ORIGNAL ARTICLE

Clinical Presentations of Multiple Sclerosis at Royal Commission Hospital Yanbu Kingdom of Saudi Arabia

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ABSTRACT

Introduction: *Multiple sclerosis (MS) is an important cause of long standing disability especially in adult females. The incidence is more in Europe. In Europe specially in USA and UK the prevalence is about 120/ 100,000. The annual incidence is around 7 per 100,000, while the life time risk of developing MS is about 1in 400. The incidence of MS is higher in northern Europeans, and the disease is about twice as common in females.*

Objectives: *To study various ways the patients of multiple sclerosis presented in the department of neurology at Royal commission hospital Yanbu, Kingdom of Saudi Arabia.*

Materials and Methods: *This is new as well newly diagnosed patients who presented in the emergency as well as outpatient department of neurology at Royal Commission hospital Yanbu, Kingdom of Saudi Arabia. Yanbu is one of the biggest industrial city of Saudi Arabia. Duration of study was two years; from January 2011 to December 2012. The study included 50 patients. We diagnosed 45 patients ourselves and 5 patients were following in the neurology OPD.*

Results: *The age range was 17 – 58; 38 patients were females and 2 were males. Most of the affected patients were in the age range of 17 – 36. Mean duration of illness was from 1 – 9 years. In most of the patients, the initial presentation was weakness and visual loss. Most of the patients were started on interferons and they has very good outcome.*

Conclusions: *Multiple sclerosis involves both brain and spinal cord. Early diagnosis and treatment promises good outcome and rehabilitation. The new treatment modalities have played revolutionary role in modulating the disease.*

Key Words: *Multiple Sclerosis, demyelinating disease.*

Abbreviations: *MS = Multiple sclerosis.*

INTRODUCTION

5Multiple sclerosis is a chronic conditions characterized clinically by episodes of focal disorders of optic nerves, spinal cord, and brain, which remit to a varying extent and recur over a period of many years and are usually progressive. The neurological manifestations are protean, being determined by varied location and extent of the demyelinatng foci. Nevertheless, the lesions have predilection of a certain parts of CNS, resulting the complexes of symptoms and signs and imaging appearances that can often be recognized as distinctive of MS and we will see further on.

The typical features of MS are weakness, paraparesis, paraesthesias, loss of vision, diplopia, nystagmus, dysarthria, tremor, ataxia, impairment of deep sensation, and bladder dysfunction. The diagnosis may be uncertain at the onset and in the early years of disease, when symptoms and signs point to a lesion in only one locus of the nervous system. Later, as the disease recurs and this disseminates throughout the central nervous system, the diagnosis becomes quite certain. There may be a long period of latency (1 to 10

years or longer) between a minor initial symptom, which may not even come to medical attention, and the subsequent development of more characteristic symptoms. In most cases, there is initially a relapsing-remitting patterns, i.e., the signs and symptoms improve partially or completely, followed after a variable interval by the recurrence of the same abnormality or the appearance of new ones in other parts of the nervous system. However, in fewer than half of patients, the disease takes the form of steadily progressive course, specially patients older than 40 years of age at the same time of onset (*primary progressive* MS). Or, as happens more often, an initially relapsing profile later becomes steadily progressive (*secondary progressive MS*).

A rule that has in the past guided clinicians in that the diagnosis of MS was not secure unless there was a history of remission and relapse and evidence on examination of more than one discrete lesion of the CNS. The advent of MRI and its capacity to identify clinically in evident lesions has replaced the exclusive dependence on clinical criteria of the diagnosis.

OBJECTIVE

The objective of this study was to see the clinical presentations of multiple sclerosis in our department. We found various ways the disease presented in our department and compared with the other studies. We evaluated old patients and included new patients in the study.

MATERIAL AND METHODS

Study Design

Retrospective as well as prospective. We had a total of forty patients. Out of these thirty five patients were new patients that we diagnosed and five patients were already following in the neurology OPD.

Duration of Study

We carried out this study for two years; from January 2010 to December 2012.

Setting

Department of neurology Royal Commission hospital Yanbu, Kingdom of Saudi Arabia.

Sample Size

We collected forty patients; 5 patients were already following in the neurology OPD and 35 patients were diagnosed for the first time.

Sample Selection

Inclusion Criteria

1. All patients with age 20 years and more were included in the study.
2. All forms of multiple sclerosis were included in the study.

Exclusion Criteria

1- Patients of TIAs were excluded from study.
2- We carried out autoimmune screening and therefore all patients of vasculitis were excluded from this study.
3- Patients of AV malformations may present with fluctuating symptoms so these were not included in the study.

Data Collection

40 patients fulfilling McDonald`s criteria were included in the study through OPD department of neurology, Royal Commission hospital Yanbu, KSA. An informed consent was obtained before imaging. The demographic information like name, age, sex, and address were recorded. No ethical issues were involved.

