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Primary Sex Headache in Adolescents

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abstract

Primary headache associated with sexual activity is a rare headache disorder that has only been reported twice previously in adolescents. Although it can mimic life-threatening causes of thunderclap-onset headache, primary sex headache is benign, self-limited, and highly responsive to indomethacin. Given the sensitive nature of sexual development in adolescents, it is important that pediatric providers know when to ask about this symptom and how to proceed with diagnostics and therapy when it arises. We report 2 new adolescent cases and review the semiology, epidemiology, and treatment of primary sex headache. *Pediatrics* 2012;130:e439–e441

INTRODUCTION

Primary headache associated with sexual activity is a relatively rare headache disorder with an estimated lifetime prevalence of 1%.¹ Although this headache disorder is well established in adults, it has only been reported twice previously in adolescents.^{2,3} It is important that clinicians are aware of the possibility of this type of headache disorder in adolescents, because embarrassment may make an adolescent hesitant to bring it up with their physician. Once the diagnosis is made, primary sex headache is treatable.

In an effort to increase awareness about primary sex headache in adolescents, we present 2 additional cases from our center.

CASE 1

A 16-year-old male developed headaches associated with orgasm 4 months before evaluation. The headache occurred at the moment of orgasm, building up in intensity over 5 to 10 seconds to an 8/10 pain intensity, then persisting for between 10 seconds to 2 minutes before remitting. The pain was located in the left occipital region and pulsating or tearing in quality. The headache occurred irrespective of sexual position or whether orgasm was achieved through intercourse or masturbation. On 1 occasion, he had a similar headache with exercise and it remitted with rest. He did not get headaches with cough or Valsalva. After several months, he no longer experienced the headaches with orgasm. There was mild associated nausea but no photophobia, phonophobia, or osmophobia with the headache. He had a history of migraine since childhood and a family history of migraine. A pineal gland tumor had been resected 4 years previously, and he had then been treated with chemotherapy and cranial radiation. He was free of recurrence, and the results of an MRI/magnetic resonance angiography of the brain obtained after the orgasmic

headaches began were normal. Neurologic examination outcome was also normal. His attacks had stopped when we saw him, so no treatment was given.

CASE 2

An 18-year-old female developed headache with orgasm 3 weeks before evaluation. Until that time, she had never had headache with orgasm. About 1 minute before orgasm, she would develop a mild-to moderate-intensity throbbing headache in the midforehead. At orgasm, the head pain would instantly become severe, and she would develop photophobia, phonophobia, and movement sensitivity. The quality of the pain remained throbbing. The head pain would persist for 5 to 10 minutes and then quickly dissipate. There was no nausea, vomiting, or osmophobia. The headache occurred irrespective of whether she was exerting herself at the time of orgasm. Around the same time, she also noted new headaches with exercise, which were similar in quality and location but much less intense than the orgasm headaches. The exercise headaches came on ~10 minutes into exercise and persisted for 3 minutes before resolving, even if she continued to exercise. She did not experience headache with cough or Valsalva. There had been no preceding trauma or major illnesses, although she had had a few upper respiratory tract infections in the preceding months. Since age 15 she had experienced mild diffuse featureless headaches that lasted only 5 to 10 minutes in duration. There was a history of headaches in her mother and maternal grandmother. Her only medication was an estrogen-containing oral contraceptive. Before orgasmic headache onset she had changed contraceptive formulations from one containing 35 μg of estradiol taken orally daily to one providing 15 μg of estradiol daily intravaginally. Neurologic examination outcome was normal, as were results of MRI/magnetic resonance angiography

of the brain. Because she had an allergy to nonsteroidal antiinflammatory drugs, treatment with frovatriptan 30 minutes before sexual activity was considered, but she returned to her original contraceptive formulation and the orgasmic headaches remitted without further intervention within 2 weeks of the evaluation.

