

# Delirium Tremens Induced Posterior Reversible Encephalopathy Syndrome

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## Introduction

Posterior reversible encephalopathy syndrome (PRES) is a neurological disorder that presents with symptoms ranging from headaches to seizures, and often induced by cerebral vasogenic edema secondary to hypertension. We describe a case of PRES precipitated by delirium tremens.

## Case Description

- A 42-year-old male with a history of alcohol use disorder and hypertension was admitted for acute alcohol withdrawal. On his fourth hospitalization day, he developed delirium tremens followed by a hypertensive crisis with blood pressures reaching to 190/130 mmHg. Physical exam was significant for diplopia, dysmetria and gait ataxia, without altered mental status. Labs were unremarkable.
- Head computed tomography (CT) without contrast and brain magnetic resonance imaging (MRI) were done (**Figures 1-3**). They revealed extensive bilateral cerebral edema involving the occipital, parietal, posterior temporal, and posterior frontal lobes, with bilateral petechial hemorrhagic foci and left occipital subacute parenchymal hemorrhage.

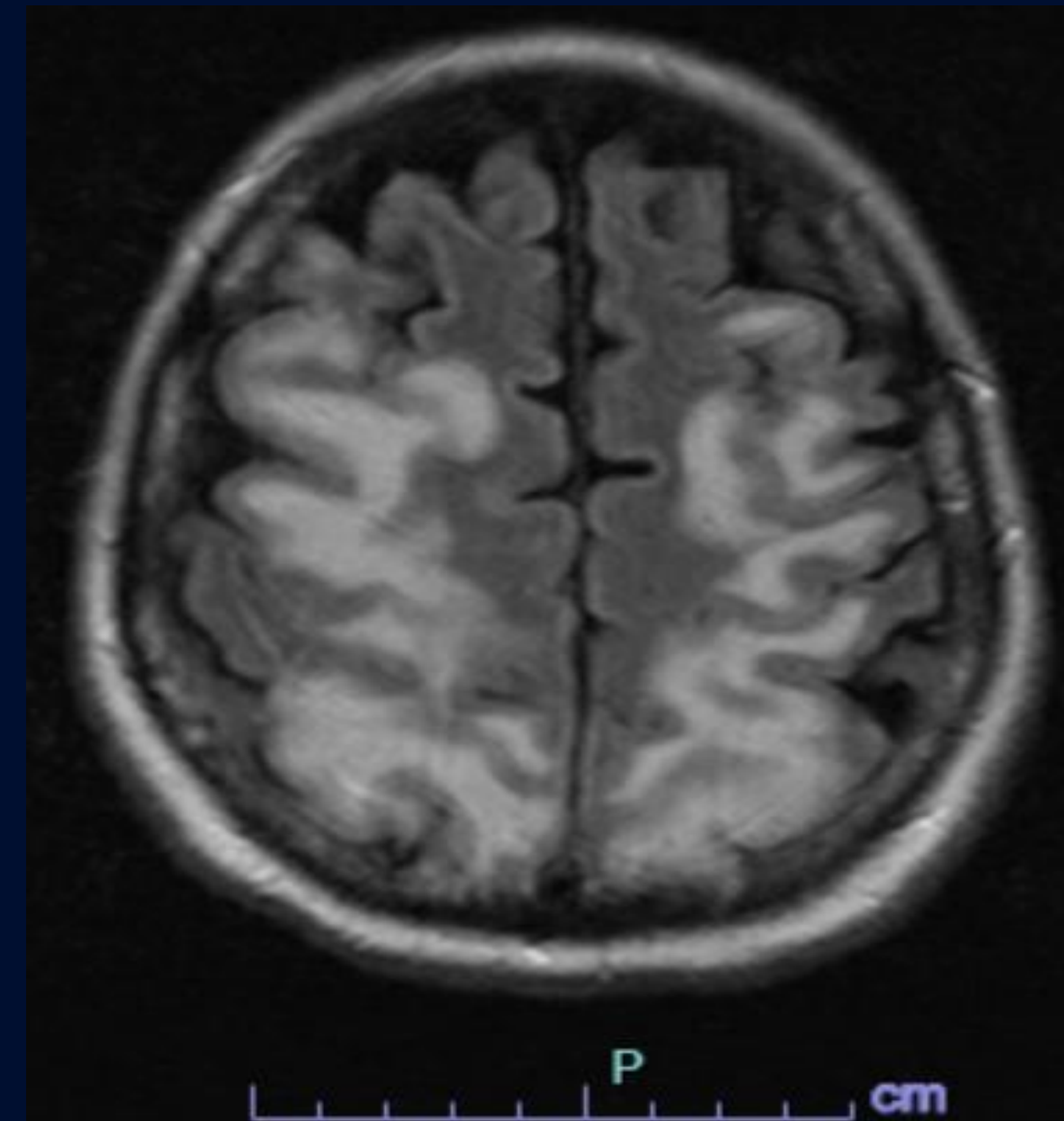


Figure 1

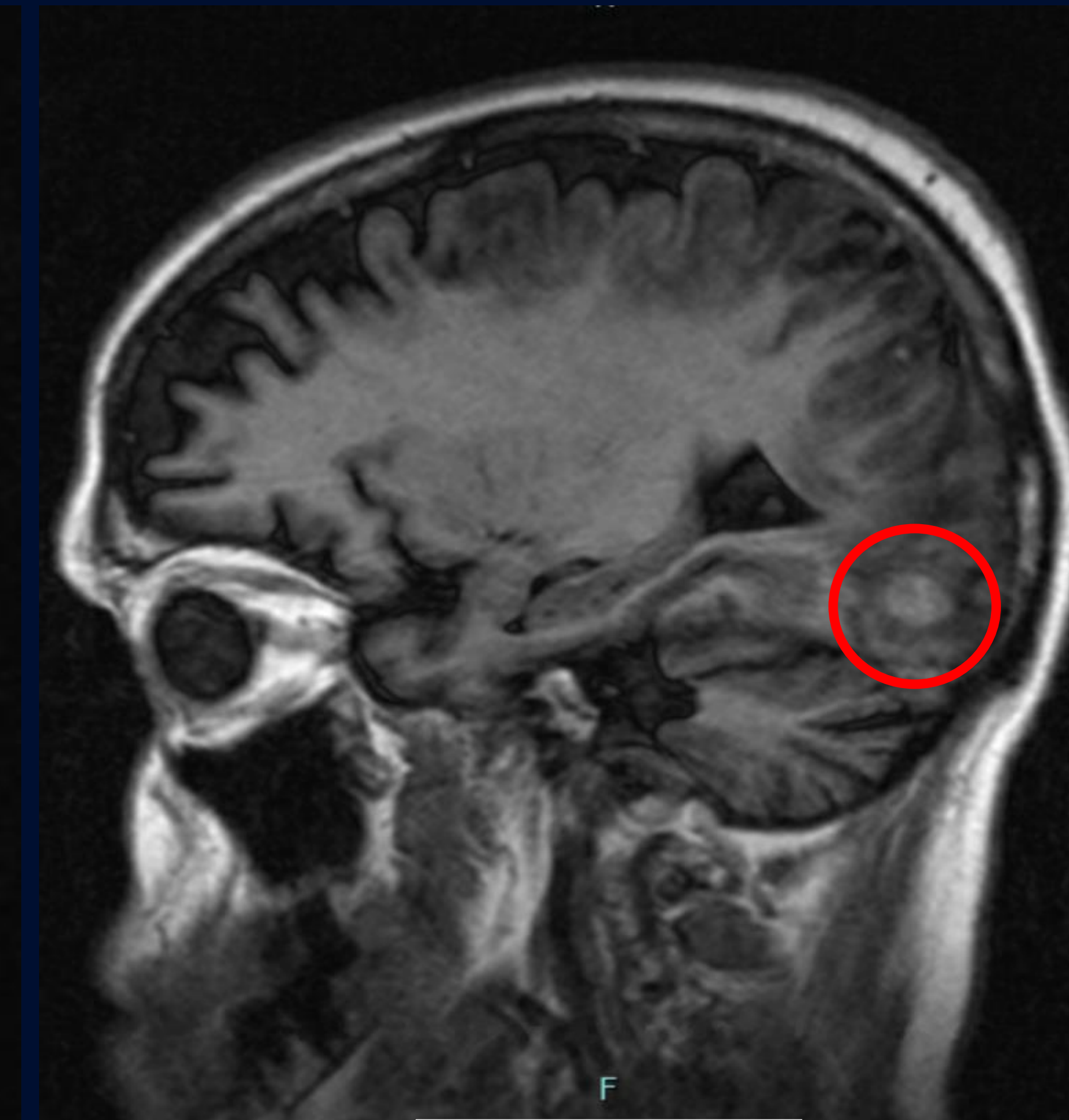


Figure 2

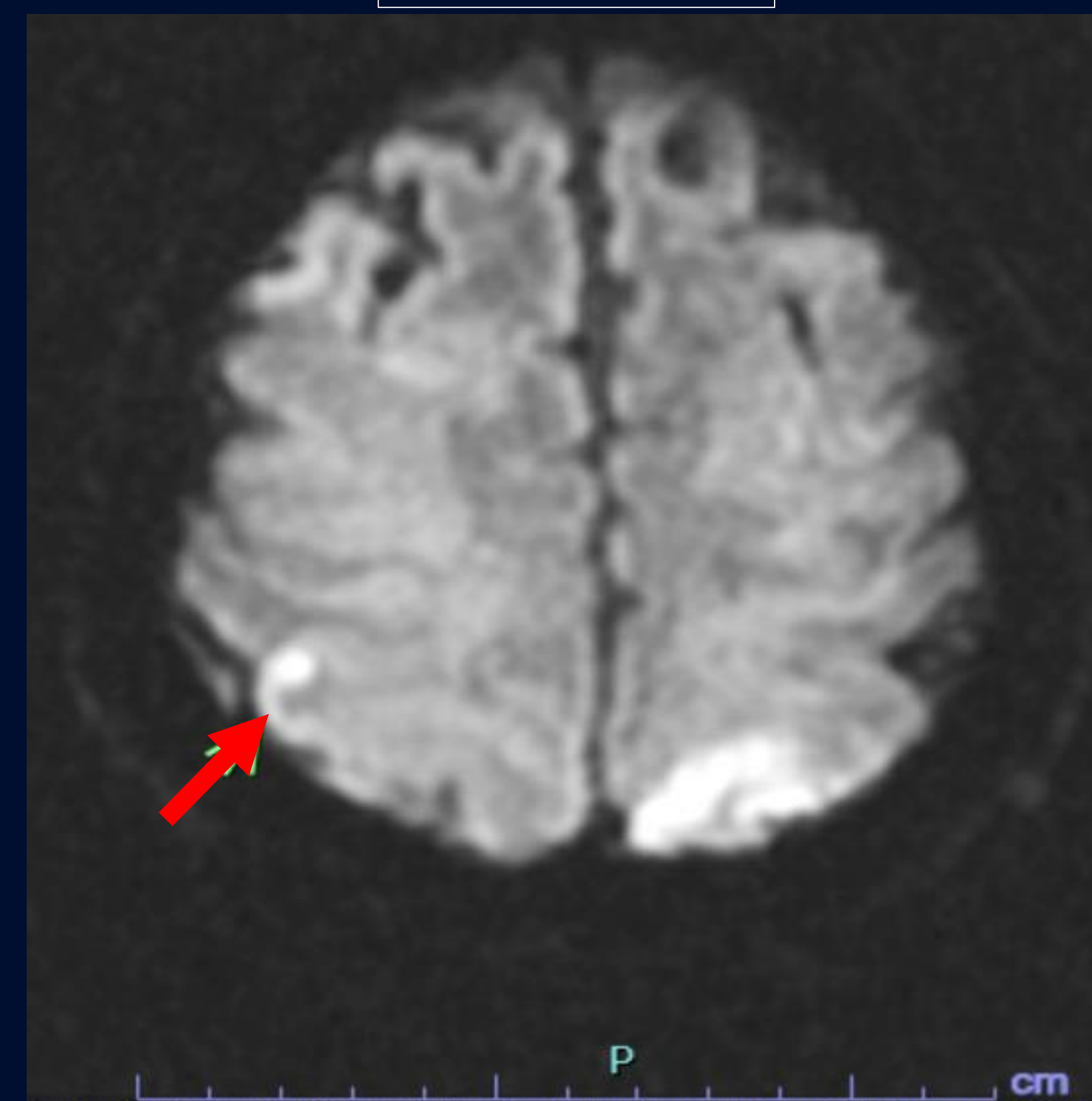


Figure 3A



Figure 3B

**Fig 1. Diffuse bilateral cerebral edema of the occipital, parietal, posterior temporal, and posterior frontal lobes. Fig 2. Left occipital subacute parenchymal hemorrhage. Fig 3A, 3B. Bilateral parietal petechial hemorrhagic foci.**

## Case Resolution

- These findings are consistent with **massive PRES with infarction and hemorrhagic conversion**. His diplopia, dysmetria and ataxia were secondary to cortical blindness and right visual field cut off due to left occipital hemorrhage.
- Blood pressure was gradually controlled to be less than 140/90 mmHg, which subsequently resulted in significant improvement in his neurological status. Soon, he was stable to be discharged home with antihypertensive medication and a plan to follow up with an MRI in three weeks.

## Discussion

- PRES can develop in the setting of high blood pressures secondary to the hyperadrenergic state of delirium tremens leading to cortical edema (mainly in the posterior cortex), which usually presents with visual symptoms. Most cases resolve completely with blood pressure control over a few weeks. However, permanent neurological deficit can develop in cases with cerebral hemorrhage or infarction.
- **This case highlights the importance of timely recognition and management of PRES in alcohol withdrawal patients to prevent permanent damage.**