

# Treatment of Post-ictal Psychosis in Medically Refractory Epilepsy Complicated by Takotsubo Cardiomyopathy and Myocardial Infarction: A Case Report

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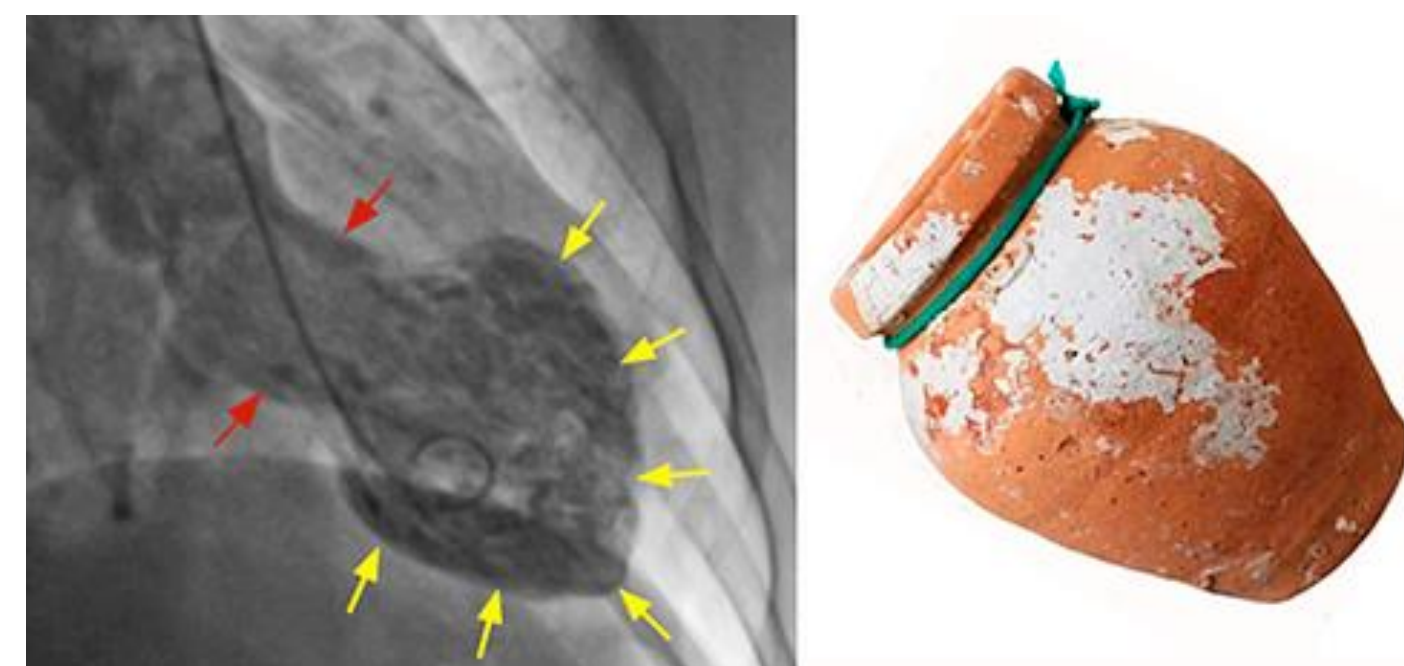
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## Introduction

- Those with epilepsy have an almost eight-fold increased risk of psychosis (1).
- Though anti-seizure medications (ASMs) may help prevent seizures and peri-ictal psychosis, some can exacerbate neuropsychiatric symptoms.
- Here we report a case of a patient with medically refractory epilepsy and comorbid cardiac illness in which the psychiatry service assisted in treatment of post-ictal psychosis in anticipation of surgical interventions for epilepsy.

## Case Presentation

- Mr. M is a 44M with medically refractory epilepsy following 3 head injuries at age 20 complicated by: impulsivity, depression, irritability, neurocognitive deficits, exacerbation of cluster A personality traits.
- At age 24: began experiencing recurrent nocturnal seizures followed by sudden aggression, occurred every 2-16 weeks despite ASMs.
- Episodes involved property destruction (ripping door off its hinges), paranoid delusions, visions of dead bodies falling from the sky, leaving home and running for miles down a road, and suicidality with multiple hospitalizations.
- At age 41: hospitalized for seizures, agitation, and seizure-associated Takotsubo cardiomyopathy. Received haloperidol, then developed V-tach and a STEMI.
- We were consulted for management of psychosis prior to implantation of an intracranial responsive neurostimulation (RNS) for epilepsy.
- Though he had been diagnosed with schizophrenia, our review of collateral revealed no evidence of persistent interictal psychotic symptoms.
- We diagnosed Mr. M with post-ictal psychosis, TBI, and cluster A traits. We recommended aripiprazole 10mg daily and a switch from zonisamide to an ASM with fewer neuropsychiatric side effects.
- We anticipated high risk of post-ictal psychosis during his Phase II intracranial EEG study (as ASMs would be held): recommended olanzapine 5mg BID and clonazepam BID with cardiac monitoring while hospitalized for this study.
- He completed his intracranial EEG study and an RNS device was then successfully implanted. He briefly received dexmedetomidine for post-surgical agitation.
- Current outpatient regimen: aripiprazole, eslicarbazepine, clobazam, valproate.



