ID-Migraine is a sensitive tool for screening migraine among patients with multiple sclerosis

ID-Migraine é uma ferramenta sensível para identificação de enxaqueca em pacientes com esclerose múltipla

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ABSTRACT

Introduction: Migraine and multiple sclerosis (MS) have been described as comorbidities. While other types of headaches can be seen in patients with MS, it is migraine that usually adds to the burden of patients suffering from an already disabling and chronic neurological disease. Migraine is more prevalent in patients with MS than in the general population, and can be worsened by certain treatments that are used to control MS. ID-migraine is a tool to screen migraine in a population. It consists of only three self-reported questions, and shows good sensitivity, specificity and reliability. The aim of the present study was to assess the role of ID-migraine as a potential tool for screening migraine in patients with MS. **Method:** Patients diagnosed with MS for at least one year were invited to answer ID-migraine. Demographic data and information on MS therapy were obtained at the same time. **Results:** Sixty-two patients participated in the study. There were 16 men and 46 women, of average age 35 years. Migraine was identified in 51.5% of them and 18% reported having the characteristics of chronic migraine. ID-migraine showed 93% sensitivity and specificity for migraine in this population. The medication most frequently associated with worsening of previous migraine was interferon beta 1-a (27.4% of the cases). **Conclusion:** ID-migraine was shown to be a potential tool for identifying migraine in patients with MS. However, the high prevalence of migraine in this population may have constituted a selection bias, since most patients without headache may not have felt inclined to participate in this voluntary investigation. The results from this pilot study will be expanded and investigated in more detail in a large national study.

Keywords: Migraine; Headache; Multiple Sclerosis; Interferon.

RESUMO

Introdução: Enxaqueca e esclerose múltipla (EM) têm sido descritas como comorbidades. Enquanto outros tipos de cefaleia podem ser vistos em pacientes com EM, é a enxaqueca que geralmente completa a incapacidade de um paciente que já sofre de uma doença neurológica crônica e incapacitante. Enxaqueca é mais prevalente em pacientes com EM do que na população geral e pode piorar quando certos tratamentos são utilizados para o controle da EM. ID-Migraine é uma ferramenta utilizada para avaliar enxaqueca em populações. Consiste em apenas três questões auto relatadas, mostrando boa sensibilidade, especificidade e confiabilidade. O propósito do presente estudo foi avaliar o papel de ID-Migraine como potencial ferramenta para determinação de casos de enxaqueca em pacientes com EM. **Método:** Pacientes diagnosticados com EM por pelo menos um ano foram convidados a responder ID-Migraine. Dados demográficos e informações sobre tratamento da EM foram obtidos na mesma ocasião. **Resultados:** Sessenta e dois pacientes participaram deste estudo. Foram 16 homens e 46 mulheres, com média de idade de 35 anos. Enxaqueca foi identificada em 51,5% deles, sendo que 18% relataram características de enxaqueca crônica. ID-Migraine mostrou 93% sensibilidade e especificidade para esta população enxaquecosa. A medicação mais frequentemente associada com piora de enxaqueca previamente existente foi a interferona beta 1-a (27,4% dos casos). **Conclusão:** ID-Migraine mostrou-se uma opção para identificação de casos de enxaqueca em pacientes com EM. No entanto, a alta prevalência de enxaqueca na população estudada pode refletir um viés de seleção, uma vez que muitos pacientes sem cefaleia podem não ter se sentido dispostos a participar da investigação. Os resultados deste estudo piloto serão expandidos e investigados com maiores detalhes em um amplo estudo nacional.

Descritores: Enxaqueca; Migrânea; Cefaleia; Esclerose Múltipla; Interferona

INTRODUCTION

Patients with multiple sclerosis (MS) are consistently reported as having higher prevalence of headaches, particularly migraine[1]. The reason for this finding is yet to be clarified, but the predominance of inflammatory cytokines and adverse events from medications rate highly among the potential causes of increased prevalence of headache among MS cases[2]. In addition, demyelinating lesions in and around the periaqueductal grey area may be associated to (often-intractable) headaches in patients with MS[3,4]. Adverse events relating to MS therapy may also account for the onset or worsening of migraine[5,6].