RESULTS

There were forty patients included in this study. All of them were investigated for multiple sclerosis, a complete history, through clinical examination, base line biochemistry, MRI of the brain/and or spinal cord (where both necessary) were done. All patients has lumber puncture and CSF was sent for oligoclonal bands. The serum was also sent for the same and it was made sure that oligoclonal bands were positive only in CSF. Autoimmune screening was done to see whether ANA was positive or not. Visual evoked potentials were also done, and latency of P 100 was measured. An informed consent was taken from the patient (as we have already mentioned) Table – 1.

DISCUSSION

MS is a chronic inflammatory disease of CNS. Multiple plaques of demyelination occur throughout the brain and spinal cord, occurring sporadically over

Table 1:

Clinical Presentation	Additional Data Needed
• 2 or more attacks (relapses) • 2 or more objective clinical lesions	None; clinical evidence will suffice (additional evidence desireable but must be consistent with MS)
• 2 or more attacks • 1 objective clinical lesion	Dissemination in space, demonstrated by: • MRI • or a positive CSF and 2 or more MRI lesions consistent with MS • Or further clinical attack involving different site
• 1 attack • 2 or more objective clinical lesions	Disssemination in time, demonstrated by: • MRI • or second clinical attack
• 1 attack • 1 objective clinical lesion (monosymptomatic presentation)	Dissemination in space by demonstrated by: • MRI • or positive CSF and 2 more MRI lesions consistent with MS ***and***

Table 2:

Total number of patients	40
Female patients	38
Male patients	2
Male to female ratio	1:10

Table 3:

Age Range	**17-58 Years**	
Age Group	**No. of Patients**	**Percentage (%)**
17 – 26	15	37.5
27 – 36	12	30
37 – 46	6	15
47 – 55	5	12.5
> 55	1	2.5

Table 4: *Initial Presentation.*

Weakness	12
Visual loss	15
Sensory loss	1
Epilepsy	2
Vertigo	5
Paraesthesias	1
Ataxia	3
Diplopia	1

Table 5: *Initial Presentation.*

Age Group (Years)	**Duration of Illness**
< 6 months	4
1 – 4	17
5 – 9	8
10 – 14	7
15 – 19	0
24 – 29	1

Table 6:

Neurological Features	**Patients**
Weakness	23
Sensory symptoms	17
Optic neuritis	18
Paraesthesias	16

Diplopia	6
Ataxia	9
Vertigo	7
Paroxysmal	1
Bladder	1
Lhermitte sign	0
Pain	3
Dementia	1
Facial palsy	0
Impotance	1
Myokemia	0
Epilepsy	2
Falls	2
Psychiatric manifestations	10

years (dissemination in time and space which is crucial for diagnosis).

MS is a major cause of disability in young adults but recent therapeutic advances mean that it is no longer an `untreated` disease.

No single group of signs or symptoms is diagnostic. A wide variety of possible symptoms may occur depending on the anatomical site of lesion; MS has been described as the modern, grade imitator. The clinical time course of attacks and tempo of evolution or symptoms are as good as the symptoms themselves in making the diagnosis of MS.

TYPES OF MS

There are three main clinical patterns (figure)

1- Relapsing – remitting MS (RRMS) (85 – 90%).
2- Secondary progressive MS – this late stage of MS consists of gradually worsening disability progressing slowly over years. 75% of patients with RRMS will eventually evolve into secondary progressive phase by35 years after onset.
3- Primary progressive MS (10 – 15%). The least common form of MS, characterized by gradually worsening disability without relapses of remissions.

Different treatment modalities

Treatment involves to encourage a happy, stress free life, if possible. Decrease stress can reduce development of new lesions. Minimize disability. If poor diet or decrease sun exposure, give vit D to achieve serum 25 (OH) D levels. Methylprednisolon, for three days shortens acute relapses. It does not alter over all prognosis. Interferons decrease relapse by 30% in active relapsing – remitting MS; and decrease lesions accumulation on MRI. Monoclonal antibodies like alemtuzumab and natalizumab decrease relapses in RRMS by 68% and decrease MRI lesions by 92%. There are other treatment modalities that are less effective.

In our study the age range was 17 – 58 years. Most of the patients were females. The duration disease varied from less than 6 months to around 29 years. The clinical features included mainly, weakness, sensory symptoms, visual loss, altered sensations, dizziness, frequent falls, urinary incontinence, and psychiatric symptoms. In most of the patients, the duration of illness was from 1 – 4 years. In our study 12 (30%) patients presented with weakness, 15 (37.5%) presented with visual loss, and one (2.5%) patient presented with only sensory symptoms. Two (5%) patients presented with fits five (12.5%) presented with vertigo, and one (2.5%) patient presented with paraesthesias. Three (7.5%) patients presented with ataxia and one (2.5%) patient presented with diplopia.

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