Takotsubo Cardiomyopathy (2)

### Age 20

Sustains repeated head injuries including two motor vehicle accidents

### Age 24

Onset of nocturnal seizures with new episodes of paranoia, hallucinations, and impulsive, erratic behaviors

### Ages 24-40

Multiple hospital admissions for psychosis, agitation, and SI, including one suicide attempt at age 32

### Age 41

Found to have seizure-associated Takotsubo cardiomyopathy, receives haloperidol for psychosis, then develops VT and a STEMI

### Age 43

Evaluated by psychiatry, diagnosed with post-ictal psychosis and transitioned to eslicarbazepine and aripiprazole

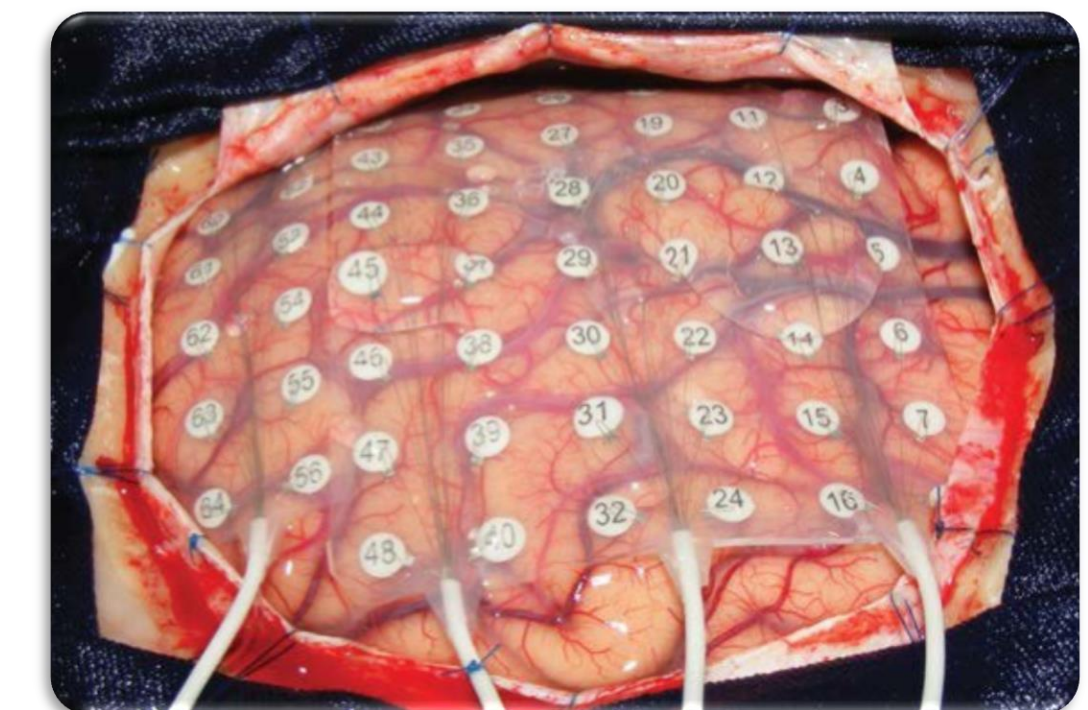
## ASM Risk of Psychiatric and Behavioral Side Effects (3)

*Agents with trend but not statistical significance are italicized*

Highest Risk	Average Risk	Lower Risk
Levetiracetam	Felbamate	Carbamazepine
Zonisamide	Phenobarbital	Clobazam
<i>Tiagabine</i>	Primidone	Gabapentin
	Rufinamide	Lamotrigine
	Topiramate	Oxcarbazepine
	Vigabatrin	Phenytoin
		Valproate
		<i>Lacosamide</i>
		<i>Pregabalin</i>

## Discussion

- Differentiating between schizophrenia and post-ictal psychosis in this individual with frequent and treatment-refractory seizures was essential in guiding management.
- Involvement of collateral contacts is essential when assessing individuals such as Mr. M with neurocognitive impairment.
- There is a paucity of evidence regarding neuroleptic use for psychosis in epilepsy (4). Aripiprazole was chosen due to low risk of QT-prolongation (haloperidol was implicated in the patient's V-tach and STEMI).
- Long-term neuroleptic treatment may help patients with high morbidity from psychosis related to refractory epilepsy. Neuroleptics that significantly reduce the seizure threshold should be avoided.
- In patients with peri-ictal psychosis and mood symptoms, ASMs with fewer neuropsychiatric side effects should be favored. This motivated the switch from zonisamide to eslicarbazepine in this patient.
- It is important to anticipate the emergence of psychosis following antiepileptic reduction or discontinuation during invasive EEG monitoring.



Intracranial EEG Study (5)

## Acknowledgments

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