ID-Migraine is a simple three-item questionnaire that is used for screening migraine cases in primary care. However, it has only rarely been used in MS clinics[7]. It has been validated in several languages, including Brazilian Portuguese[8]. Only one previous study investigated the potential use of ID-Migraine among patients with MS[9]. In this previous Italian study, ID-Migraine showed high sensitivity (91%) and specificity (94%) for identifying migraine in 144 patients with MS. The present investigation was a pilot study with the aim of expanding these data, through including a population of Brazilian patients with MS in which ID-migraine was used.

METHOD

This was a cross-sectional study carried out in three university MS centers. Patients with MS attending regular consultations at these centers were invited to reply to an online questionnaire that sought ID-migraine responses. Cases of episodic and chronic migraine were diagnosed in accordance with thecriteria of the International Headache Society (ICDH-3)[10].Details of these patients' MS therapy were recorded. All information was obtained online without identification of patients.No healthcare professional had any influence on the responses that patients gave. Only patients with at least one year of confirmed diagnoses of MS were included in the study. The results are presented mainly in a descriptive manner.

RESULTS

Sixty-two patients entered this pilot study. The group consisted of 16 men and 46 women, of average age 35 years. All of them had had a diagnosis of MS for at least one year. Migraine was identified in 51.5% of these patients. Among these individuals, 69% reported having aura occasionally, but most attacks were migraine without aura. Eighteen percent of the patients with migraine fulfilled the diagnostic criteria of chronic migraine.

ID-Migraine identified 10 men and 20 women as migraineurs in this study. Using the ICDH-3 criteria, eight men and 20 women had all the necessary items for diagnosing migraine.Thus, ID-Migraine presented 93% specificity. The questionnaire showed 100% sensitivity, since no cases of migraine were identified using the ICDH-3 criteria and not through ID-Migraine.

Thirty-one patients in this study reported having had migraine episodes before they received the diagnosis of MS, while only one person started having migraine after being diagnosed with MS. Onset or worsening of migraine due to MS therapy was observed in 20 patients (62.5%). Interferon beta 1-a led to worsening of migraine in 27.4% of the patients, irrespectively of the mode of administration of this drug (subcutaneously or intramuscularly).

DISCUSSION

This pilot study showed that ID-Migraine is a sensitive and specific tool for screening migraine in populations of patients with MS. If we apply this questionnaire in our MS centers, we may be able to identify a large group of patients in need of special attention to their headache. MS clinics tend to concentrate efforts on maintaining good neurological function, appropriate mobility, visual ability, adequate coordination and sphincter function, cognition, control of neuropathic pain (such as trigeminal neuralgia), but without any specific programs for attending to primary headaches. Since migraine can negatively influence patients' quality of life, mood, sleep and cognition[11], it is important to address migraine in patients with MS.

The very high prevalence of migraine in this population (51.5%) may have been biased by the online tool that was used for screening. It is plausible that only individuals who suffer from headache might feel inclined to reply to an online survey on headache. However, other studies have reported migraine in 50% of patients with MS[2,4] and the results obtained here may just reflect the same prevalence in Brazilian patients. In fact, the only other previous study using ID-Migraine to screen patients with MS showed that 53.5% of the patients had a diagnosis of migraine.
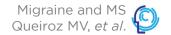
Interferon beta 1-a was associated with worsening of migraine in these patients. This finding has been systematically reported by other authors[5,6,12] and often directs neurologists caring for patients with MS not to prescribe interferon beta 1-a whenever there is a concomitant history of migraine. More recently, other drugs have been described as headache triggers[13], but the population of this pilot study did not allow for further assessments.

CONCLUSION

ID-migraine was a sensitive tool for identifying migraine in patients with MS and its use can be implemented in MS units. As previously described by several groups, interferon beta may worsen migraine symptoms.

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