Is a Hemicranial Headache Always Migraine?

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The first step in evaluating a headache patient is to identify or exclude potential causes of headache based on a thorough history and examination. Once secondary headache disorders are excluded, the clinician can diagnose a primary headache disorder. There are a number of primary headache disorders where unilateral or hemicranial pain supports the diagnosis. The most important disorders include migraine and the trigeminal autonomic cephalalgias. Less common headache conditions include nummular headache and epicrania fugax. One secondary disorder that will also be discussed is cervicogenic headache.

A **migraine headache** is typically unilateral; however, only about 60% of migraine sufferers have hemicranial pain. Approximately 15% of migraine attacks may be unilaterally side-locked and while typically benign if associated with aura, a concern for an underlying AVM should be strongly considered. The pain is often pulsating, moderate to severe in intensity, and aggravated by routine physical activity. Each untreated or unsuccessfully treated attack typically lasts from 4 to 72 hours in adults without treatment. The presence of photophobia and phonophobia or nausea and/or vomiting as accompanying phenomena is a criterion for the diagnosis of migraine. Some patients experience variable sensations, referred to as prodromal symptoms, antecedent to their attacks of migraine headache. These symptoms may include psychological, neurological or constitutional phenomena.

The trigeminal autonomic cephalalgias (TACs) include cluster headache, the paroxysmal hemicranias and short-lasting neuralgiform headache with conjunctival injection and tearing (SUNCT). Each of these disorders occurs in an episodic and chronic form. All of them have in common the occurrence of unilateral pain in the distribution of the first division of the trigeminal nerve and ipsilateral autonomic features.

Unlike migraine, the pain of **cluster headache** is invariably unilateral and side-locked for every attack and during every cluster period (the interval of time containing sequential attacks). Cluster headache attacks are briefer than migraine headaches, lasting 15 to 180 minutes. Although autonomic symptoms such as lacrimation, conjunctival injection, nasal congestion, ptosis, miosis, eyelid swelling and rhinorrhea may accompany some migraine attacks, they are much more prominent in cluster headache and other TAC syndromes. A curious, and often helpful, point of distinction between cluster and migraine headaches is the contrasting behavior of sufferers during the attacks. Migraine patients typically retire to a dark and quiet room and attempt to sleep, whereas the cluster sufferer is agitated and restless, preferring to pace about frantically. Nausea, vomiting, photophobia, and phonophobia have been reported as accompaniments to cluster headache attacks. Prodromal and aura symptoms are uncommon in patients with cluster headache, and the pain of cluster headache begins abruptly and escalates rapidly. While migraine is often present upon awakening, cluster headache often wakes one from sleep at a specific time each night.

In addition to cluster headache, other TACs include paroxysmal hemicranias, short-lasting neuralgiform headache with conjunctival injection and tearing (SUNCT), and hemicrania continua. The differences between cluster headache and the other trigeminal autonomic cephalalgias are the duration and frequency of daily attacks and their responses to particular treatments. Cluster headache typically lasts from 15 to 180 minutes and occurs one to eight times daily; the **paroxysmal hemicranias** are brief (2 to 45 minutes), but occur more frequently (one to 40 attacks daily). Cluster headache occurs more frequently in men, while episodic paroxysmal hemicrania usually affects women. The **SUNCT syndrome** has an extremely brief attack duration (5 to 240 seconds) and greater attack frequency (one daily to 30 an hour). The diagnosis of **hemicrania continua** is often overlooked. It is a continuous, exclusively one-sided, moderately severe headache with occasional painful exacerbations. The autonomic features in hemicrania continua are less prominent than they are in cluster headache and the paroxysmal hemicranias. Unlike cluster headache and the SUNCT syndrome, the paroxysmal hemicranias and hemicrania continua show a dramatic therapeutic response to indomethacin.

Nummular headache is an uncommon headache disorder characterized by intermittent or continuous scalp pain that is well demarcated, fixed in size and shape, round or elliptical, and ranging from 1-6 centimeters in diameter. To date, in the majority of instances, nummular headache arises without any precipitating factor. The painful area may be located in any part of the scalp, but is usually on the side of the head or the temple. Rarely, nummular headache may be located in two or more locations on the head. Pain intensity is generally mild to moderate, but occasionally severe. The duration is highly variable, lasting from as short as seconds up to daily and continuous pain. Sensory disturbances commonly occur in the affected area of pain.

Epicrania fugax is characterized by brief paroxysms of recurrent stabbing head pain lasting 1-10 seconds which moves in a linear or zigzag trajectory across the surface of one side of the head, commencing and terminating in the territories of different nerves. The pain of epicrania fugax may originate in a particular area of the back or side of the head and move towards the front of the head or originate in the front of the head, the eye or the nose and moves towards the back of the head. Between attacks, many patients have continuous or intermittent pain and/or tenderness at the area of pain origin. Pain frequency is extremely variable and some patients have spontaneous remissions. Preventive therapy is required when the paroxysms are frequent and non-remitting.

Cervicogenic headache is characterized by unilateral, nonthrobbing pain emanating from a source in the neck with radiation to one or more regions of the head. Clinical features may include neck pain, focal neck tenderness, exacerbation of pain by neck movements or pressure over points in the neck, reduced range of motion in the neck and migrainous features of photophobia, phonophobia, nausea or vomiting. Since many of these features can occur in other headache disorders such as migraine and tension-type headache, a diagnostic blockade of cervical structures or nerves is required to establish this diagnosis.

References:

1) Headache Classification Committee of the International Headache Society: The International Classification of Headache Disorders 3rd edition (beta version). Cephalalgia 2013;33(9):627-808.

2) Silberstein SD, Lipton RB, Dodick DW. Wolff's Headache 8th ed. New York: Oxford University Press 2008.