Reviewer's report

Title: Ice-Pick headache syndrome, an 'indomethacin-responsive' headache syndrome which responded to a less toxic NSAID, implications for clinical practice: A case report.

Version: 2 Date: 4 July 2007

Reviewer: Randolph W Evans

I am familiar with the literature and believe that this case meets one of the 7 criteria for evaluation in the journal: An unexpected event in the course of observing or treating a patient

Has the case been reported coherently?: No

Is the case report authentic?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: Yes

Comments to authors:

General
This is the second report of a ice pick headache responding to a cox-2 inhibitor. Melatonin and neurontin have also been reported as effective.

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Revisions necessary for publication


2. Consider changing your title to "Idiopathic stabbing headache responsive to etoricoxib: a case report"

3. The abstract does not summarize your case and clinical point-must change
4. Consider shortening introduction and just discuss idiopathic stabbing headache and its clinical features. The International Headache Society 2nd edition criteria are:

(A) Head pain occurring as a single stab or a series of stabs fulfilling B to D

(B) Exclusively or predominantly felt in the distribution of the first division of the trigeminal nerve (orbit, temple, parietal area).

(C) Stabs last for up to a few seconds and recur with irregular frequency ranging from 1 to many per day.

(D) No accompanying symptoms

(E) Not attributed to another disorder

I've pasted a review article which you may not have access to for further material (from Peres MFP. Idiopathic stabbing headache. In: Gilman S, editor. MedLink Neurology. San Diego: MedLink Corporation. Available at www.medlink.com. Accessed [current date] and also emailed it and an article on indomethacin responsive headaches to Dr. O'Connor.

5. Three authors interviewed the patient but the history of headache, the critical part of the case report to establish that this is idiopathic stabbing headache, is left out of the case report section. The patient's history must be in this section. What does living alone have to do with getting the headache history from the neighbor? If the patient has Alzheimer's, was the headache history reliable? Headache is of course subjective and the history for this type of headache crucial. If the patient is not a reliable historian, then you can not establish this type of headache. Your comments here raise doubts about the diagnosis. Did the patient herself provide you with a history consistent with the International Headache Society 2nd edition criteria for idiopathic stabbing headache? If not, then you have no case.

6. What does "entirely avoid the need for indomethacin" have to do with the case report? The case report is a summary of the case. Under past medical history, mental test score is 18/31. What mental test score? The MMSE is out of 30. If that score was part of the admission testing, it belongs under the neurological examination.

7. Under discussion, may wish to list the indomethacin responsive headaches in the first paragraph. Discuss what percentage of patients with idiopathic stabbing headaches respond to indomethacin.

8. Can you provide references that touching the scalp or increased ambient temperature produces pain? (See the review article below: A few patients report precipitating triggers for their idiopathic stabbing headaches. These triggers include rapid alterations in posture, physical exertion, bright light, and head motion during migraine attacks (Raskin and Schwartz 1980). In most patients, however, the pain is unprovoked.)
9. Must cite prior publication of another cox-2 inhibitor, celecoxib, reported as effective (Piovesan EJ, Zukerman E, Kowacs PA, Werneck LC. COX-2 inhibitor for the treatment of idiopathic stabbing headache secondary to cerebrovascular diseases. Cephalalgia 2002;22(3):197-200.) Yours is another case report of another cox-2 inhibitor which might be effective.

10. Here is the treatment section from the article below about the other meds:

The majority of patients with this syndrome respond to indomethacin (25 to 50 mg, 3 times a day), but assessing the medication's effects is difficult because of the marked spontaneous variation in the frequency of attacks (Mathew 1981; Medina and Diamond 1981; Sjaastad 1992; Pareja et al 1996).

Melatonin may be an alternative treatment for indomethacin-responsive headache. Its molecular structure is similar to that of indomethacin (Peres et al 2001b) but it tends to be more tolerable. Rozen recently reported that melatonin 6 to 12 mg at bedtime is effective therapy for indomethacin-responsive headache (1 patient with hemicrania continua and 2 with idiopathic stabbing headache) (Rozen 2003).

Franca and colleagues reported 4 patients with indomethacin-resistant stabbing headaches who responded to gabapentin (Franca et al 2004).

11. Several caveats-are you sure your patient's history is reliable with Alzheimer's?

Must make point that since natural history of idiopathic stabbing headache can spontaneously improve, it is not possible to determine for certain based upon a single case whether the improvement was due to the etoricoxib or not.

