ABSTRACT

Several disorders are known to be comorbid with migraine (e.g., depression, anxiety disorders, and epilepsy). Many of the therapies being used to treat migraine were originally approved to treat other comorbid conditions (e.g., antidepressants, antiepileptic drugs). This study sought to examine the relationship between migraine disability and known or potential comorbid disorders (fibromyalgia, chronic fatigue syndrome, late luteal (premenstrual syndrome) dysphoric disorder, depression, and irritable bowel syndrome), in the hopes of better defining the diagnosis of each and to explore opportunities for optimizing therapy. Disability was measured using the well-validated Migraine Disability Assessment Scale (MIDAS). The results show that depression is associated with very severe migraine disability. Those with no depression were evenly distributed between those with MIDAS grades of IV or below IV, so MIDAS is considered to be sensitive to depression but not specific. It is important to understand the extent of disability with migraine and comorbid conditions in order to recognize the high incidence of moderate to severe disability with high incidence of comorbid depression. Future work will examine the effects of comorbid conditions, in particular depression, on response to medication.


Comorbidity refers to the greater-than-coincidental association of 2 conditions in the same individual. The concept of comorbid conditions with migraine has been recognized for several years. Several leading headache investigators have discussed the observation of several disorders comorbid with migraine (e.g., depression, anxiety disorders) and epilepsy.1-4

Understanding comorbidity in migraine has several important implications for both diagnosis and treatment. With migraine, comorbidity of some disorders may be so common that it should automatically be considered with a diagnosis of migraine. Also, therapeutic options will be affected with the presence of a comorbid disorder. However, in these situations, comorbidity does not always limit therapeutic options. In fact, in some cases, both disorders can be treated with 1 medication. For example, antiepileptic agents have been shown to be very effective as migraine prophylaxis and can be used to treat the comorbid epilepsy. Antidepressants, particularly the older tricyclic antidepressants, may be very useful in treating migraine and comorbid depression.5
This study sought to examine the relationship between migraine disability and potentially or known comorbid disorders, including depression, in the hopes of better defining the diagnosis of each and to explore opportunities for optimizing therapy. The Migraine Disability Assessment Scale (MIDAS) questionnaire measures headache-related disability as lost time due to headache from paid work or school, household work, and nonworking activities. MIDAS has proven to be a valuable and reliable tool in assessing disability in population-based studies. Its use in clinical practice is not well defined, but Lipton et al have assessed the correlation of the MIDAS score with physicians’ perceptions of the need for medical care based on medical histories and found a strong relationship ($r = 0.69$). Physician estimates of pain were directly correlated with increasing MIDAS scores.

Similarly, the impact of comorbid depression in migraine, although well studied, is not well defined in terms of migraine disability. Lipton et al examined the correlation between migraine, depression, and quality of life (in the US and the UK migraineurs) and control subjects from the general population. They found that migraine and depression are highly comorbid and they exert a significant, independent influence on each other. Health-related quality of life was significantly reduced in subjects with migraine and depression compared with migraineurs who were not depressed.

In this study, 100 sequential patients from a specialist headache treatment clinic were identified. They were diagnosed with International Headache Society (IHS)-defined migraine. Upon study entry and on the same day patients completed the MIDAS and Beck Depression Inventory (BDI). They were also given questionnaires that were based on the defined criteria from the national academies responsible for creating diagnostic criteria. The defined criteria included fibromyalgia, chronic fatigue syndrome (American Rheumatology Association criteria), late luteal (premenstrual syndrome) dysphoric disorder, and irritable bowel syndrome. These conditions were chosen because they commonly coexist with migraine and can exacerbate the intensity or severity of the other condition.

The MIDAS scoring system divides patients into 4 grades, ranking them from mild to no disability (Grade I), moderate disability (Grade II), severe disability (Grade III), and very severe disability (Grade IV). The BDI is a self-rated, 21-item scale that assesses mood and thought content. Scores range from 0 to

| Table. Depression Is Associated With Greater Incidence of Severe Disability |
|-----------------------------|-----------------------------|-----------------------------|
|                             | MIDAS Grade IV | MIDAS Grade <IV |
| BDI Grade 2 to 4            | 24$^*$          | 4               |
| BDI Grade 1                 | 36              | 36              |

$^*$Chi square, $P < .001$ vs MIDAS Grade <IV.

MIDAS = Migraine Disability Assessment Scale; BDI = Beck Depression Inventory.
3, with 0 indicating “least depressed” and 3 indicating “most depressed.”

The patient demographics from this study were typical of those seen in other published studies of migraineurs. The ages ranged from 11 years to 83 years, with a median of 40 years. The patients with migraine with aura (MA) and migraine without aura (MO) were evenly represented (n = 50, n = 47, respectively). Similarly, female to male ratios were about 7:1 (MA) and 2.5:1 (MO). Only 3 patients (all female) had IHS-defined migrainous disorder.16

Figure 1 shows the incidences of depression and disability MIDAS Grade IV of the patient cohort. Of note, very severe disability is more common than depression; however, their distributions are almost equal between MA and MO. As shown in the Table, depression is associated with greater incidence of severe disability with 6 times as many depressed patients having very severe disability compared with those with less severe disability (ie, MIDAS grade <IV). Those with no depression were evenly distributed between those with MIDAS grades of IV or below IV. The mean MIDAS grade for those with BDI Grade 2 to 4 (score 1 to 3) was 3.75 ± 0.70, compared with 2.93 ± 1.24 in those with no depression (BDI Grade 1, score 0; P = .0001). In fact, these results show that MIDAS is sensitive to depression, but not specific. Sensitivity and specificity were calculated to be 87% and 46%, respectively.

As shown in Figure 2, the incidence of the other potential comorbid disorders was low compared with depression.

This study supports previous research indicating that there is a high incidence of moderate to severe disability and a high incidence of comorbid depression in migraine clinic patients. Clearly depression is associated with a high incidence of severe disability, and MIDAS as a measure of disability is sensitive to, but not specific for, depression.

Future studies will evaluate the effect of the presence or absence of depression on response to medication as well as headache frequency and intensity since MIDAS indirectly measures more intangible processes such as functional and behavioral responses to pain.

REFERENCES


