Paper

Demographic patterns of Sri Lankan patients with multiple sclerosis – and a regional comparison

Bimsara Senanayake[1]

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Abstract

Retrospective data from a series of Sri Lankan patients (n=35) with multiple sclerosis (MS) is described. This is believed to be the largest such case series with a descriptive analysis of data regarding the demographic patterns of MS in the country. Subsequently the Sri Lankan data are compared with similar series from India and Pakistan. The clinical spectrum of MS in Sri Lanka seems to be similar to that of the region with regards to age at onset, gender, dominant clinical presentations, and progression and disability patterns. Pyramidal, sensory and optic nerve involvement dominated the initial presentation while optico-spinal Devic's type being rare. Majority of the cases were of relapsing and remitting type. A significant proportion of patients had high EDSS scores with considerable disability. Usage of disease modifying agents (DMAs) was low across the region. In conclusion western type of MS seems to be the common form of the disease in Sri Lanka and in the region.

Index words: multiple sclerosis, optico spinal MS, Sri Lanka

Introduction

Multiple sclerosis is uncommon yet increasingly seen in Sri Lanka. The first cases were reported over a decade ago[1]. The apparent increase in the incidence could be the result of a combination of factors such as expansion of neurological services with more neurologists, availability of MRI facilities and greater awareness. However, accurate epidemiological data are not yet available. In this study the clinical characteristics, investigation findings, treatment methods and progression of the disease in 35 Sri Lankan patients with clinically definite MS (CDMS) is retrospectively analyzed. All 35 patients were diagnosed by a board certified neurologist using the revised McDonald criteria of 2005[2]. This data are compared with the available similar regional studies from India[3] and Pakistan[4].

Objective

The objective of this descriptive analysis was to study the demographic patterns of Sri Lankan patients with CDMS and to compare this data with the regional and western disease patterns.

Methods and Results

All patients included in the analysis were diagnosed as CDMS by a board certified neurologist using the revised McDonald criteria of 2005[2]. No family history of a similar illness was recorded in any of the patients. A Caucasian ancestry was found in one. One patient lived in an MS prevalent country in her childhood. Average age of the patients at onset was 29.8 years with the youngest being 15 years and the oldest 45 years. Majority of them (87%) were females. Pyramidal and sensory involvement was seen in 73% of the patients. Optic nerve involvement was noted in 70% of the patients. Bladder involvement (51%) and cerebellar signs (53%) were noted in approximately half the cases. Respectively 36.6% and 26.6% patients reported significant fatigue and pain. Tremor and epilepsy was rare being seen in only 6.6% cases. Devic's type optico spinal cases were rare (3.3%). At the time of evaluation 51% were categorized as relapsing remitting MS (RRMS). The rest were secondary progressive (26.6%), primary progressive (20%) and progressive relapsing (3%).

All patients were subjected to a MRI scan of the brain. 33/35 (94%) patients satisfied Barkhof's MRI criteria for MS. Periventricular "Dawson's fingers" were seen in all such positive brain MRIs. Respectively 67.8%, 26.6%, 40%, 36.6% had corpus callosal, cerebellar, brain stem lesions and T1 "black holes". GAD enhancement was performed in only 23/35 patients and half of them had enhancing lesions. Lumbar puncture was done in only 23 (65.7%) patients. Oligoclonal bands were seen only in 5/23 (21%). In two patients with significant spinal cord lesions NMO-IgG antibody was tested. It came positive in one.

High dose IV methyl prednisolone was used in 32 patients to treat the 'acute attack'. Disease modifying treatment (DMT) with interferon was initiated in five cases. However, only around 50% patients qualified for this treatment (RRMS). Only 50% of the patients were

[1]*Institute of Neurology, National Hospital of Sri Lanka, Colombo.*

Table 1.

Clinical distribution	*Sri Lanka (N=35)*	*NW India (N= 100)*	*Pakistan (N= 142)*
1. Pyramidal	73.3%	87%	70%
2. Sensory	73.3%	65%	45%
3. Optic N	70%	57%	
4. Bladder/ sphincter	50%	46%	
5. Cerebellar	53.3%	44.3%	
6. Devic's type	3.3%	7%	3%
Age at onset	29.86Y	29.49Y	27Y
Sex ratio M:F	1:4	1.45	1:1.45
Disability	Only 50% fully independent - high rate of disability In 26.6% EDSS was 7.5-8 and in 23.3% EDSS was 6-7.		31% severely and 45% moderately disabled. Average EDSS 3.68 +/- 3

Table 2.

Type of MS	*SL*	*NW India*	*Pakistan*
RRMS	50%	65%	81%
SPMS	26.6%	25%	45%
PPMS	20%	5%	21%
PRMS	3.3%	5%	0%

fully independent at the time of the evaluation. Eight patients with an EDSS of 6-7 were walking with constant unilateral or bilateral support using sticks or walkers while nine were confined to a wheel chair with an EDSS of 7.5-8. Hence this series showed a high disability rate.

Regional comparison

These data were compared with two similar descriptive analysis coming from North West India and Pakistan Tables 1 and 2.

Discussion

The clinical profiles of MS patients throughout the region seem to be similar with almost identical age at onset and a female preponderance[3,4]. The initial clinical presentation was dominated by pyramidal, sensory and optic nerve symptoms in all three series. Relapsing and remitting type of MS form the bulk of the cases. Contrary to the earlier belief optico-spinal or Devic type presentation seem to be less common than earlier thought. Most Sri Lankan patients did not have a Caucasian ancestry, a family history or a history of time spent in a MS prevalent region of the world in childhood. Hence the cases were indigenous. MRI patterns and lesion distribution in our patients were very similar to the pattern seen in the western countries. The low yield of OCB positive cases (21%) could be a regional phenomenon but the improper detection techniques used throughout the region is the easier explanation for very low OCB positivity. MS in south Asia progresses in a similar fashion to that of western countries with significant levels of disability especially with long-standing disease. Disease modifying agents (DMAs) such as beta interferon is used only in a very few eligible patients largely due to cost issues. In Sri Lanka only 1/3

of the patients with RRMS who qualified for such treatment actually got treated. Limited access to DMTs and delayed initiation of such treatment in some could lead to more disability. An Indian study shows that after starting β-interferon all patients who could tolerate the drug had a significant reduction in the relapse rate[12]. Most patients had no relapse at all during follow-up for a mean period of 2.25 years. In India prospective studies backed by MRI data have shown no distinct differences between MS seen in the west and India. Neuroepidemiological studies done in the southern parts of India have failed to capture MS cases in the community. In Pakistan retrospective data from the largest series of patients (n=142) with MS show predominant RRMS of western type with significant disability levels[4].

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