

# Expert Opinion

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## Exploding Head Syndrome

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**Key words:** exploding head, falling asleep, noise

(*Headache* 2001;41:602-603)

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Unruly teenagers are not the only cause of terrifying loud noises which occur while falling asleep.

### CLINICAL HISTORY

A 43-year-old woman was seen with a 5-month history of a noise in her head. On an almost nightly basis, as she was falling asleep, she would hear a loud noise like “electrical current running” lasting a second. Sometimes her whole body would shake for a second afterwards. Very occasionally, she would have an associated flash of light. Frequently, a second episode of the loud noise would occur shortly after the first. She could then fall asleep without any problem.

Her past medical history was positive only for hypertension controlled with medication. Neurological examination was normal. Diagnostic testing was not performed.

**Questions.**—What is the diagnosis?

### EXPERT COMMENTARY

This description of a momentary loud noise on falling asleep is characteristic of the disorder I named the *exploding head syndrome*.<sup>1</sup> This harmless but alarming condition is common, but reported by patients only rarely. It occurs only in the twilight stages of sleep, when falling asleep or, less often, on awakening. It is usually a terrifyingly loud noise, lasting for a split second. There are no accompaniments other than the acute anxiety and palpitations that succeed

it. In some patients, myoclonic jerks of the limbs or a visual flash of lightning accompany the sound, as in this instance.<sup>2</sup>

Weir Mitchell may have been describing this phenomenon when referring to “sensory shocks . . . a feeling of rending . . . a bolt driven through the head.”<sup>3</sup> Armstrong-Jones described a frequent complaint of a sudden crash or noise as if something had given way in the brain.<sup>4</sup> Oswald described “a flash of light accompanied by a violent bang” with “a sense of alarm, together with a cold sweat, laboured [sic] breathing and tachycardia.”<sup>5</sup>

The dramatic nature is evident in patients’ words: “an enormous roar, so loud it could kill me”; some, however, say that it can be mild and infrequent. The terror induced is often the most worrying feature, until some degree of acceptance is achieved after many years in which they have maintained good health. Preceding events are generally unremarkable, but some have noted attacks to start and to recur when they were under personal stress or tired and overworked.

The onset is variable; some start in childhood, but no decade is spared. However, the most common age of onset is in middle and old age. The pattern of episodes of explosions is also variable. Some report two to four attacks followed by prolonged or total remission; others have more frequent attacks, up to seven in 1 night for several nights each week, and may then remit for several months, for reasons largely unknown. Some sufferers describe associated symptoms. About 10% report a simultaneous flash of light; 5% report a curious sensation as if they had

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stopped breathing and had to make a deliberate effort to breathe again—"an uncomfortable gasp."

The condition is physiological. Investigations for a causative cerebral lesion are invariably fruitless and unnecessary. The most important aspect is to reassure the sufferer that it is a well-recognized and characteristic symptom and that it is totally harmless. Drug treatment is not indicated.

As we fall asleep, the neuronal activity in the brain stem reticular formation subsides. This, in turn, switches off the motor, sensory, visual, and auditory parts of the cerebral hemispheres. The basis of the exploding head syndrome is postulated to be a delay in selected areas of the reticular formation in switching off, and a paroxysm of neuronal activity is mani-

fest by these alarming experiences, be they myoclonus, loud noise, or a flash of light.

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