Chapter 24

The Nurse with Jabbing Headaches

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Case History

A 38-year-old nurse presents with headaches since menarche. Typically, her headaches occur 1 to 2 days prior to menses. She will also experience headaches with certain triggers, including red wine.

When her headaches occur, they most commonly are not associated with aura, but are characterized by a dull retro-orbital pain, which peaks within 30 minutes of onset. There is associated photophobia and osmophobia, followed by severe vomiting and diarrhea. The duration of her headaches is up to 24 hours followed by a postdrome of malaise for a further 24 hours. When the headaches are associated with her menses, they can recur for 4 or 5 days.

On occasion, she will have a visual aura that precedes the headache. The aura consists of jagged lines resembling lightning bolts, lasting 30 minutes in duration.

In the last 6 months, she has described a "new" type of headache pattern. These headaches are described as sudden jabs of pain lancinating into her head, with no triggers. The pains will occur at any time of day, repeatedly, anywhere from 15 to 30 times in a day. The duration of the jabs is a few seconds or less. There is no pattern to their occurrence. They may be orbital or frontal in location. They occur without any associated lacrimation, or nasal congestion.

Her past medical history includes thyroid disease. Her family history includes her mother with "headache," and one of her two children is beginning to get migraine.

Investigations to date have included a normal computed tomography scan and a normal magnetic resonance imaging (MRI) of her brain. Her neurologic examination is normal.

She has tried various triptan medications to treat her headaches over the years. They have been effective in treating her migraine headaches. She has tried many prophylaxis agents including flunarizine, gabapentin, and amitriptyline, without success.

She was treated prophylactically with verapamil 240 mg per day. For acute therapy to treat her migraines, she was given rizatriptan with cyclooxygenase (COX)-2 nonsteroidal anti-inflammatory drugs (NSAIDs) to attempt to diminish the recurrence rate. To attempt to treat the sharp jabbing headaches, she was treated with indomethacin, 25 mg three times a day for the first week, increasing to 50 mg three times a day the second week. She returned for follow-up at week 2, where she reported some gastric upset, which was treated appropriately. The indomethacin was continued.

At follow-up after 3 weeks, she reported a 50% reduction in headache frequency of the "stabbing" headaches. Indomethacin was increased to 75 mg three times a day, with resolution of the short headaches within 2 weeks. After 4 weeks, dosage was weaned to 25 mg three times a day, with no recurrence to date.

Her migraine frequency decreased to twice monthly from four times per month on the verapamil. Response to a triptan with COX-2 NSAIDs remains inconsistent.

Questions on the Case

Please read the questions, try to answer them, and reflect on your answers before reading the author's discussion.

- What are the diagnoses?
- What is the differential of the "stabbing headaches"?
- Are any investigations necessary?
- What are the short-term and long-term treatment issues?

Case Discussion

This patient's migraines began with menarche and are menstrually associated. Her longstanding headache pat-

tern consists of retro-orbital headache occurring upon awakening, associated with photophobia, osmophobia, nausea, vomiting, and diarrhea. The duration of the headaches is 24 hours, then followed by a postdrome of 24 hours of malaise, unless associated with menses, in which case they are longer. Her headache pattern conforms to the International Headache Society (IHS) criteria for migraine without aura, although she has a few migraines with aura. It is quite typical in that her migraines are triggered (among other things) by menstruation, worsened by oral contraceptive pills, and improved by pregnancy.

Her new head pains are clearly not migraine. She describes these as sudden (a few seconds at the most) "jabs" of pain in her head, with no triggers. They are brief, sharp, and stabbing, up to 15 to 30 times a day. Initially, they would precede or occur with a migraine, but they now occur independent of migraines. There is no lacrimation, nasal congestion, or ptosis. The pain may involve any part of the head.

She was treated with verapamil prophylactically for the migraines, and given a triptan and a COX-2 inhibitor for acute therapy of the migraines. This caused a slight reduction in migraine frequency but no change in the "jabbing" headaches. Indomethacin was then prescribed at low doses, and subsequently increased, with eventual improvement. After 4 weeks, the dosage has been tapered lightly, with no recurrence to date in the sharp stabbing headaches.