12. Your conclusion point-a cox-2 inhibitor is another treatment option. What do you mean by less powerful NSAID than indomethacin? Less powerful means less efficacy for idiopathic stabbing headache or what specifically?

Idiopathic stabbing headache

By

Mario F P Peres

Last reviewed

June 20, 2006

ICD Codes

ICD-9:

Headache: 784.0
ICD-10:
Headache: R51

Synonyms
Icepick-like pains; Jabs and jolts syndrome; Needle-in-the-eye syndrome; Ophthalmodynia periodica; Sharp short-lived head pains

Historical note and nomenclature
Idiopathic stabbing headache was first described in 1964, at which time it was called "ophthalmodynia periodica" (Lansche 1964). Since then, brief, sharp, jabbing pains that occur either as single episodes or in repeated flurries have been designated by various terms including: "icepick-like pains," "sharp short-lived head pains," "needle-in-the-eye syndrome," and "jabs and jolts syndrome" (Raskin and Schwartz 1980; Sjaastad et al 1980; Mathew 1981; Spierings 1990). The International Classification of Headache Disorders, 2nd edition, 2004 uses the term "idiopathic stabbing headaches," classified under item 4 – other primary headaches.

Clinical manifestations
Idiopathic stabbing headache is characterized by brief, sharp, severe jabbing pains about the head that occur either as single episodes or as brief repeated volleys. The International Headache Society has formulated criteria for their diagnosis (Table 1) (International Headache Society Classification Subcommittee 2004) under the term 4.1 Primary Stabbing Headache. The pain resembles a stab from an icepick, nail, or needle and typically lasts from a fraction of a second to 1 to 2 seconds (Pareja et al 1996). Idiopathic stabbing headaches may have the shortest duration of all known headaches. The frequency of attacks varies immensely, ranging from 1 attack per year to 50 attacks per day. The pain is characteristically located in the distribution of the trigeminal nerve. Icepick-like pains are more common in women and do occur in children (Pareja et al 1996; Soriani et al 1996). Similar pains consisting of daily attacks, but located outside the distribution of the cutaneous area of the trigeminal nerve (retroauricular, parietal, occipital), have been described (Martins et al 1995).

Table 1. Diagnostic Criteria for Idiopathic Stabbing Headache

(A) Head pain occurring as a single stab or a series of stabs fulfilling B to D

(B) Exclusively or predominantly felt in the distribution of the first division of the trigeminal nerve (orbit, temple, parietal area).

(C) Stabs last for up to a few seconds and recur with irregular frequency ranging
These pains are usually unilateral, but may be bilateral. They occur mainly around the orbit or the temple and less frequently in the occipital and parietal areas. Attacks usually recur in the same area. If they occur in patients with other types of headache, they are characteristically located on the same side and frequently at the same site of the customary headache.

Great variability exists in the temporal pattern of attacks. Most patients experience only single jabs, although some may have volleys of jabs. Attacks may be experienced as often as 50 times per day.

Accompanying phenomena, such as tearing, eye redness, or nausea, are absent.

A few patients report precipitating triggers for their idiopathic stabbing headaches. These triggers include rapid alterations in posture, physical exertion, bright light, and head motion during migraine attacks (Raskin and Schwartz 1980). In most patients, however, the pain is unprovoked.

Piovesan and colleagues studied idiopathic stabbing headaches in 280 migraine patients (Piovesan et al 2001). Mean duration of the idiopathic stabbing headaches was 1.42 seconds (1 second in 72.4% of patients, 2 seconds in 18.1%, 3 seconds in 6.3%, 4 seconds in 1%, and 5 seconds in 2%). Pain paroxysms were unilateral in 91.4% of patients and bilateral in 8.6% of patients. The pain location was in the temporal region in 60% of patients, occipital in 15%, frontal in 8%, temporal and occipital in 7.4%, parietal in 5.3%, frontal and temporal in 1%, cervical in 1%, and ocular in 1%. A study by Selekler and Budak compared idiopathic stabbing headache and experimentally induced ice cream headache localizations in migraine patients (Selekler and Budak 2004). Ice cream headache was localized in the vertex region in 94%, while it was localized in this region in 45% for idiopathic stabbing headache.

