

Headache Associated with Sexual Activity in Children-Rare Presentation of Idiopathic Intracranial Hypertension

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Abstract

Headache with sexual activity has been classified as a primary benign headache in adults. Raised intracranial pressure remains on the differential for these headaches. These two cases reported here are rare presentations of idiopathic intracranial hypertension that presented with post coital headaches in young teenagers. Headache with sexual activity is rare in children and should be a diagnosis of exclusion. Raised intracranial pressure should be considered as a possible etiology in addition to looking for identifiable causes on imaging.

Keywords: Headache • Sexual activity • Benign • Intracranial pressure

Introduction

Headaches associated around sexual activity has been described since early 19th century. Hippocrates described it as the “immoderate venery” [1]. It was more that a century later that these headaches were formally described and published in the literature [2,3]. In present times, these headaches have been known by many different names. To quote a few, benign headache associated with sexual activity, benign coital headaches, coital/orgasmic cephalgia, coital thunderclap headaches. In 2004 the international headache society classified these headaches as a distinct type of primary headaches, primary Headache associate with Sexual Activity (HSA) [4]. This type of headache is typically sudden onset precipitated by sexual activity (coitus or masturbation) in the absence of an intracranial pathology. The typical presentation is in middle aged adults, more common in males compared to females. They are often severe and extremely alarming. Primary HSA is a diagnosis of exclusion and the first episode requires thorough evaluation to rule out ruptured aneurysm, subarachnoid hemorrhage, intraparenchymal hemorrhage, pituitary apoplexy, intracranial artery dissection, sinus venous thrombosis and intracranial hyper or hypotension [5,6]. HSA have been reported with intracranial hypertension secondary to space occupying lesion [5]. Our patients were unique since these headaches were a presenting symptom of pseudotumor cerebri (Idiopathic intracranial hypertension) in young adolescents, which per our review, has never been reported in the literature.

Case Report

Patient 1

A 13-year-old healthy male presents with sudden onset of severe, pulsating occipital headache in the shower. Headache accompanied by photophobia and nausea, no vomiting. The headache resolved spontaneously in 15-20 minutes. Within 24 hours patient had a similar

headache again in the shower which seemed to last longer. He was evaluated in the emergency room and besides occipital tenderness had a normal neurological exam. He had a CT head and CT angiogram which were normal. The headache resolved with intravenous ketorolac and ondansetron. A week later patient returned with the same acute onset headache. He described being asymptomatic between the headaches. The patient also admitted to being masturbating at onset of all three headaches. He was diagnosed with primary headache with sexual activity and advised to abstain from masturbation. In the next few weeks patient had 3 more similar headaches but were not triggered by sexual activity. On further imaging, MRV ruled out sinus thrombosis but MRI brain with contrast showed partial empty sella, enlarged suprasellar cistern and enlarged optic nerve sheath bilaterally. These findings raised concern for raised Intracranial Pressure (ICP) which was confirmed with lumbar puncture which showed an opening pressure of 32 cm of water. CSF showed normal cell count, protein and glucose with no concern for infection/inflammation. Patient was started on diamox and had significant improvement. He has remained headache free for a year with the last eye exam showing normal optic disc/nerve.

Patient 2

A 14-year old young man, previously healthy, presents with sudden onset severe mid-parietal sharp pulsating headache with severe nausea and photophobia. Patient's symptoms were brought on during masturbation with orgasm. Patient had gone camping but no concern for fever, tick bites, respiratory illness, rashes, or other exposures. He was seen in the emergency room where CT head and CT angiogram were normal. His fundus exam was inconclusive, so he underwent a diagnostic lumbar puncture which showed an opening pressure of 35 cm of water. A MRI brain and MRV head were obtained which were both unremarkable. His Cerebrospinal Fluid (CSF) was unremarkable including a meningoencephalitis PCR panel which was negative for infection. His symptoms resolved within 30 minutes of onset with fluids and ketorolac. Patient was discharged on acetazolamide and had only one more similar headache episode within 48 hours of discharge which resolved with

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ibuprofen. This episode was also triggered by sexual arousal. Since then however, he has been doing well for the past 6 months with normal fundus exams and remaining headache free.

Discussion

Headaches with sexual activity are rare with a reported prevalence at around 1% [7,8] and is greater in men than in women, by 3-4 times [8,9]. There are two peak times of onset: in the early 20s and then around age 40 [10]. When these headaches occur with sexual excitement in absence of an identified intracranial pathology, they are classified as benign or primary [4]. The IHS has classified these benign HSA in 2 types based on presentation. Type 1 consists of a bilateral, usually occipital, pressure-like headache that gradually increases with mounting sexual excitement. Type 2 headaches have an explosive, throbbing quality and appear just before or at the moment of orgasm. These often start occipitally but may generalize rapidly [4,11]. Our patients presented with a headache that resembled type 2 HSA in onset and distribution. In most cases the headaches occur in bouts that recur over periods of weeks to months before resolving [12].

The pathophysiology of HSA has not been well understood. The primary mechanism seems to be related to cerebral dysregulation in these patients [2,12,13]. The cerebral vessels of these patients may dilate unpredictably in response to low pH as compared to normal healthy control. There is evidence of possible link between type 2 headaches and migraines, postulating a release of catecholamines, neurokinins and serotonin during HSA [13]. High blood pressure, pre-existing migraine and psychological factors are predisposing for HSA. Increased intracranial pressure secondary to a valsalva maneuver during orgasm/intense sexual excretion has been proposed as a possible mechanism [14,15]. In both our patients underlying intracranial hypertension was identified. These patients had improvement in symptoms with reduction in ICP and maintaining them on acetazolamide to control ICP. The first patient had family history of migraines and had some headaches not associated with sexual activity which may indicate his predisposition for underlying migraines. This may have made his symptoms more chronic.

Management of primary HSA incorporates both medical and sexual management. Indomethacin and propranolol have been shown to be effective for prophylaxis of HSA. Triptans, ergots and benzodiazepines have shown efficacy for abortive therapy [13,16]. Sexual restraint or modifying sexual activity until prophylaxis takes effect has been suggested also. Our patients however had an identified cause of raised ICP that seemed to have triggered their headaches during sexual activity. Acetazolamide therapy for intracerebral pressure reduction seemed to resolve their headaches. There was no further need for prophylactic medication or abortive therapy. Refraining from sexual activity was also advised to these patients for short term [17,18].

Conclusion

Headache with sexual activity are seen in young adults but can present in children also. In adults these have been most reported to be benign with no underlying intracranial pathology. However, to diagnose HSA as benign/primary headaches, a thorough workup must be done to rule out an underlying intracranial pathology like aneurysmal rupture, intracranial mass, subarachnoid/parenchymal hemorrhage, and vessel dissection. Idiopathic intracranial hypertension should also be considered as a potential etiology,

especially in children and young adults with normal imaging. Treating IIH with acetazolamide can be effective in resolving the headaches and preventing patient from chronic headaches and sexual dysfunction.

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