

Shall Migraine be Considered a Simple Benign Headache Disorder?

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Abstract: Migraine is a primary headache disorder which has received little attention from health care policies and physicians. This has led to ineffective management and more suffering to the patients and society. Migraine per se is a disabling disease which has its impact on the patient, family and work. It is associated with high incidence of psychiatric co-morbidities, especially depression and anxiety as well as other mental disorders. Depression affects around 80% of chronic migraineurs, an association that adds to the suffering. It has been confirmed as risk factors for developing radiographic and clinically evident ischemic cerebrovascular infarctions. Lately, it was associated with angina, myocardial infarction and intracerebral hemorrhage. Migraine plays a central role in the pathogenesis of these diseases, not just a simple association. These comorbidities and the disabilities migraine makes should change our views of migraine as a simple headache disorder, and directs our efforts to a better recognition and an effective management for the prevention of the disease associated morbidity.

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Introduction

Migraine is a common disabling primary headache disorder. Epidemiological studies have documented its high prevalence and high socio-economic and personal impacts [1, 2]. It is ranked by the World Health Organization as number 19 among all diseases world-wide causing disability [1]. Despite the prevalence [2], severity [3], and burden of migraine [2, 4], recent surveys suggest that fewer than half of the current migraine sufferers have ever received a medical diagnosis of migraine. Only one-third of migraine sufferers currently receive treatment with prescription drugs [2, 3].

Migraine is a public health problem of an enormous scope that has an impact on both the individual and society [5]. Up to 92% of women and 89% of men with severe migraine had some headache-related disability, and approximately half of them are severely disabled or require bed rest [3]. In addition to attack-related disability, many patients with migraine live in fear, knowing that at any time an attack could disrupt their ability to work, care for themselves or their families, or meet social obligations [3, 4].

Abundant evidence indicates that migraine reduces health-related quality of life (HRQOL) [2, 3, 5]. These decrements are substantial, independent of depression, and associated with attack frequency and headache-related disability. Depression itself also reduces HRQOL in subjects with migraine [5].

Evidence from a large number of methodologically sound population studies has appeared to verify the association between migraine and comorbid mental health conditions [4], especially depression and anxiety compared to non-migraine controls [4-9]. Odds ratios (OR) of 4.2 for major depression, 6.1 for panic disorder, and 2.8 for any anxiety disorder have been found. A potential association between migraine and bipolar disorder or substance abuse disorders was also recorded [4].

The comorbidity is much higher in those with chronic migraine [6-9]. The prevalence of major depression in chronic migraineurs approaches 80% in subspecialty clinics [8, 9]. Major depression and psychiatric co-morbidity in persons with migraine may exacerbate the impact of the illness and complicate treatment adding to personal suffering and loss of productivity [3].

There is a complex bidirectional relation between migraine and stroke, including migraine as a cause of stroke, migraine as a risk factor or as a consequence of cerebral ischaemia, and migraine and cerebral ischaemia sharing a common cause [10].

Neuroimaging (CT and MRI) studies in patients with migraine have shown an increase in white-matter abnormalities compared with controls [10]. The landmark CAMERA study [11] found that individuals with migraine had an 8% prevalence of radiographic infarction in comparison with 5% prevalence among controls ($P = 0.23$). This association was the strongest for posterior circulation infarcts (5.4% vs. 0.7%; $P = 0.02$), a location implicated in earlier studies of stroke in persons with migraine [11].

In a meta-analysis of 14 studies, 11 case-control studies, three cohort studies [12], the pooled relative risk for ischaemic stroke among patients with any type of migraine headache was 2.16, and the relative risks for people with migraine with and without aura were 2.27 and 1.83. This risk did not differ when the analysis was stratified by age. The users of oral contraceptives had an approximately eightfold increase in the risk of stroke compared with those not using these agents [12].

The magnitude of this risk remained the same across all studies (case-control and cohort) and in those that provided data on migraine with aura, migraine without aura, and oral contraceptive users. The results of this meta-analysis strongly suggest that migraine may be an independent risk factor for stroke [12].

Recent population-based studies have confirmed this relation between MA and ischaemic stroke in women. The Atherosclerosis Risk in Communities reported an odds ratio of 2.81 for ischemic stroke [13], and the Women's Health Study on women older than 45 years (odds ratio 1.71). Women with MA younger than age 55 had a greater increase in risk (OR 2.25) [14].

In a large, prospective study of initially apparently healthy women aged 45 years or older, any history of migraine was associated with the increased risk of major cardiovascular disease. Compared with no migraine history, active migraine with aura was associated with a significantly increased risk of subsequent major cardiovascular events, ischemic stroke, myocardial infarction, coronary revascularization,

angina, and death due to ischemic CVD after a mean follow-up of 10 years. These increased risks, which remained after adjusting for a large number of cardiovascular risk factors, ranged from a 1.7-fold increase for coronary revascularization to a 2.3-fold increase for cardiovascular death^[15].

Recent data from the Women's Health Study (WHS) on the association of migraine and hemorrhagic stroke revealed that women with active migraine with aura had an increase in both intracerebral and subarachnoid hemorrhage (HR, 2.28; P = 0.042). There were four additional hemorrhagic strokes per 10,000 women per year attributable to migraine with aura^[16].

Migraine plays a central role in the etiopathogenesis of the aforementioned comorbidities, not just a simple association through different mechanisms that have been revised elsewhere^[10-12]. Essential tremors, allergic rhinitis, bronchial asthma, epilepsy, Tourette syndrome and fibromyalgia are other comorbid conditions with high prevalence in migraineurs as compared to controls. However, it seems that it is neither implicated in the pathogenesis nor works as a risk factor for developing these disorders^[17, 18].

Given that migraine is associated with high risk of depression which is highest—around 80%—in chronic migraineurs, the risk of having panic disorder as well as other mental disorders with the associated morbidities of these mental disorders added to the disability migraine causes, the lost in productivity, work days, the direct and indirect costs of treating the disease and its complicating commorbidities.

Besides the risk of ischemic infarction, the risk of myocardial infarction, coronary revascularization, angina, death due to ischemic CVD, intracerebral and subarachnoid hemorrhage which has been shown in many studies and meta-analyses. We can't just say migraine is a simple primary headache disorder.

Migraine is a systemic disorder with pathological changes that involve far beyond the brain and the head pain that it is well known for^[21, 22]. These changes are multiple and may predispose to serious medical complications. This prompts for a change in the way migraine is perceived and dealt with from health care professionals, health policy makers and patients towards a more enlightened vision that leads to a better understanding and management of the disease.

This should be emphasized in those patients at a higher risk of developing migraine related complications namely young females, contraceptive users and patients with frequent headaches.

Previous research has shown a direct correlation between the frequency of migraine attacks and morbidity^[19, 20]. Proper headache health education and effective management may help reduce the incidence of the hazards associated with migraine.

Conclusion

Migraine is a public health problem of an enormous scope that has an impact on both the individual and society. Migraine causes headache-related disability. In addition to attack-related disability, many patients with migraine live in fear, knowing that at any time an attack could disrupt their ability to work, care for themselves or their families, or meet social obligations.

It is associated with a high risk of depression, a risk of having panic disorder as well as other mental disorders with the associated morbidities of these mental disorders added to the disability migraine causes, the loss in productivity, work days, the direct and indirect costs of treating the disease and its complicating commorbidities.

Besides the risk of ischemic infarction, the risk of myocardial infarction, coronary revascularization, angina, death due to ischemic CVD, intracerebral and subarachnoid hemorrhage has been shown in many studies and meta-analyses. We can't just say migraine is a simple primary headache disorder.

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