Ammache and colleagues described a 27-year-old man with idiopathic stabbing headaches associated with complete vision loss ipsilateral to the pain (Ammache et al 2000). The patient had a history of migraine with aura. Fusco and colleagues reported 23 adolescent patients. Mean age at onset was 9 years. Headache location was bilateral in 60% of the patients and unilateral in 40%. The pain was orbital or temporal in 60% of patients and multifocal in 40%. In 24% of the children, the interictal awake EEG showed infrequent posterior slow waves (Fusco et al 2003).

Clinical vignette

Patient 1. A 64-year-old man started having headaches 5 years prior. The pain was usually felt over the left temporal region. It lasted less than a second and
was described as a sharp pain, stabbing in nature. Other areas were also affected by the stabs, including the left and right parietal regions and the right occipital region. He had 6 to 12 stabs a day. No accompanying symptoms were associated with the pain. Physical and neurologic examinations were normal. MRI and MRA of the brain were also normal. The patient was put on indomethacin 25 mg, 3 times a day, with significant improvement in the headaches; however, the medication was not tolerated. Specific cyclooxygenase-2 inhibitors were tried with good relief.

Patient 2. A 66-year-old female had a sudden loss of muscle strength on the left side of her body. She used an angiotensin-converting enzyme inhibitor for hypertension. She had smoked 20 cigarettes per day until she suffered a stroke. Throughout her life she had tension-type headaches. Upon examination, a full left-side hemiparesis with thermal and painful hypoesthesia was found. A hypodense lesion of the right cerebral hemisphere in the distribution of the middle cerebral artery was observed on CT. The CA was normal. Twenty days later she started to complain of a sudden pain in the head, unilateral and multifocal (temporal and occipital), sometimes on the right side, sometimes on the left side. The sudden stabs of pain lasted about 2 seconds, were very severe, always frightened the patient, and were followed by vocalization. She reported 2 to 3 episodes per day, without autonomic symptoms or any other manifestation. Celecoxib 100 mg twice daily was started. After 2 weeks of treatment the patient was asymptomatic. The patient was followed for 120 days and did not show any other pain. The interruption of celecoxib did not cause the headaches to recur.

Etiology

Idiopathic stabbing headaches may occur as primary entities, but are more likely to be associated with another headache type and can occur secondary to other disorders. For example, this type of pain develops at times other than during a headache in more than 30% of migraineurs (Raskin and Schwartz 1980). The headaches also can occur before or during migraine headaches (Piovesan et al 2001). They have been reported in patients with tension-type headache (Pareja et al 1996). Phenomena that appear identical to icepick-like pains have also been reported by patients with cluster headaches and temporal arteritis (Hamilton et al 1971; Ekbom 1975). Peres and colleagues found idiopathic stabbing headaches in 41% of hemicrania continua patients (Peres et al 2001a).

Pediatric patients with idiopathic stabbing headache are not as likely as adults to have other comorbid primary headache syndromes (Soriani et al 1996).

Piovesan and colleagues recently reported idiopathic stabbing headaches secondary to cerebrovascular disorders (Piovesan et al 2002). Two women and 1 man, 76 years of age, 66 years of age, and 72 years of age, respectively, developed the headaches within 20 days after stroke. All patients responded to celecoxib, a cyclooxygenase-2 inhibitor.

Pathogenesis and pathophysiology
The mechanism of idiopathic stabbing headache is unknown. Clinical data suggest that hyperexcitability of the trigeminal system or its reflex connections is present between migraine attacks. It may be that icepick pains result from spontaneous discharges of trigeminal afferent fibers. Further studies are necessary to determine the pathogenesis and pathophysiology of idiopathic stabbing headache.

Epidemiology

To determine the prevalence of icepick headache, 100 migraineurs and 100 control subjects were questioned about their headaches (Raskin and Schwartz 1980). Three control patients reported sharp, jabbing pain about the head; and all 3 patients reported that it had occurred at least once annually. Forty-two of the 100 migraineurs had experienced similar pains, and more than 50% of them experienced it more than monthly. Another study estimated that idiopathic stabbing headache occurs in 33 of 100,000 patients referred to neurologic and ophthalmological clinics (Pareja et al 1996).

