Primary Sexual Headache

Introduction

Primary sexual headache is headache associated with sexual activity. The exact prevalence is not known, although it is more common in women than in men. There are two types - pre-orgasmic and orgasmic headache. The latter is most significant because of its similarity to significant causes of secondary headache including subarachnoid haemorrhage (and warning bleeds for subarachnoid haemorrhage) and reversible cerebral vasoconstriction syndromes. Neuroimaging is needed to distinguish primary, benign causes of sexual headache from secondary, potentially life-threatening causes.

Primary sexual headache is included in the list of ‘Other Primary Headaches’, which is the fourth group of primary headaches in the International Classification of Headache Disorders (the other three being tension-type headache, migraine and cluster headaches).

Several theories have been put forth to explain the underlying mechanism of primary sexual headache. The leading explanation involves exertion leading to a sudden increase in intracranial pressure or an inappropriate reaction in the cerebral vasculature. Neural hypersensitivity, similar to migraine, may also play a role.\[3\]

Headaches provoked by cough and exertion share some features with primary sexual headache, although they affect different age groups and have different gender distributions. Valsalva-like manoeuvres are the common triggers. Migraine is commonly comorbid with exertion headaches and coital headaches, and some patients with coital headache may have reversible cerebral vasoconstriction syndromes.\[4\]

Whilst most headaches relating to sexual activity are benign, a few are associated with significant morbidity (‘malignant coital cephalgia’):

- Some patients have reversible cerebral vasoconstriction syndromes.\[4, 5\]
- Subarachnoid bleeding may be precipitated by coitus in patients with berry aneurysms and arteriovenous malformations (one study suggested that 3-12% of berry aneurysms and 4% of arteriovenous malformations might rupture in this way, although in the case of berry aneurysms the risk of rupture is also related to size and other factors).
- Basilar artery dissection presenting as thunderclap headache with orgasm has been reported.\[6\]

Presentation

There are two subtypes of primary sexual headache:\[1\]

- Early coital cephalgia, usually of short duration and moderately severe. It is a tight, cramping, dull pain, often bilateral in the occipital/cervical region, which intensifies as sexual excitement increases. It is associated with an awareness of neck or jaw muscle contraction. It is thought to relate to excessive contraction of the head and neck musculature that occurs prior to orgasm.
- Orgasmic coital cephalgia, which is severe, comes on abruptly and typically lasts 15 to 20 minutes. It can be in the occipital region, behind the eyes, or in a more generalised form and occurs at the point of orgasm. It may be prevented by postponing orgasm. It is the most common type of headache associated with sexual activity. On the first occasion, at least, it is mandatory to exclude serious causes of sudden-onset headache, including subarachnoid haemorrhage and arterial dissection.\[7\]

In addition, a secondary headache called late coital cephalgia has been associated with sexual activity. It is, however considered to be a secondary headache attributed to spontaneous or idiopathic low CSF pressure and is coded under secondary headache. It comes on after intercourse, on standing and may last for hours or days. It is believed to be caused by low CSF pressure secondary to a dural tear following the physiological stress of coitus and is identical to the headache seen after lumbar puncture.\[8\]

Primary sexual headache is not usually recurrent:

- It may appear suddenly, last for many months or years and stop abruptly
- It may occasionally occur on a regular basis for several months or, rarely, years.
- Attacks may be intermittent and mild, or so severe as to preclude coitus.\[8\]
- Amnesia has been described as a rare association. This is generally benign and self-limiting but clearly requires investigation.\[9\]

Epidemiology
Little is known about the incidence but studies of neurological patients presenting with headache in France and Denmark have quoted figures of up to 1.3% of presenting headaches.

- There is a 3:1 predominance of males.
- The age of onset peaks between 20-24 years and again between 35-44 years.
- It is rare in children but a case in a boy of 12 has been reported.[10]
- There appears to be a high comorbidity with migraine, benign exertional headache and tension-type headache.
- Occurrence is not dependent on specific sexual habits. It most often occurs during sexual activity with the usual partner but also occurs during masturbation.[2]

Risk factors
These include obesity, kneeling position during intercourse, the degree of sexual excitement, stress, history of migraine and exertion headache and a family history of headache and occlusive arterial disease. A case of familial sexual headache has been reported.[11]

Pharmacological triggers may include marijuana, amyl nitrite, amphetamines, sildenafil and some anxiolytics.[12]

Diagnosis
The likely diagnosis of benign coital cephalgia may seem clear from the history - but it must be one of exclusion, having ruled out subarachnoid bleeding. This is particularly the case on the first occurrence. Lack of accompanying symptoms such as vomiting or visual, sensory, or motor disturbance is reassuring (but not completely so). Sudden-onset ('thunderclap') headaches represent subarachnoid haemorrhage even in the absence of associated symptoms in 1 in 10 cases.

Careful history and examination are essential, but neuroimaging is often required and there should be a low threshold for doing this. Among patients with SAH who initially present in good condition, misdiagnosis is associated with increased mortality and morbidity.[1, 13]

National Institute for Health and Care Excellence (NICE) guidance recommends evaluation for further investigation in people who present with any of the following, which includes most primary sexual headaches:

- Sudden-onset headache reaching maximum intensity within five minutes
- Seadaches triggered by cough, sneeze or Valsalva manoeuvre.
- Headaches triggered by exercise.[7, 14]

Some authors go further and suggest that - particularly on first occurrence, CT is insufficient and the CSF should be examined, particularly if presentation is more than two days after the event.[15]
Prevention

Weight reduction, increase in exercise, taking the passive role in intercourse and avoidance of drugs which act as trigger factors are all thought to be helpful.

Management

The primary treatment is usually reassurance as the headaches are not usually recurrent. Drug management can be offered. Indometacin and propranolol are the most established and evidenced treatments but all of the following are supported by randomised trials or case reports:

- **Propranolol**: 40-240 mg a day. This can be used on a preventative basis. [16, 17]
- **Indometacin**: 25-75 mg a day. This can be used on an intermittent or regular basis. [4, 16]
- **Topiramate**: 50 g daily has been successfully used as prophylaxis in patients in whom the above two drugs were contra-indicated. [16]
- **Calcium-channel blockers** (eg, diltiazem 60 mg tds, nimodipine) have been helpful in some patients, particularly where cerebral vasospasm is the probable cause. [18, 19]
- One study reported a role for triptans, both in the acute phase and in prophylaxis of headache associated with sexual activity. [20]

Prognosis

Many patients will experience only one episode but the condition may be recurrent. In one study, out of 45 patients who had experienced single attacks or bouts prior to baseline examination, 37 had no further attacks. Seven patients experienced at least one further bout with an average duration of 2.1 months. One patient developed a chronic course of the disease after an episodic start. In 69% of patients experiencing recurrent primary sexual headaches the condition resolved completely over three years. [21]

Further reading & references

1. International Headache Society Classification of Headaches ICHD II; Updated Web-based Version
7. Headaches in over 12s: diagnosis and management; NICE Clinical Guideline (September 2012)

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