



Short Stabbing Headaches

Definition

Stabbing headaches lasting for a few seconds are of three different types: (1) primary and symptomatic stabbing headache, (2) primary and symptomatic cough headache, and (3) short unilateral neuralgiform headaches with conjunctival injection and tearing (SUNCT; see the fact sheet on Trigemino-Autonomic Headaches). The consistent and common feature of all three types is a one-sided headache with single stabs (i.e., seconds of pain) or series of stabs lasting up to a few seconds.

Epidemiology

The prevalence of primary stabbing headaches varied substantially in two population based studies from 1% to 35%. It is significantly higher in women than in men, and it is more prevalent in patients with primary headaches (especially migraine) than in headache-free individuals. The average onset peaks around 45 years of age.

Primary cough headaches typically occur in men older above 40 years, with a prevalence of about 1%.

Pathophysiology

Primary stabbing headache has been attributed to transient activation of trigeminal branches or segmental disinhibition of central pain processing, although its exact nature has not been identified.

The etiology of primary cough headache is unknown. Among other possibilities, a transient increase in intravenous pressure has been discussed, as well as postinfectious sensitization of intravenous pressure receptors. Symptomatic cough headache is thought to be caused by a descent of the cerebellar tonsils into the foramen magnum during each cough, with consequent irritation of pain-sensitive meninges.

Clinical Features

Primary stabbing headache has also been termed “ice-pick pain,” “jabs and jolts,” and ophthalmodynia, which refers to its paroxysmal nature with short attacks. It typically occurs as a one-sided headache with single stabs or series of stabs lasting up to a few seconds without any other accompanying symptoms. Up to one-third of patients report that the pain occurs in a fixed area. Recurrence can be irregular, varying from one to many attacks per day. According to the ICHD-2 criteria [3], the pain should be localized predominantly in the first division of the trigeminal nerve (i.e., the forehead). However, a recent study found that most attacks were localized at the back of the head and in the neck.

Primary cough headaches are usually described as sharp-stabbing or even explosive and last a few seconds to minutes (or in some patients, up to 30 minutes). They are elicited by coughing, sneezing, straining, or bending down, with the pain localized mostly to the back of the head. They occur episodically for a few months to years. Importantly, patients with primary headaches such as migraine can have an increase in headache intensity upon coughing, but they do not report coughing as a trigger for their attacks.

Diagnosis/Differential Diagnosis

Stabbing headache has been associated with other disorders such as intracranial tumors (pituitary adenoma and meningioma), giant cell arteritis, varicella zoster, ischemic stroke, intracranial hemorrhage, and elevated intracranial pressure, and therefore, symptomatic forms should be excluded by neuroimaging and (if necessary) by further tests.

If attacks of stabbing headache are associated with coughing, neuroimaging is mandatory to exclude a symptomatic form caused by a Chiari type I malformation or a space-occupying lesion of the posterior fossa.

Therapy

Primary stabbing headache requires treatment only in cases with frequent attacks. It responds to indomethacin in up to 65% of the patients. Alternatively, melatonin, gabapentin, nifedipine, and the analgesic celecoxib can be tried. In primary cough headache, indomethacin is effective in most cases as well. Acetazolamide can be tried as an alternative.

References

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- [4] Wang SJ, Fuh JL. The “other” headaches: primary cough, exertion, sex, and primary stabbing headaches. *Curr Pain Headache Rep* 2010;14:41–6.