These new headaches meet the IHS criteria (code 4.1) for "idiopathic stabbing headache." The 1988 IHS diagnostic criteria for idiopathic stabbing headache are as follows:

A. Pain confined to the head and exclusively or predominantly felt in the distribution of the first division of the trigeminal nerve (orbit, temple, and parietal area)
B. Pain is stabbing in nature and lasts for a fraction of a second; occurs as single stabs or series of stabs
C. Recurs at irregular intervals (hours to days)
D. Diagnosis depends on exclusion of structural changes at site of pain and in distribution of affected cranial nerve

Under the new 2004 IHS classification, this case would be diagnosed as "primary stabbing headache," the diagnostic criteria for which are given in Table 24-1.

Stabbing pains are more commonly experienced by people subject to migraine headache, in which case, they are felt in the site habitually affected by headache in about 40% of patients and tend to be more frequent at the time of headache. They commonly subside with the administration of indomethacin 25 mg orally three times daily.

They may occur in people who do not have migraine, and involve any part of the head (except V2 and V3).

Idiopathic stabbing headache can be differentiated from other short-lived head pains (both innocent and ominous) by considering the context in which the head pains occur, the persistence of the location of the pain, the duration of the episodes, and the accompanying features.The clinician should be aware of sinister causes that may mimic lancinating head pains such as skull base tumors, infections, or sarcoid, which are rare causes. In these cases, however, the pains are usually fixed in location, and there may be other clues such as associated cranial nerve abnormalities or autonomic features that are otherwise uncommon. Some posttraumatic headaches causing trauma to nerves of the scalp may cause brief episodes of head pain. This posttraumatic headache condition may be detected by careful history, and careful examination may yield sensory loss to the scalp area affected.

Table 24-1. International Headache Society Diagnostic Criteria for Primary Stabbing Headache

Previously used terms:
Ice-pick pains, jabs and jolts, ophthalmodynia periodica

Description:
Transient and localized stabs of pain in the head that occur spontaneously in the absence of organic disease of underlying structures or of the cranial nerves

Diagnostic criteria:
A. Head pain occurring as a single stab or a series of stabs and fulfilling criteria B to D
B. Exclusively or predominantly felt in the distribution of the first division of the trigeminal nerve (orbit, temple, and parietal area)
C. Stabs last for up to a few seconds and recur with irregular frequency, ranging from one to many per day
D. No accompanying symptoms
E. Not attributed to another disorder

Adapted from Headache Classification Committee of the International Headache Society, 2004.

Benign primary headache disorders presenting with short-lived pains as the primary symptom include cluster headache, idiopathic stabbing headache or "ice-pick headache," chronic paroxysmal hemicrania (CPH), episodic paroxysmal hemicrania (EPH), cluster-tic syndrome, short-lasting unilateral neuralgiform headache with conjunctival injection and tearing (SUNCT) syndrome, benign exertional headache, headaches associated with sexual activity, cough headache, and hypnic headache.

Indomethacin-responsive headache syndromes are a specific group of headache disorders. They may be underrecognized in clinical practice as their clinical symptoms resemble one another, and unless clinicians are aware of their slight clinical distinctions, they may be overlooked and therefore be undertreated. These syndromes are defined by being indomethacin responsive. Their treatment is dependent on an accurate diagnosis, which is largely made on clinical grounds and can be very satisfying.

A reclassification of short-lasting headaches, based on a review proposed by Goadsby and Lipton, is pre-

sented in Table 24-2. The short-lasting headache syndromes are divided into those with and those without autonomic activation.

Chronic paroxysmal hemicrania is a rare headache disorder characterized by daily short-lasting attacks of unilateral orbital or temporal pain, occurring at a frequency of up to five or more times per day, each lasting 2 to 45 minutes, and occurring every day. It is associated with at least one autonomic symptom and is indomethacin responsive.

Like CPH, the pain of EPH is a daily short unilateral severe headache with ipsilateral autonomic features. Unlike CPH, there are periods of frequent attacks with long remissions. Each attack is 1 to 30 minutes in duration, occurring anywhere from 3 to 30 times a day, and as in CPH, EPH is also indomethacin responsive.

SUNCT is a rare syndrome with a strong male prevalence of 8:1. The severe, stabbing orbital attacks may occur up to 30 times an hour, usually up to 6. There may be associated tearing and conjunctival injection, which almost always appear together and may be quite dramatic. Rhinorrhea and nasal congestion are frequent accompaniments of the attacks. In SUNCT, there may be a visible dilatation of vessels in both the eyes and the eyelids. SUNCT is not indomethacin responsive.

Hemicrania continua is characterized by continuous unilateral headache of moderate severity with superimposed migraine-like attacks of more intense pain that may have autonomic features associated with them. This syndrome is uniquely responsive to indomethacin.

