



## Exploding Head Syndrome: A Case Report

Muhannad Hawari\* and Fayeze Al-Ahmadi

Department of Medicine, King Faisal Specialist Hospital and Research Center, Saudi Arabia

### Abstract

Exploding Head Syndrome (EHS) is a rare type of a group of sleep disorders called parasomnias. It is characterized by the perception of a sudden loud noise in the head as the patient is falling asleep or awakening from sleep. The sound is described as a painless loud bang, an explosion, or a bomb exploding but can be a less alarming sound. We report a 60 years old lady with EHS describing this disorder and the assessment and management of it.

### Introduction

Exploding Head Syndrome (EHS) is characterized by the perception of a sudden loud noise in the head as the patient is falling asleep or awakening from sleep [1,2]. The sound is described as a painless loud bang, an explosion, or a bomb [3]. It is classified as a type of parasomnia in the International Classification of Sleep Disorders (ICSD) 3<sup>rd</sup> edition and its pathophysiology is still unclear [3,4]. Armstrong-Jones first described it in 1920 [5]. Pearce coined the term exploding head syndrome in 1989 in a paper in which he described 40 patients with EHS [1].

### Case Presentation

We report this 60 years old lady known to have hypertension and dyslipidemia who presented complaining of poor quality of sleep for 2 years. Her sleep schedule was suggestive of a total sleep time of 7 h per night with usually a regular sleep-wake schedule. Her sleep environment and habits of sleep were not suggestive of anything to cause sleep disruption. She had history of snoring but no symptoms of restless leg syndrome or insomnia. She has no excessive daytime sleepiness (Epworth sleepiness scale was 4/24) and no symptoms to suggest an underlying neurological, psychiatric or medical disorders.

She reports episodes of waking up at night with a loud sound in her head, which she could not describe. The best description she was able to provide was “a loud sound as if blood is gushing through my head”. It lasts for minutes and resolves spontaneously. It causes frequent awakenings at night and sometimes she could not go to sleep. It was causing significant distress.

### Discussion

Exploding Head Syndrome (EHS) is characterized by the perception of a sudden loud noise in the head as the patient is falling asleep or awakening from sleep [1,2]. The sound is described as a painless loud bang, an explosion, or a bomb exploding but can be a less alarming sound [3]. Occasionally; it is accompanied by the sensation of a flash of light.

Although these attacks themselves are usually not painful, it is reported that EHS attacks may precede migraine as auras. EHS is classified as a type of parasomnia in the International Classification of Sleep Disorders (ICSD) 3<sup>rd</sup> edition and its pathophysiology is still unclear [3,4]. It was first described by Armstrong-Jones in 1920 [5]. The term exploding head syndrome was coined by Pearce in 1989 in a paper in which he described 40 patients with EHS [1]. It is thought to be a migrainous phenomenon [1,6]. There have been different descriptions of the noise which include the sound of an explosion, gunshot, door slamming, roar, waves crashing against rocks, loud voices, a ringing noise, a terrific bang on a tin tray, or the sound of an electrical buzzing. In some cases, an instant flash of what is perceived as video ‘static’ is reported both audibly and visually for a fraction of a second [1,7]. It arises from the transition between different sleep stages and disappears completely when awake, although it may recur on further sleep attempts [7]. There is no actual headache or persistent pain, but some patients may experience a brief, mild jab-like sensation.

Although EHS has been reported in patients as young as 10 years, the age of onset is usually after age 50 and the condition has a slight female preponderance. The attacks occur with variable frequency for a few weeks or months. Attacks can be one-time events or can recur with attacks

### OPEN ACCESS

#### \*Correspondence:

Muhannad Hawari, Department of Medicine, King Faisal Specialist Hospital and Research Center, Zahrawi St, Al Maather, Riyadh, 12713, Saudi Arabia, Tel: 966504420248; E-mail: MHawari@kfshrc.edu.sa

Received Date: 22 Apr 2019

Accepted Date: 15 May 2019

Published Date: 20 May 2019

#### Citation:

Hawari M, Al-Ahmadi F. Exploding Head Syndrome: A Case Report. *Ann Clin Case Rep.* 2019; 4: 1658.

ISSN: 2474-1655

Copyright © 2019 Muhannad Hawari. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

increasing or decreasing over time, sometimes with no incidents over long periods of time [1,7,8]. The cause of EHS is unknown; however some possibilities include a sudden movement of a middle ear component or the Eustachian tube, or a brief temporal lobe complex partial seizure [9]. It may be related to emotional tenseness, as some patients report a stressful life situation in periods' when attacks were intense and frequent [8]. There have been reports that the events might occur during stage N1 and N2 and maybe proceeded by respiratory events [4].

It is thought to be a benign phenomenon and reassurance is usually needed. Pharmacological options include calcium channel blockers like nifedipine [10] or flunarizine [11], topiramate [6] and clomipramine. All have been found to be effective in reducing the frequency or resolution of the EHS symptoms.

## References

1. Pearce JM. Clinical features of the exploding head syndrome. *J Neurol Neurosurg Psychiatry*. 1989;52(7):907-10.
2. John A Fleetham, Jonathan AE Fleming. Parasomnias. *CMAJ*. 2014;186(8):E273-80.
3. Michael J Sateia. International classification of sleep disorders- Third edition. 2014;146(5):1387-94.
4. Okura M, Miura R, Inoue M, Taniguchi M, Ohi M. Polysomnographic findings in five patients with exploding head syndrome. *Sleep*. 2017;40(1):A273.
5. Armstrong-Jones R. Snapping of the brain. *The Lancet*. 1920;196(5066):720.
6. Palikh GM, Vaughn BV. Topiramate responsive exploding head syndrome. *J Clin Sleep Med*. 2010;6(4):382-3.
7. Ganguly G, Mridha B, Khan A, Rison RA. Exploding head syndrome: a case report. *Case Rep Neurol*. 2013;5(1):14-7.
8. Sachs C, Svanborg E. The exploding head syndrome: polysomnographic recordings and therapeutic suggestions. *Sleep*. 1991;14(3):263-6.
9. American Sleep Association: Exploding head syndrome.
10. Jacome DE. Exploding head syndrome and idiopathic stabbing headache relieved by nifedipine. *Cephalalgia*. 2001;21(5):617-8.
11. Chakravarty A. Exploding head syndrome: report of two new cases. *Cephalalgia*. 2008;28(4):399-400.