Demographic and clinical characteristics of optic neuritis at presentation of demyelinating diseases of the central nervous system. A study of 271 patients

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Introduction:

Subacute visual loss due to demyelinating optic neuritis (DON) is a common presentation to different demyelinating diseases of the central nervous system which have distinct pathophysiological mechanisms. It may occur either as an isolated syndrome or in association with other demyelinating symptoms.

Objective:

To describe the demographic and clinical features of DON at presentation of demyelinating diseases (DD) of the CNS in a large cohort.

Methods:

Retrospectively, we looked at patients with demyelinating diseases of the CNS who presented ON at their onset. In addition to demographic and clinical features of ON the following characteristics were analyzed: personal and family history of autoimmunity, presence of systemic autoantibodies, CSF features, and MRI abnormalities.

Results:

ON at onset of demyelinating diseases of the CNS was found in 271 patients. Characteristics of the cohort included: median age at onset of 30 (1.2-70) years; 214 (79%) were female; and 135/260 were non-Whites. Other findings included simultaneous bilateral ON in 87/268 (32.5%); association with other symptoms in 79 (29.2%); presence of CSF-specific oligoclonal bands in 52/168 (31%); MRI normal or atypical for MS in 157/251 (62.5%); longitudinally extensive optic nerve lesion in 44/117 (37.6%) and chiasmal lesion in 25/267 (9.7%) patients.

Table. Demographic and clinical characteristics of the cohort. N = 271

Characteristics	Frequency (%)
Median age at onset	30 (1.2 - 70)
Female	214 (79)
Non-whites (n=260)	135/260 (51.9)
Simultaneous bilateral ON (n=268)	87/268 (32.5)
Association with other symptoms	79 (29.2)
CSF-specific OCBs (n=168)	52/168 (31)
MRI normal or atypical for MS (n=251)	157/251 (62.5)
Longitudinally extensive optic nerve lesion (n=117)	44/117 (37.6)
Chiasmal lesion (n=267)	25/267 (9.7)

Conclusions:

Most frequently, ON at disease presentation of DD of the CNS occurs in young adult females and non-whites; is isolated and shows small gadolinium-enhanced optic nerve lesion on MRI; it is not associated with history of autoimmunity, presence of serum autoantibodies or CSF-specific OCB. In a companying work we show that ON occurring in different demyelinating diseases of the CNS exhibits individual characteristics. Identification of these characteristics at the time of disease presentation is an important step toward early diagnosis and treatment of the various demyelinating conditions.

References:

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