Typically, the pain of trigeminal neuralgia occurs in the V2 and V3 distribution, triggered very often by facial or dental stimulation. The attacks are severe, described as stabbing or lancinating, with varying frequencies and lacking associated autonomic features, unlike cluster headache with its very stereotypic autonomic features associated with longer duration attacks.

In cluster headache, there is a strong male prevalence. The pain is intense, boring, orbital or temporal, often waking the patient from sleep, and lasting anywhere from 5 minutes to 3 hours in duration. Careful inquiry, however, will establish that these periods of minutes to hours are really formed by a series of closely spaced jabs of pain, each lasting only seconds, sometimes with some residual "soreness" between the jabs. Cluster headache is not typically indomethacin responsive.

Ice-pick headache or idiopathic stabbing headache has been described as stabbing or brief sharp pain that may occur repeatedly or as a single episode as an "ice-pick" stabbing. They are sometimes referred to as "jabs and jolts." The duration may be 5 to 10 seconds with moderate severity, recurring up to 50 times daily. Once the intense pain has subsided, however, many patients will report a localized tenderness over the area of the intense pain for hours later. The location of the pain may change from one attack to the next.

Although, unlike migraine, there are no obvious triggers, some patients have reported sudden change in head position, motion, change in posture, physical exertion, and emotional stress as possible factors.

Indomethacin may provide a partial or complete (as in this patient) improvement for patients with ice-pick headache. Improvement has been reported in small series of patients inconsistently with doses of 50 mg tid.

To summarize, short, severe head pains may be manifestations of intracranial, skull base, or posterior fossa lesions. The diagnosis is based on history and exclusion of these structural lesions. Recognition and diagnosis of these short, severe headache syndromes is critical since treatment can be effective and differs from other headache disorders. MRI may be warranted to exclude skull base pathology.

Ice-pick headache may accompany other primary headache types. In a survey of 100 migraine patients, 57% reported ice-pick attacks occurring more than monthly. These attacks most commonly preceded or accompanied a migraine attack. Jabs and jolts headaches have also been described in cluster, CPH, and hemicrania continua headaches. In many patients, idiopathic stabbing headaches occur as a completely separate entity.

Table 24-2. Primary Short-lasting Headaches

Prominent Autonomic Features	Sparse or No Autonomic Features
Cluster headaches*	Trigeminal neuralgia*
Chronic paroxysmal hemicranias*	Idiopathic stabbing headache*
Episodic paroxysmal hemicranias	Cough headache
SUNCT syndrome	Benign exertional headache*
Cluster-tic syndrome	Headache associated with sexual activity*
	Hypnic headache

Adapted from Goadsby and Lipton, 1997.

*Denotes inclusion in 1988 International Headache Society criteria.

Selected Readings

Committee of the International Headache Society. Classification and diagnostic criteria for headache disorders, cranial neuralgias and facial pain. Cephalalgia 1988;8 Suppl 7:1–96.

Goadsby PJ, Lipton RB. A review of paroxysmal hemicranias, SUNCT syndrome and other short lasting headaches with autonomic feature, including new cases. Brain 1997; 120:193–209.

Headache Classification Committee of the International Headache Society. Classification and diagnostic criteria for headache disorders, cranial neuralgias, and facial pain. Cephalalgia 2004;24 Suppl 1:1–160.

Newman LC. Effective management of ice pick pains, SUNCT, and episodic and chronic paroxysmal hemicrania. Uncommon headache syndromes. Curr Pain Headache Rep 2001;5:292–9.

Pareja JA, Kruszewski P, Caminero AB. SUNCT syndrome versus idiopathic stabbing headache (jabs and jolts syndrome). Cephalalgia 1999;19 Suppl 25:46–8.

Pareja JA, Ottar S. SUNCT syndrome. A clinical review. Headache 1997;37:195–202.

Editorial Comments

As can be seen in other cases in this volume, the spectrum of short-lasting headache disorders is now recognized to be greater than that recognized in the past. All clinicians can probably accept some degree of "ice-pick headache" or what is now called "primary stabbing headache" as part of migraine. However, jabs and jolts headache, on its own, does constitute a distinct entity that must be recognized by patients and diagnosticians alike. This is because, as with many other short-lasting headache disorders, it is so responsive to indomethacin. The mechanism of these sharp repetitive jabs remains uncertain, yet one suspects a neurally based explanation. This case expands our thinking, diagnostic considerations, and therapeutic options for this and similar disorders.

Final diagnosis:

Idiopathic stabbing headache (ice-pick pains; jabs and jolts; primary stabbing headache)