# Primary headache associated with sexual activity

*Synonyms: orgasmic cephalgia, orgasmic headache, primary sexual headache, coital headache, early coital cephalgia, orgasmic coital cephalgia*

## Introduction [1] [2]

Primary sexual headache has been re-classified by the International Headache Society (IHS) as primary headache associated with sexual activity (PHASA). The exact prevalence in not known, although it is more common in men. It used to be considered that there were two types - pre-orgasmic and orgasmic headache, but clinical studies have since been unable to distinguish these. Therefore, PHASA is now considered a single entity with variable presentation. The symptoms can resemble significant causes of secondary headache including subarachnoid haemorrhage (and warning bleeds for subarachnoid haemorrhage) and reversible cerebral vasoconstriction syndromes. Neuroimaging is therefore needed to distinguish primary, benign causes of sexual headache from secondary, potentially life-threatening causes.

PHASA is included in the list of 'Other Primary Headache Disorders', which is the fourth group of primary headaches in the International Classification of Headache Disorders third edition (ICHD-3). It has been sub-classified as a 'headache associated with physical exertion', which also includes primary cough headache, primary exercise headache and primary thunderclap headache.

Several theories have been put forth to explain the underlying mechanism of PHASA. The exact pathophysiology is unknown. However, a muscular component and impaired cerebrovascular autoregulation have been suggested. One case reported stated that MRI angiography was normal [3] .

Headaches provoked by cough and exertion share some features with PHASA, 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[1]

Headache is precipitated by sexual activity, often beginning with a dull bilateral ache as sexual excitement increases. It suddenly becomes intense at orgasm, in the absence of any intracranial disorder.

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[7] .

PHASA 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.
- Amnesia has been described as a rare association. This is generally benign and self-limiting but clearly requires investigation[8] .

# Epidemiology[9]

The prevalence of PHASA is quoted as 1-1.6%.

- It is more common in males.
- It can occur at any sexually active age[1] .
- 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. Cases of familial sexual headache have been reported[9] .

Pharmacological triggers may include marijuana, amyl nitrite, amfetamines, sildenafil and some anxiolytics[10] .

# Diagnosis

The IHS suggest the following diagnostic criteria:

- A. At least two episodes of pain in the head and/or neck fulfilling criteria B–D.
- B. Brought on by and occurring only during sexual activity.
- C. Either or both of the following:
    - 1. Increasing in intensity with increasing sexual excitement.
    - 2. Abrupt explosive intensity just before or with orgasm.

- D. Lasting from one minute to 24 hours with severe intensity and/or up to 72 hours with mild intensity.
- E. Not better accounted for by another diagnosis in the new classification system (third edition).

Even though the presentation may fit the IHS classification criteria, a low threshold should be maintained for ruling 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 subarachnoid haemorrhage who initially present in good condition, misdiagnosis is associated with increased mortality and morbidity [1] [11] .

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 headaches associated with sexual activity [12] :

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

Some authors go further and suggest that CT is insufficient and the CSF should be examined. However, third-generation CT scans are considered to be of equivalent efficacy [9] .

## 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 [9] .
- Indometacin - 25-75 mg a day can be used on an intermittent or regular basis [4] .
- Topiramate (50 g daily) may be another useful option [13] . However, women and girls of childbearing potential should be advised of the MHRA warning about the risk of major congenital abnormality with this drug, and - if other options are contra-indicated - effective contraception is vital [12] .
- Calcium-channel blockers (eg, diltiazem 60 mg tds, nimodipine) have been helpful in some patients, particularly where cerebral vasoconstriction is the probable cause [14] [15] .
- One study reported a role for triptans, both in the acute phase and in prophylaxis of headache associated with sexual activity [16] .

# 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 PHASA the condition resolved completely over three years [17] .

***Dr Mary Lowth is an author or the original author of this leaflet.***

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