

## “Alarm Clock” Headaches

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A 54-year-old Vietnamese male with a history of a subdural hematoma in 2004 with no neurological sequel and no other medical problems presented with complains of a new pattern of headache for the last 6 weeks. He mentions that the headaches wake him up around 01:00 to 01:30 persistently, as if woken by an “alarm clock.” The headaches last for 15 to 30 minutes and resolve on their own most of the time. The character of the headaches are mostly dull pressure-like or sometimes throbbing in nature, and these headaches are located mostly in the bilateral temporal region. There are no other associated features of photophobia, phonophobia, nausea, vomiting, unilateral tearing, or any nasal stuffiness with these headaches. He denies any headaches during the day. Once in the last 6 weeks he woke up for a second time with the same type of headache around 04:00. He denies any early morning headache or any exertion headache. The rest of his medical and psychiatric history is nonsignificant. He denies any other sleep

related problems, including insomnia, snoring or any witnessed apneas, or any discomfort in the legs. His family history is negative for migraine headaches. He did not have any history of trauma prior to the onset of these headaches.

On examination, his vital signs were within normal limits. His Mallampati score was 1, and his BMI was 25. He had a normal neurological and a general examination. Patient had good venous pulsation on fundoscopic examination, and there were no pretectal or long tract signs noted. The patient was sent for a MRI scan of the brain, which was normal.

**QUESTION:****What is the most likely cause of these headaches?**

- Exploding head syndrome
- Migraines
- Cluster headaches
- Hypnic headaches
- Recurrent subdural hematoma

**ANSWER: d. Hypnic headaches**

## DISCUSSION

The patient's history and clinical examination is most likely consistent with **hypnic** headaches. As per the diagnostic criteria, the short duration of the headache for less than 15 to 30 min (compared to the usual attack duration of 10-180 min) which awakens the patient at the same time every night with no other autonomic symptoms is consistent with the diagnosis of hypnic headaches.<sup>1</sup> There are no associated autonomic symptoms like unilateral tearing or any nasal congestion, as is seen with **cluster headaches**. Also the short duration of these headaches with no other associated symptoms of photophobia, phonophobia, nausea, vomiting does not fulfill the criteria of **migraines**. Migraines and cluster headaches generally have a predisposition to start in the REM period and sometimes in slow wave sleep.<sup>2,3</sup> Absence of past medical history of headaches (with or without any associated autonomic symptoms) makes these headaches less likely to be migraines or cluster headaches.

**Early morning headaches** are seen in patients with space-occupying lesions, such as brain tumors or chronic subdural hematoma, or even in patients with obstructive sleep apnea. As the patient had a history of subdural hematoma in the past, this new pattern of headache justified further work-up with an MRI of the brain. However, his headaches were very time-specific and occurred at the same time every night for a short duration (hence these headaches are also known as "alarm clock headaches").

**"Exploding head syndrome"** is a parasomnia in which patients experience a loud bang in their head, similar to a bomb exploding, which seems to originate from inside the head. This parasomnia mostly occurs at the onset of deep sleep and is not associated with any pain or swelling or any other physical trait, but sometimes is associated with bright light or shortness of breath.

Hypnic headaches are known to respond best to lithium. The mechanism of action of lithium is hypothesized to be related to increase in melatonin secretion. There are some case reports of topiramate being effective in resolving hypnic headaches.<sup>5</sup> Other medications used to treat

hypnic headaches with equivocal response include indomethacin, flunarizine (not available in US), and caffeine. Indomethacin has been suggested to be helpful if the hypnic headaches are unilateral.<sup>4</sup>

## CITATION

Ganguly G. "Alarm clock" headaches. *J Clin Sleep Med* 2011;7(6):681-682.

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## DISCLOSURE STATEMENT

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