Sjaastad and colleagues studied the prevalence of idiopathic stabbing headache in the general population (the Vaga study) (Sjaastad et al 2001). In that study, conducted in Vaga, Norway, 1838 adults, 18 to 65 years of age, were examined. Jabs and jolts syndrome or idiopathic stabbing headache was diagnosed in 35.2% of the population. The female-to-male ratio was 1.49. They also studied extracephalic “jabs.” Three women had facial jabs, and 1 of them had pain spreading to the head. Four subjects had jabs occurring randomly throughout the body, including the cephalic area. Pure nuchal jabs were present in 12 subjects, 10 of whom were males. The characteristics of the extracephalic jabs were not different from the cephalic ones (Sjaastad et al 2003).

Piovesan and colleagues followed 280 migraine patients during a period of 12 months; they found that 40.4% of patients presented idiopathic stabbing headaches (Piovesan et al 2001). A female preponderance was evident, with a female-to-male ratio of 3:1.

Very few cases of short-lasting headaches have been reported in children and adolescents. Fusco and colleagues reported 23 patients, 12 males and 11 females, out of 548 children and adolescents, comprising 4.2% of the total population (Fusco et al 2003).

Prevention

Not applicable.

Differential diagnosis

Trigeminal neuralgia involving the first division of the trigeminal nerve is a differential diagnostic possibility. The existence of trigger points and the response to carbamazepine are valuable distinguishing characteristics.

Patients with SUNCT complain of unilateral headache with frequent (5 to 30
times per hour), short-lasting (15 to 60 seconds) attacks of pain (Pareja et al 1997; Pareja et al 1999). The pain occurs in and around 1 eye and is accompanied by ipsilateral conjunctival injection, lacrimation, and (subclinical) forehead sweating. In some patients, attacks are precipitated by cutaneous stimuli (Sjaastad and Kruszewski 1992). The presence of accompanying autonomic changes is diagnostic.

Attacks of chronic paroxysmal hemicrania have pain characteristics and associated autonomic symptoms and signs similar to those of cluster headache, but the attacks of pain are short-lived (Sjaastad 1986; 1987; 1992). These headaches can be distinguished from idiopathic stabbing headaches because the bouts of paroxysmal hemicrania generally last between 5 and 30 minutes and are associated with autonomic changes (Antonaci and Sjaastad 1989).

A new headache syndrome, nummular headache, has recently been described by Pareja and colleagues (Pareja et al 2002). It is a coin-shaped headache, usually located at the temporal area. Mild, continuous, but superimposed exacerbations lasting seconds may occur. Four of 13 patients reported stabbing pain.

Liao and colleagues reported the so-called “bathing headache,” a severe throbbing headache with the clinical characteristics of idiopathic thunderclap headache and maximum intensity of onset during bathing (Liao et al 2003).

Diagnostic workup

A careful history and a normal examination should make the diagnosis. No particular diagnostic workup is required.

Prognosis and complications

One cannot supply a prognosis because of the great temporal variability of idiopathic stabbing headache.

Management

The majority of patients with this syndrome respond to indomethacin (25 to 50 mg, 3 times a day), but assessing the medication’s effects is difficult because of the marked spontaneous variation in the frequency of attacks (Mathew 1981; Medina and Diamond 1981; Sjaastad 1992; Pareja et al 1996).

Melatonin may be an alternative treatment for indomethacin-responsive headache. Its molecular structure is similar to that of indomethacin (Peres et al 2001b) but it tends to be more tolerable. Rozen recently reported that melatonin 6 to 12 mg at bedtime is effective therapy for indomethacin-responsive headache (1 patient with hemicrania continua and 2 with idiopathic stabbing headache) (Rozen 2003).

Franca and colleagues reported 4 patients with indomethacin-resistant stabbing headaches who responded to gabapentin (Franca et al 2004).
Pregnancy
No information is available.

Anesthesia
No information is available.

Associated disorders
Cluster headache
Migraine
Temporal arteritis
Tension-type headache

Differential diagnosis
“bathing headache”
chronic paroxysmal hemicrania
nummular headache
SUNCT
trigeminal neuralgia

Demographics
For more specific demographic information, see the Epidemiology, Etiology, and Pathogenesis and pathophysiology sections of this clinical summary.

Age
13-18 years
19-44 years
45-64 years
65+ years
Population
None selectively affected.

Occupation
None selectively affected.

Sex
unknown

Family history
None

Heredity
None

References cited


Folder Path
Neurology > Headache > Idiopathic stabbing headache
Quick Reference
Sections of Summary
- Historical note and nomenclature
What next?: Revise and resubmit

Quality of written English: Acceptable