ABSTRACT

Thirty subjects with self-diagnosed sinus headache participated in this study to determine if perhaps they may have migraine with sinus manifestations. As many as 97% of the subjects met the International Headache Society (IHS) criteria for migraine diagnosis. Further, more than one half of subjects had talked with their physicians about their "sinus" headaches, though none had undergone a work up for sinus pathology nor been diagnosed with migraine. These findings show that although these subjects reported sinus headache, review of symptoms suggest the presence of migraine, according to IHS criteria.

Sinus headache is a frequent complaint among patients treated in clinical practice. It was observed that many patients complaining of sinus headache were exhibiting typical migraine symptoms along with their classic sinus symptoms (epidemiological data show that patients who have been diagnosed with migraine frequently also report sinus headaches, although diagnostic criteria for sinus headache are not clearly defined). Many patients were presenting with significant nasal stuffiness, drainage, and pressure just above the bridge of the nose or in the cheekbones. Yet at the same time, many were experiencing significant headache-related disability, photophobia, and nausia, all suggesting migraine. Clinically, with such obvious sinus manifestations, patients would likely be diagnosed with sinus headache and treated with analgesics and other frequently prescribed sinus therapies. Yet if self-described sinus headaches are in fact migraine with sinus manifestations, patients may not be fully diagnosed, and may therefore be deprived of therapeutic relief from migraine-treatment regimens.

To test this hypothesis, a population self-diagnosed with "sinus" headache was investigated. Among the 30 study subjects, none had ever been diagnosed by a physician with migraine headache nor had a work up for sinus headache. Patients ranged in age from 18 years to 65 years, and 73% were female. Inclusion criteria included at least a 1-year history of self-described sinus headaches, with 1 attack per month in the previous 6 months. In addition, subjects had to experience at least 1 of the following symptoms with their headaches: moderate to severe pain; pain increased with activity; unilateral pain; nausea or vomiting; photophobia and/or phonophobia; or pulsating pain. Patients who experienced definitive symptoms of sinus infection—fever, purulent discharge, or radiographic evidence of sinus infection—were excluded from the study. Also excluded were patients who had been previously diagnosed with migraine or who had been treated with triptans, or who had 15 or more headache days per month.

Based on a presentation by Curtis P. Schreiber, MD

Headache Care Center, Springfield, Missouri.
days per month. Forty-one patients failed screening, most commonly as a result of having 15 or more headache days per month.

Screening evaluation consisted of a history and physical examination, administration of the headache impact test (HIT-6), and completion of the Satisfaction with Therapy questionnaire. Surprisingly, as many as 97% of subjects reported moderate to severe pain (Figure 1). Nearly two thirds of the subjects reported symptoms that fulfilled the diagnostic criteria for migraine without aura (IHS 1.1), while one third qualified for a diagnosis of migraine headache (IHS 1.7) (Figure 2).

Also significant was the fact that 63% of subjects with self-described sinus headaches reported very severe impact on routine daily activities, as revealed by their HIT-6 scores (Figure 3). All subjects reported at least some headache-related disability from their self-described sinus headaches.

More than half of the subjects (53%) had talked with their physicians about their “sinus” headaches, though none had undergone a work up for sinus pathology nor been diagnosed with migraine. They had been treated for sinus headache with prescription medications, most frequently with antihistamines or nasal corticosteroids, with no further evaluation. In addition, subjects relied heavily on over-the-counter (OTC) treatment, with 77% reported having used 3 or more OTCs, the most frequently used being simple analgesics or a combination of acetaminophen with an antihistamine or decongestant.

Not surprisingly, 57% of subjects reported some degree of dissatisfaction with their baseline therapy, supporting the theory that sinus therapies would not offer relief if the headaches were migrainous. Some level of satisfaction was reported by 33% of study subjects, and 10% of reports were neutral.

These findings show that although these subjects reported sinus headache, review of symptoms in the population studied suggest the presence of migraine or migrainous headache as classified by IHS criteria. Although clinicians and patients are sometimes inclined to discount the seriousness and severity of a perceived sinus headache, a serious and debilitating migrainous condition may be the underlying cause, indicating a need for migraine-specific therapies.

With regard to migraine threshold, several factors may come into play. Physicians generally associate migraine triggers such as flickering lights or glare, stress, and change in sleep pattern with lowering of the migraine threshold. However, among study subjects, a very commonly reported association was weather changes, which may explain why subjects presumed their headaches to be sinus related. In terms of migraine pathophysiology, research has shown that the trigeminal nerve is involved in the first part of the migraine process, i.e., dysfunction of the trigeminal nerve at the level of the meninges is involved in mediating the typical head pain of migraine. Dr. Schreiber and colleagues have suggested that dysfunction at other levels of the trigeminal nerve, such as the frontal, nasal, and infraorbital nerves, may be the level at which the first dysfunction occurs in patients with self-described sinus headache, which may explain the early sinus symptoms such as stuffiness, pressure, and drainage present at headache onset that ultimately develop into symptoms more typical of migraine.

While this theory illustrates the need for further research, current knowledge is limited. Patients with self-described sinus headache often have headaches that would be characterized as migraine or migrainous by IHS diagnostic criteria, with significant resultant disability, but fail to seek medical evaluation. In this study those who sought medical care were often treated based on their self-diagnosis, without further physician evaluation, and the majority were dissatisfied with the treatment received. Additional research needs to explore whether sinus headaches have a differing or unique pathophysiology relative to migraine, or whether sinus symptoms are in the preheadache phase for some migraine patients. --GB