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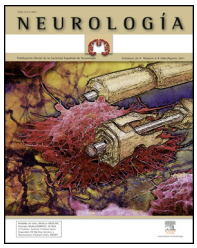

ORIGINAL ARTICLE

Myelitis: Differences between multiple sclerosis and other aetiologies☆,☆☆

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KEYWORDS
Myelitis;
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Abstract
Background: Myelitis can appear as an initial symptom in the context of demyelinating diseases, systemic inflammatory diseases, and infectious diseases. We aim to analyse the differences between myelitis associated with multiple sclerosis (MS) and myelitis resulting from other aetiologies.
Methods: Single-centre, retrospective analysis of patients with initial myelitis (2000-2013). Demographic, aetiological, clinical, radiological and prognostic variables were analysed and compared between patients with myelitis from MS and those with myelitis due to other aetiologies.
Results: We included 91 patients; mean follow-up was 7 years. Diagnoses were as follows: MS 57 (63%), idiopathic transverse myelitis 22 (24%), associated systemic diseases 6 (7%), and other diagnoses (6%). Myelitis due to MS was associated with younger age of onset (35 ± 11 vs 41 ± 13; $P = .02$), more pronounced sphincter involvement (40.4% vs 27.3%; $P = .05$), greater multifocal involvement in spinal MRI (77.2% vs 26.5%; $P = .001$), shorter lesion extension (2.4 vs. 1.4 vertebral segments; $P = .001$), cervical location (82.5% vs 64.7%; $P = .05$) and posterior location (89.5% vs 41.2%; $P = .001$). Myelitis due to other aetiologies more frequently showed anterior location (47.1% vs 24.6%; $P = .02$), and central cord involvement (47.1% vs 14.1%; $P = .001$), with better recovery at one year of follow up (EDSS 2.0 vs 1.5; $P = .01$). Multivariate analysis showed that multifocal spinal cord involvement (OR 9.38, 95% CI: 2.04-43.1) and posterior cord involvement (OR 2.16, 95% CI: 2.04-2.67) were independently associated with the diagnosis of MS.

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Conclusions: A high percentage of patients with an initial myelitis event will be diagnosed with MS. The presence of multifocal and posterior spinal cord lesions was significantly associated with the diagnosis of MS.
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PALABRAS CLAVE
Mielitis;
Esclerosis múltiple;
Mielitis idiopáticas;
Enfermedades sistémicas

Mielitis. Diferencias entre esclerosis múltiple y otras etiologías

Resumen
Introducción: Un primer brote de mielitis puede ocurrir en el contexto de enfermedades desmielinizantes, inflamatorias sistémicas o infecciosas. Nuestro objetivo fue analizar las diferencias entre mielitis asociadas a esclerosis múltiple (EM) y mielitis por otras etiologías.
Métodos: Análisis retrospectivo, unicéntrico, de pacientes con primer brote de mielitis (2000-2013). Se analizaron variables demográficas, etiológicas, clínicas, radiológicas y pronósticas, y se compararon entre mielitis por EM y mielitis por otras etiologías.
Resultados: Se incluyó un total de 91 pacientes. Tiempo medio de seguimiento: 7 años. Diagnósticos: EM 57 (63%), mielitis transversa idiopática 22 (24%), asociada a enfermedades sistémicas 6 (7%), otros diagnósticos (6%). Mielitis por EM: menor edad de inicio (35 ± 11 vs $.41 \pm 13$; $p = 0{,}02$), mayor afectación esfinteriana (40,4 vs 27,3%; $p = 0{,}05$), mayor afectación multifocal en la RM medular (77,2 vs 26,5%; $p = 0{,}001$), menor extensión de la lesión (segmentos vertebrales 2,4 vs 1,4; $p = 0{,}001$), localización cervical (82,5 vs 64,7%; $p = 0{,}05$) y localización posterior (89,5 vs 41,2%; $p = 0{,}001$). Mielitis por otras etiologías: mayor localización anterior (47,1 vs 24,6%; $p = 0{,}02$) y centromedular (47,1 vs 14,1%; $p = 0{,}001$) y mejor recuperación al año (EDSS 2,0 vs 1,5; $p = 0{,}01$). Análisis multivariante: la afectación multifocal medular (OR 9,38; IC 95%: 2,04-43,1) y del cordón posterior (OR 2,16; IC 95%: 2,04-2,67) se asociaron de forma independiente al diagnóstico de EM.
Conclusiones: Un alto porcentaje de pacientes con un primer brote de mielitis serán diagnosticados de EM. La presencia de lesiones medulares multifocales y en el cordón posterior se asocian de forma significativa a este diagnóstico.
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Introduction

Myelitis is an inflammation of the spinal cord characterised by the acute or subacute onset of sensory, motor, and autonomic symptoms (sphincter and sexual dysfunction) combined to varying extents.[1,2]

Aetiologies are very diverse, but mainly appear in the context of demyelinating diseases of the central nervous system, systemic inflammatory diseases, and infectious diseases.[1,2] In the case of the first scenario, myelitis can be the initial manifestation of multiple sclerosis (MS), disorders in the spectrum of neuromyelitis optica (NMO), or of other immune-mediated demyelinating diseases. These are different diseases that require distinct diagnostic procedures and specific treatments in order to prevent new episodes.

In 2002, the Transverse Myelitis Consortium Working Group proposed international criteria to define idiopathic acute transverse myelitis with the aim of improving differential diagnosis and standardising terminology for future studies.[3] In accordance with these criteria, a significant percentage of cases of myelitis appearing as an isolated neurological syndrome are classified as idiopathic in normal clinical practice. However, subsequent progression of myelitis may result in a change in diagnosis.[4,5]

The aim of our study was to analyse the demographic, aetiological, clinical, radiological, and prognostic characteristics of patients who presented an initial myelitis episode and compare characteristics of MS-related myelitis to those of myelitis of other aetiologies.

Material and methods

We performed a descriptive and retrospective analysis of data gathered prospectively from the iMed database. We included patients with at least one year of clinical follow-up at the demyelinating diseases unit due to an initial myelitis episode (January 2000-December 2013).

Study variables were as follows: (1) demographic: sex, age at onset; (2) clinical: type of involvement (sensory, motor, or sphincter), disability during the episode measured by the Expanded Disability Status Scale (EDSS); (3) laboratory: IgM oligoclonal bands (IgM OCBs), anti-aquaporin 4 antibodies (AQP-4), other autoantibodies (ANA, intrinsic factor, parietal cell antibody, anti-TPO, ECA, anti-smooth muscle); (4) radiological: spinal magnetic resonance imaging (MRI) (location, size, longitudinally extensive transverse myelitis [LETM] affecting ≥ 3 vertebral segments, unifocal

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