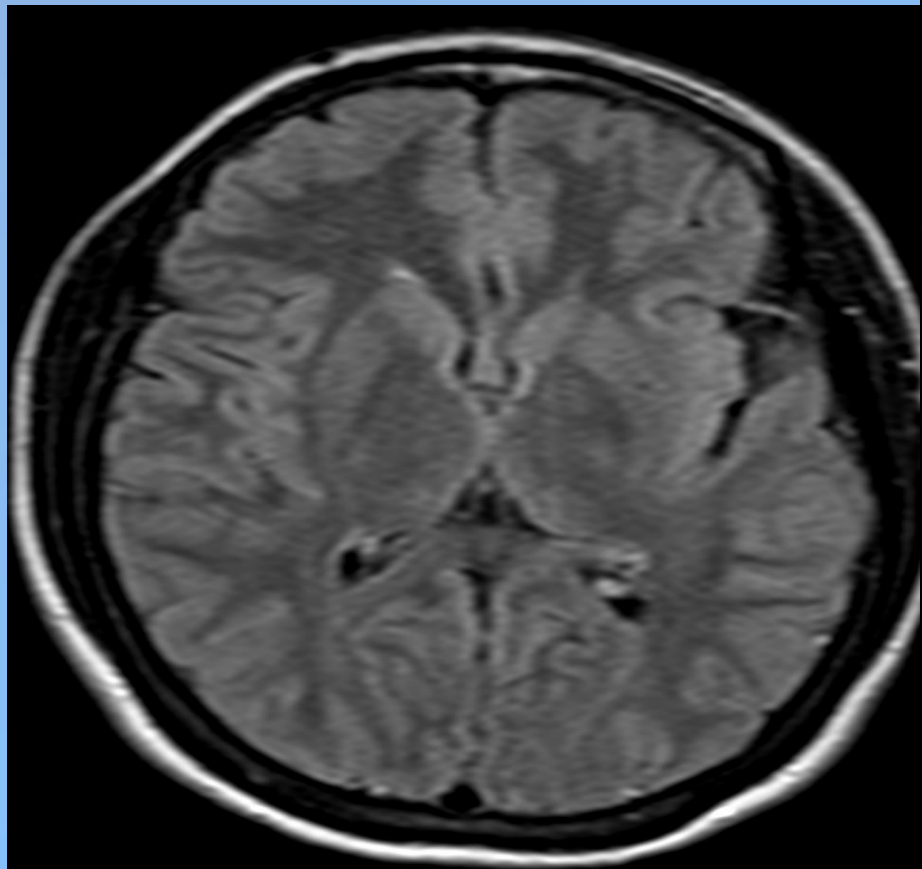
Parasagittal (R) vs. (L) temporal lobe



**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

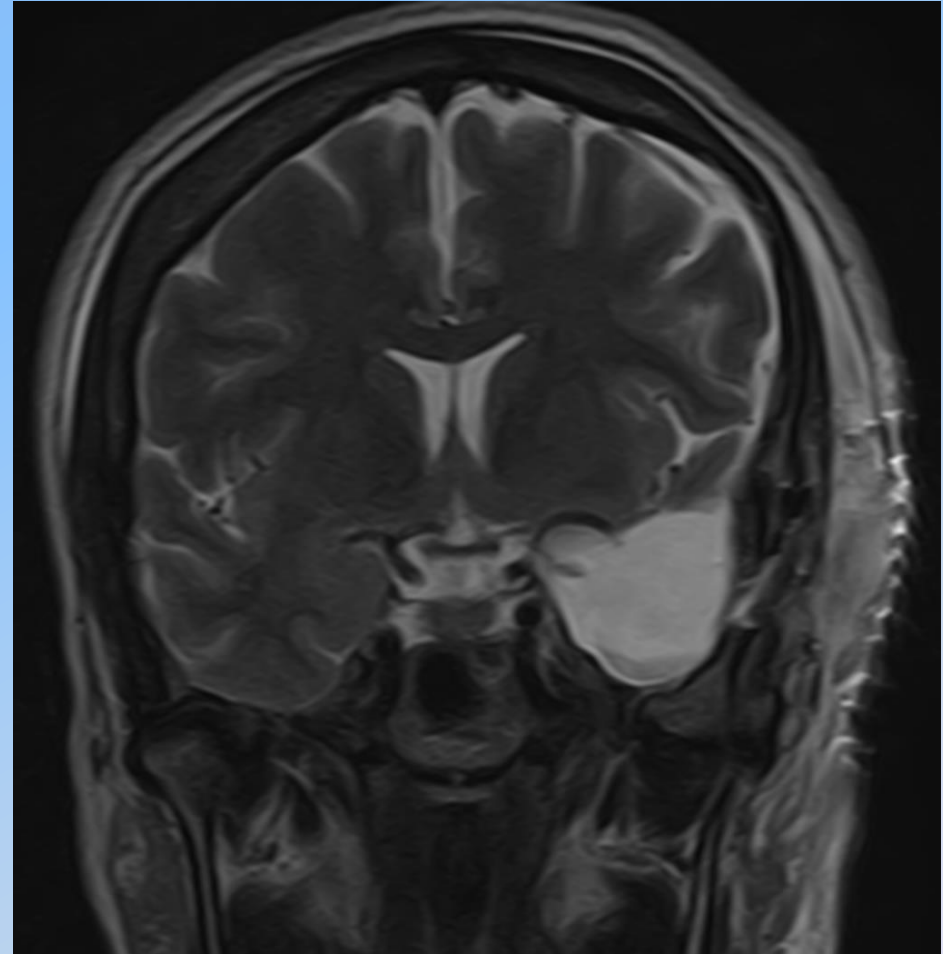
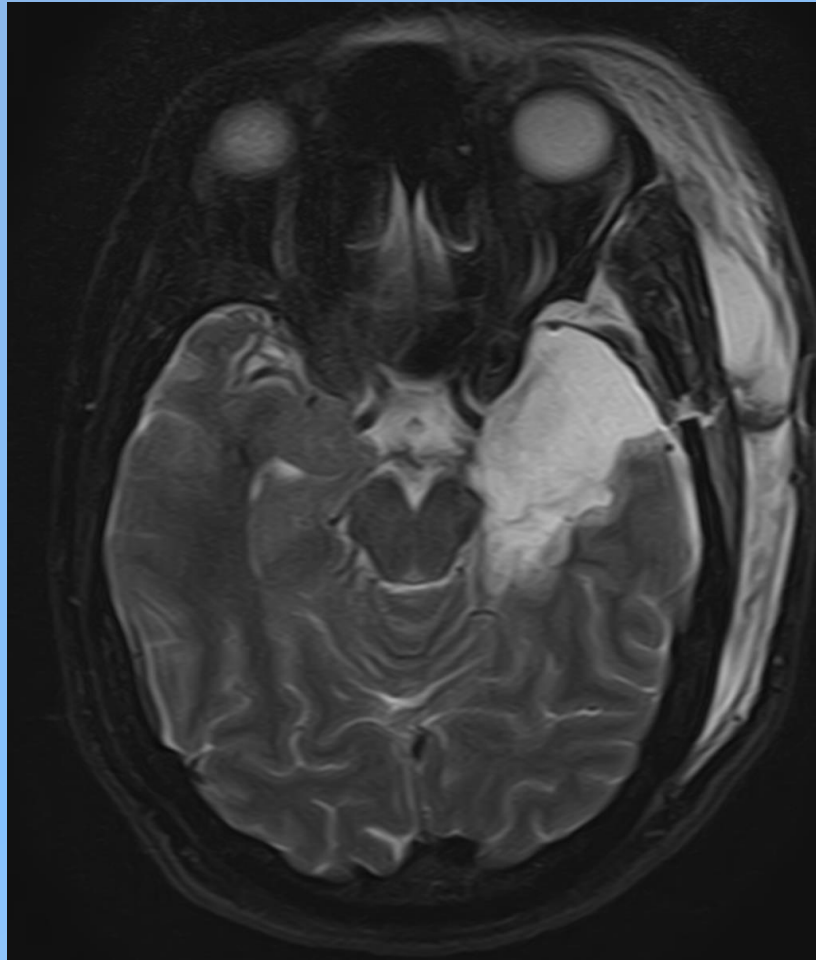


**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

Post Left Anterior Temporal Lobectomy 4/20/18



**ASN 42ND ANNUAL MEETING
JANUARY 24-26, 2019**



PUERTO RICO ★

Questions???

Goalandia - San
Sebastian

