Multiple sclerosis caused by drug-induced hepatitis: A rare case report

Rodrigo Marmo da Costa e Souza1,2 and Thiago Monteiro de Paiva Fernandes*1
1Cognitive Neuroscience and Behavior Program, Federal University of Paraiba, Joao Pessoa, Brazil
2Chief and Surgeon, Neurology Department, Emergency and Trauma Hospital, Joao Pessoa, Brazil

Abstract

A 51-year-old white Brazilian woman initially presented symptoms similar to migraine and chronic pain after the birth of her second child. After confusing diagnosis and continuous use of painkillers, the patient presented drug-induced hepatitis. A complete neurological evaluation was performed, where the imaging tests proved the existence of multiple sclerosis (MS). According to our knowledge, this is the first reported case in the literature. Thus, our study highlights the importance of alerting physicians in closely observing the variables presented in each neurological case.

Background

Multiple sclerosis (MS) is a demyelinating disease of the central nervous system, having as factors of association inflammation, degeneration and autoimmune processes [1]. Early diagnosis of MS is still a challenge and depends on detailed clinical analysis, excluding other neurological diseases with similar characteristics [2,3].

Here we describe the case of a 51-year-old woman who initially presented similar symptoms to migraine and chronic pain after the birth of her second child. After confusing diagnosis and continuous use of painkillers, the patient presented drug-induced hepatitis. A complete neurological evaluation was performed, where the imaging tests proved the existence of MS. According to our knowledge, this is the first reported case in the literature.

Case presentation

A 51-year-old white Brazilian woman began to experience severe pain in the head and forehead after the birth of her second child. In a clinical interview, the patient reported absence of visual symptoms and according to the International Headache Society criteria (ICHD-III) [4], the patient was diagnosed with migraine without aura, and nortriptyline (25mg/day) was prescribed. The patient discontinued the medication spontaneously after seven months, complaining of notable weight gain and irritability. After continuing experiencing severe pain in the head and forehead region, the patient began to use Cefaliv (3 times/day).

In a new clinical interview, the patient reported that the headaches began after the birth of her second child and increased after reaching the age of 45 years. No family history of migraine, neuropsychiatric disorders, substance abuse has been reported. Neurological examination indicated slight impairments in information processing speeds. Ophthalmologic examination indicated intraocular pressure of 17.09 ± 2.25 and no abnormalities were observed in the specular corneal microscopy exam. The patient reported no symptoms such as photosensitivity or epileptic seizures, but mentioned that a complete battery of exams had been performed previously. Conventional electroencephalography (EEG) and magnetic resonance imaging (MRI) studies comprising T1, T2 and Flair (Figure 1) were performed.

Examination of EEG indicated epileptiform activity in outbreaks in temporal areas of the right hemisphere. Her physician denied clinical significance for imaging tests a performed a susceptibility weighted imaging (SWI) (Figure 2).

During the following queries, the patient complained experiencing depressive symptoms and agoraphobia. She reports that her physician observed the new imaging tests and noted that there was also no clinical significance. Considering the psychological symptoms comorbidities of migraine, the patient was prescribed paroxetine (50 mg/day). However, the patient noticed continuity of psychological and physical symptoms. About a year using the same medication, the patient presented a discomfort followed by pain in the abdomen. In new neurological examination, abdominal MRI was performed and drug-induced hepatitis was observed (Figure 3).

In a new neurological evaluation, the neurosurgeon indicated that the MRI results for T1 and T2 really did not indicate clinical significance. However, SWI showed calcification of the basal ganglia, and in Flair a slight microangiopathy was observed in the frontal horn.

Based on her medical history, it was hypothesized that she may have developed choric pain or multiple sclerosis after a possible postpartum depression. Since no exams were performed right after the birth of her child, and considering the elimination of misdiagnoses, the patient was

*Correspondence to: Thiago M. de Paiva Fernandes, Departamento de Psicologia, CCHLA – UFPB. Campus I, Cidade Universitária, CEP: 58051-90, João Pessoa - PB, Brazil, E-mail: thiagompfernandes@gmail.com

Key words: multiple sclerosis, chronic pain, neurological assessment, magnetic resonance imaging, case report

Received: April 22, 2017; Accepted: May 26, 2017; Published: May 30, 2017
diagnosed with multiple sclerosis caused by drug-induced hepatitis.

After treatment of hepatitis, gabapentin (100mg) 3 times daily was prescribed. There was no response. The dose was increased to 300mg 3 times daily. The patient will continue to follow up to observe the progress of the case.

**Discussion**

Multiple sclerosis (MS) is a demyelinating disorder of the central nervous system [1], and a common cause of disability in adults [5]. The occurrence of axonal damages may result in neuropathic pain, which makes it challenge to early diagnose MS. In the absence of disability, even in the earliest stages of disease evolution, the symptoms of MS and migraine may complicate an accurate diagnosis [6,7]. It is known that headaches and migraine are common in MS [7], but the absence of other diagnostic criteria for MS prevented this disorder from being detected early. In addition, given the inability to correlate the onset of MS after postpartum depression, the continued use of medications for more than 25 years was yet another factor that confounded physicians during this time.

Neurophysiological mechanisms involving migraine and MS are not completely understood [8,9], but there are some signs that may be observed as the idiopathic basal ganglia calcification [10], chronic fatigue [11], and the observation of the genesis and progression of microangiopathy [12,13].

Reduction in information processing speed [14] and executive functions [15] as well as increasing in intraocular pressure are indicative of MS [16]. However, to correlate these variables to MS, a

---

**Figure 1.** Flair MRI showing microangiopathy in the frontal horn.

**Figure 2.** Susceptibility weighted imaging showing basal ganglia calcification.

**Figure 3.** Abdominal MRI with contrast showing drug-induced hepatitis.
Multiple sclerosis caused by drug-induced hepatitis: A rare case report

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Funding
Not applicable

References
17. Kallet RH (2007) The role of inhaled opioids and furosemide for the treatment of dyspnea. Respir Care 52: 900-910. [Crossref]