



# Post-traumatic Cluster Headache In A Patient With Migraines: Is There An Association?



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## Introduction

- Post-traumatic headache of migraine and tension-type variety is a well-known entity, whereas new onset of cluster headache after head injury is a rarely encountered phenomenon.
- We present a case of a patient who developed cluster headaches and subdural hematoma after head trauma, and the treatment options given the associated brain bleed.

- CT scan of head without IV contrast depicted subdural hematoma predominantly along the left frontal and parietal lobes with mild mass effect on the adjacent cerebral cortex without evidence of midline shift and focal left subarachnoid hemorrhage in the region of the lateral sulcus, with mild increased attenuation along the tentorium.
- On the 5th day, patient reported severe, episodic headache with left-sided eye pain lasting over 5 hours. Pain was unilateral, with conjunctival injection, photophobia and patient was extremely agitated, clutching his left eye. He reported this pain to be very different from his migraines.
- Acute angle closure glaucoma was ruled out and repeat CT scan of orbits and head was unremarkable for any acute change.
- Trial of 100% oxygen did not abort the episode. Pain resolved after he received multiple doses of hydromorphone.
- Over the next week, he continued to have similar episodes of pain, usually at night. Patient received one dose of sumatriptan which was not effective and was discontinued in the setting of subdural bleed and cardiac issues.
- He received topiramate for 2 days with little effect.
- Patient was then started on divalproex sodium 250 mg twice daily that appeared to decrease the episodes of cluster headache. Patient was discharged with follow up with Neurology after 17 days of hospital stay.

## Case Description

- A 57-year-old African American male with medical history of hypertension, migraine headaches, type II diabetes mellitus, coronary artery disease and combined heart failure presented with fall and trauma to head.

## Discussion

- Headache after head trauma is a frequently observed phenomenon, but management is nuanced if head trauma has resulted in contusions or bleeds.
- Headache may be resistant to regular treatment modalities as was observed in our patient. As sumatriptan is contraindicated in patients with history of ischemic cardiac events or stroke, fewer medications may be available to abort the episode of cluster headache when 100% oxygen is either unavailable or ineffective.
- In our case, topiramate and divalproex sodium were used along with opioids, with divalproex sodium eventually providing relief to the patient.
- It is vital to recognize symptoms in a post-traumatic patient as it can be easily confused with migraine and tension headaches. Further studies are required to understand the pathophysiological mechanisms of post-traumatic headache, so new targets of treatments may be identified.