DISCUSSION

There are 2 types of primary headache disorder associated with sexual activity.⁴ In the first, headache intensity builds gradually during the exertion associated with sexual activity. Muscle contraction is felt to play a central role in etiology,⁵ although this has not been objectively demonstrated. The second, orgasmic headache, develops explosively at orgasm.⁴ The underlying pathophysiology of the orgasmic type is not known; however, vascular hyperreactivity provoked by orgasm has been theorized.⁶ In rare cases, focal arterial narrowing has been noted on vascular imaging^{7,8}; however, these cases are not truly primary headaches associated with sexual activity but rather another headache disorder associated with arteriopathy.^{4,8}

Few reports of headache are associated with sexual activity in adolescents. It is not known whether adolescents are less likely to experience the disorder, or whether the apparent low prevalence is secondary to underreporting because of embarrassment about discussing the symptom with a physician. A relationship between contraceptive use and orgasmic headache has not been reported previously, so may be coincidental in our second case.

The youngest reported patient with sex headache was a 12-year-old boy.² His orgasm headaches began during the first 2 weeks after orgasmarche, demonstrating that this headache disorder can occur as soon as an adolescent has the capacity for orgasm. Epidemiological data suggest that the average age of

orgasmarche is about 12 years in boys, and slightly older in girls.⁹ There is only 1 other report of sex headache in a teenager.³

Before making a diagnosis of primary headache associated with sexual activity, it is important to note that headaches that come on with sexual activity, cough, or exercise can signal intracranial pathology, such as aneurismal subarachnoid hemorrhage, ischemic stroke, or arterial dissection.^{6,8,10–14} Generally speaking, cough headache is more likely to have an underlying structural cause than isolated sex headache or exertional headache.^{6,15,16} There is an association between primary exertional headache and primary sex headache,⁴ so it is not surprising that one of the adolescents reported here as well as the 12-year-old boy previously reported² had also experienced exertional headache. In addition, comorbid migraine occurs in about 50% of those with primary sex headache,⁴ perhaps explaining why some patients experience migrainous features with their orgasmic headache.⁸

The orgasmic subtype of primary sex headache is more common than the gradual onset preorgasm type⁸ and has received more attention in the medical literature. This is likely because of its ability to mimic life-threatening causes of thunderclap-onset headache, and perhaps its greater ability to limit sexual activity and enjoyment in the individuals who experience it. In the orgasmic subtype, headache onset is explosive and severe.^{4,8} Orgasms achieved through either sexual intercourse or masturbation can trigger the headache.¹⁵ The headache location is variable,^{6,8} although most often bilateral.¹⁵ The quality is typically pounding or throbbing.⁶ Duration of headache ranges from minutes to several hours.^{2,4–6,8} Age at onset is classically in the late thirties or early forties,^{5,8,16} and there is a male predominance.^{15,17} The natural history of the disorder is that after several months it typically remits,¹⁷ although some patients will have a chronic course lasting over a year,^{5,6,8,17} and recurrences are possible.^{2,15} Prophylaxis with indomethacin 30 minutes before sexual activity is effective

in preventing the headaches in many cases.^{5,8,15,17} Triptans are an option for patients who cannot tolerate indomethacin.^{15,18} If the headaches are quite frequent or prolonged, treatment with β -blockers (propranolol or metoprolol) may be beneficial.^{5,15–17}

It is important that clinicians be aware of the potential for this primary headache disorder to occur in adolescents. Asking directly about headache with sexual activity in adolescents with migraine or exertional headache may help an embarrassed teenager to discuss this condition more freely. Until the true prevalence of primary sex headache in adolescents is better understood, given its apparent rarity, we would recommend that all adolescents suspected of having this condition undergo neuroimaging, including vascular imaging, to first rule out secondary causes. Once the diagnosis is clear, it is important to reassure the adolescent about the benign nature and self-limiting course of the condition and to provide appropriate treatment to help ensure the adolescent's normal sexual development.

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