HEADACHE AND SEXUAL ACTIVITY: A REVIEW

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The interplay between headaches and sexual activity is an awkward topic of discussion for many patients and physicians in clinical practice. The actual prevalence of this association may be widely under-reported due to embarrassment on the part of many patients to discuss intimate sexual details. We will review the possible scope of this problem including classification, differential diagnosis, epidemiology, and possible pathophysiology.

HISTORICAL PERSPECTIVE

Wolff1 appears to have been the first in the modern era to discuss headache during sexual activity in 1963. Further descriptions of this usually benign form were made by Lance2-4 and Paulson5 in the 1970s. There have, however, been references to this type of headache dating back to Hippocrates.6

In Lance’s description of 21 cases of this disorder,7 he describes 2 distinct subtypes. The first was a more slowly evolving type that he attributed to neck and jaw muscle contraction. The second and more common subtype was described as a more explosive orgasmic headache. Paulson5 also described a third type of sex-related headache. This headache pain more closely resembles the characteristics of a low pressure headache (most severe in an upright position and improves with recumbency) and is presumed to be related to a dural tear that occurred during intercourse.

CLASSIFICATION AND DIFFERENTIAL DIAGNOSIS

In The International Classification of Headache Disorders, 2nd Edition (ICHD-II),7 2 subtypes of primary headaches associated with sexual activity are recognized.

4.4 Primary headache associated with sexual activity
  4.4.1 Preorgasmic headaches
    A. Dull ache in the head and neck associated with awareness of neck and/or jaw muscle
    Contraction and fulfilling criterion B
    B. Occurs during sexual activity and increases with sexual excitement
    C. Not attributed to another disorder

4.4.2 Orgasmic headache
    A. Sudden severe (“explosive”) headache fulfilling criterion B
    B. Occurs at orgasm
    C. Not attributed to another disorder

The third type of headache associated with sexual activity and having characteristics of a low pressure headache (most severe in an upright position and improves with recumbency) has been classified as a secondary headache disorder, due to the presumption that it is attributed to a cerebrospinal fluid (CSF) leak:

7.2.3 Headache attributed to spontaneous (or idiopathic) low CSF pressure.

When the initial occurrence of headache is associated with sexual activity, it is mandatory to rule out secondary causes. These include subarachnoid hemorrhage, intracerebral hemorrhage, subdural hematoma, unruptured aneurysm, carotid or vertebral dissection, cerebral venous sinus thrombosis, Chiari I malformation with crowding of posterior fossa or upper cervical structures, neoplasm (especially posterior fossa), increased intracranial pressure, decreased intracranial pressure, and significant cervical spine disease.

EPIDEMIOLOGY

There is uncertainty about the prevalence of headache related to sexual activity. Many feel that this condition is widely under-reported due to patient embarrassment in discussing the details of their sexual experiences. Rasmussen and Olesen9 cite lifetime prevalence of about 1% in a population-based study. Three studies done at headache clinics10-12 revealed a range of 0.2-1.3% of headache clinic patients fulfilling criteria for headache attributed to sexual activity.13 There is an assumption among the general populace that headache attributed to sexual activity is more common among females. The data, however, show that in fact it is 3-4 times more common in males.14-16 The onset appears to have 2 peaks occurring in the early 20s and again around age 40.12 The significance of this is unclear.
PATHOPHYSIOLOGY

The pathophysiology of these headaches remains uncertain. While there is no convincing evidence for a genetic basis, one family with four affected sisters with orgasmic headache and “vascular features” has been reported.17 The clinical characteristic of the preorgasmic variant (type 1) suggests that there may be a relation to tension-type headaches and/or muscle contraction.4,15,16 Increased intracranial pressure secondary to a Valsalva maneuver during orgasm has been proposed as a possible mechanism for orgasmic (type 2) headaches.18,19 While vasospasm was not found angiographically in Lance’s 1976 description of 9 patients,3 subsequent reports of segmental vasospasm found on cerebral angiography several days after the acute attack have since been reported.20-22 There has also been speculation that the orgasmic type might be related to migraine,18,17,23 but no large clinical studies have been done to confirm this possible connection. Migraine comorbidity or a family history of migraine has been reported in small case studies.12,15-17,24 A possible disruption of autoregulation of the cerebral vasculature has also been proposed.25,26 No connection with arterial hypertension has been demonstrated since it has been reported in only 18% of patients experiencing headaches attributed to sexual activity.12 Since the third type of headache attributed to sexual activity has characteristics both clinically and radiologically of a low pressure type of headache, this has been felt to be pathophysiologically related to an acquired CSF leak.

CLINICAL DESCRIPTION AND DIAGNOSTIC FEATURES

About 22% of patients experiencing primary headaches attributed to sexual activity have preorgasmic, and the remaining 78% have the orgasmic variant.13 The 3:4:1 male to female ratio is similar for both headache types as is mean age of onset (mid-to-late 30s) and location (mainly posterior). The mean duration of severe pain is similar (30 minutes), but the mean duration of milder pain is more prolonged with type 2 (4 hours vs 1 hour). The time of onset, however, is by definition different for the 2 types. In type 2 it occurs simultaneously with or less than 5 seconds before orgasm while in type 1 it has a mean time of onset of 150 seconds preceding orgasm.13 Migraine is comorbid in 30% of type 2 patients as opposed to 9% of those with type 1. Comorbid primary exohalal headaches are also seen in 35% of type 2 cases while only seen in 9% of type 1 patients.13 The usual setting for both types is sexual intercourse with the patient’s usual partner; however, 1/3 report it with masturbation as well. There is one report of this occurring exclusively during masturbation,27 and a case of this occurring with nocturnal emission and dreaming during sleep.28 About 405 of patients report that they can terminate the headache by stopping sexual activity and 51% report that they can lessen the pain intensity by taking a more passive role.13 In most cases, these headaches seem to occur in bouts that recur over a period of weeks to months before resolving.

With the first episode it is mandatory to exclude potential life-threatening and disabling causes. These causes have been enumerated above. There are estimates that subarachnoid hemorrhage occurs in 4-12% of cases of all cases of headache occurring during sexual activity.28,29 A prompt and thorough neurological examination is imperative. Imaging studies and spinal fluid evaluation are indicated in many instances where diagnostic uncertainty still exists.

TREATMENT

The most important aspect of treatment is to reassure the patient and partner that serious underlying pathology has been excluded after the appropriate initial investigations. The nature of this usually benign, self-limited disorder needs to be explained to both participants. Avoiding sexual activity and other strenuous exertion until totally symptom free has also been advised by some.4,30-32 Indomethacin 50-100 mg taken orally 30-60 minutes prior to sexual activity has been found to be effective for many patients.15,16,33 Occasionally, other non-steriodals may be effective, but there is few data to support their usage. Naratriptan 2.5 mg has been reported to be of value prior to sexual activity.14 Other triptans, ergots, and benzodiazepines have also been anecdotally reported to have efficacy.5,31,35,36 Options for long-term prophylaxis include indomethacin 25 mg 3 times daily, propranolol 120-240 per day, metoprolol 100-200 mg per day, and diltiazem 180 mg per day.15,17,30,31,33,37

CONCLUSIONS

Headache occurring during sexual activity can be frightening. Once serious secondary causes have been excluded, these disorders are generally self-limited and/or readily manageable. With wider awareness of these entities, physicians will know to ask the right questions, leading to proper diagnosis and optimal treatment.

REFERENCES


This review meets ACGME requirements for residency and fellowship training in the following core competency areas: patient care, medical knowledge, and practice-based learning and improvement.