

Multiple sclerosis

Multiple Sclerosis - G35 (Clinical term: F20)

Presenting complaints

Patients present with either sub-acute, episodic neurological symptoms (85%), termed relapsing remitting Multiple Sclerosis (MS), or in a minority with steadily progressive neurological symptoms from onset (15%), termed primary progressive MS. Over time most patients with relapsing remitting MS acquire residual disability from relapses and enter a later 'secondary' progressive phase of the disease (ref 170).

In relapsing remitting MS symptoms tend to evolve over days to weeks and resolve over weeks to months. Common presenting symptoms include:

- unilateral visual loss or blurring with prominent loss of colour vision and pain on eye movement (optic neuritis)
- sensory loss, parasthaesia or weakness in one or more limbs (partial transverse myelitis)
- double vision (brain-stem syndromes)

Primary progressive MS generally presents with progressive gait disturbance, with a progressive spastic paraparesis being by far the most common finding. In occasional patients ataxia, sphincter or cognitive symptoms may be more prominent.

References

170. Compston A, Coles A. Multiple Sclerosis. Lancet 2002; 359: 1221-1231.

Diagnostic features

Relapsing Remitting MS

- More common in caucasian populations, peak onset between 20-40, with a female predominance
- Episodic neurological symptoms disseminated both in time and within the central nervous system
- Spontaneous early remissions, sometimes of many years
- Symptoms are often associated with prominent physical fatigue

Primary Progressive MS

- Becomes more common in older patients (mean age of onset of 40, can present up to 60 or very occasionally older), with no sex predominance
- Typically progressive gait disturbance. Patients will generally complain of fatigable lower limb weakness, stiffness or 'heaviness', often associated with early bladder symptoms of urgency, frequency and/or erectile dysfunction in men

MS remains a clinical diagnosis, there is no 'gold standard' investigation, though MRI scanning will reveal typical white matter or spinal changes in the vast majority of patients (>95%). Nevertheless a number of other conditions can mimic MS both clinically and radiologically and the diagnosis is one of exclusion, requiring that no better explanation can be found for the patients symptoms and neurological signs (ref 171).

References

171. McDonald WI, Compston A, Edan G et al. Recommended diagnostic criteria for Multiple Sclerosis: Guidelines from the international panel on the diagnosis of Multiple Sclerosis. *Ann Neurol* 2001; 50: 121-127.

Differential diagnosis

Most structural conditions, such as cervical myelopathy or syringomyelia, which at one time formed a major part of the differential diagnosis, will be identified by MRI. Though brain scanning will generally reveal the periventricular and sub-cortical changes associated with MS, imaging of the spinal cord is essential in those patients presenting with primarily spinal symptomatology, particularly in late-onset progressive disease where the differential is wide.

Other systemic inflammatory conditions, such as the connective tissue disorders and sarcoid, need to be considered and a careful history to include both previous minor neurological symptoms (which have often been forgotten or overlooked) and systemic features (rash, joint disease etc) is required.

Where clinical or imaging findings are atypical or equivocal further investigations, such as lumbar puncture for oligoclonal bands in the spinal fluid and visual evoked potentials, are often undertaken to substantiate or exclude the diagnosis. Blood tests such as inflammatory markers, immunology and B12 and folate will generally be performed as part of the process of exclusion of other causes of CNS disease.

Essential information for patient and family

- MS has a very variable clinical course, at 15 years from onset most patients remain independently mobile and for up to 20% of patients the disease has a benign course over 20 years or more.
- Life expectancy is not substantially affected for most patients
- Though there is a degree of genetic susceptibility to the disease it is not strongly hereditary and the risk to other close relatives is of the order of 2-4%.

Contact details for the local MS specialist nurse service should be given to all patients and their families

General management and advice to patient and family

- Patients should be encouraged to maintain their general health and routine activities. Regular exercise, a healthy diet (emphasising polyunsaturated rather than saturated fats) and prompt treatment of other illness are appropriate.

- Though fatigue is a very common feature (>80% patients) this tends to be improved by regular physical activity and its impact can be limited by pacing of day-to-day activities and maintenance of a good sleep pattern
- Though relapses are often unpredictable, they are more common in the weeks following infection and possibly at times of emotional stress.
- For many patients MS symptoms are temporarily exacerbated by heat (Uhthoff's phenomenon)
- Pregnancy does not adversely affect the natural history of MS. Relapses tend to be less frequent in the later stages of pregnancy, with a rise in disease activity in the six months post-partum. Epidurals anaesthesia, operative delivery and breast feeding do not influence the risk of relapse. The major issue to consider in relation to pregnancy is the inevitable uncertainty about long-term physical disability.
- Patients should be told to notify the DVLA and their insurers about their diagnosis, in general this will not result in any restriction to their driving licence unless there are specific physical disabilities (eg. visual field loss, poor acuity, severe tremor). If there are concerns about driving ability a formal driving assessment at a recognized centre should be suggested (link to web page).
- Regular medical review of symptoms and their treatment should be encouraged for most patients, ideally by a member of a multi-disciplinary team familiar with the disease and current management strategies.
- The impact of the disease on other family members, particularly children, should be acknowledged and support offered where appropriate
- For patients with moderate or severe disability timely access to appropriate community therapy and social services should be facilitated

Medication

Relapse

- Short course of corticosteroids (Methylprednisolone 500 mg-1g, IV or oral for 3-5 days) accelerate recovery from relapse and should be considered for any attacks resulting in significant disability. Steroids do not appear to influence long-term outcome from relapse and there is no role for long-term oral steroids.

Disease management

- In ambulant patients with active relapsing remitting MS (2 significant relapses in the last 2 years) referral to secondary or tertiary care should be discussed for consideration of disease modifying agents (ref 172). Interferon Beta-1a/b and Glatiramer Acetate are licenced for the treatment of relapsing remitting MS, in most patients treatment will reduce relapse rate and may delay development of fixed disability. All treatments are given by injection, varying from weekly I/M to daily s/c dependent upon particular product. Initiation of treatment will normally be supervised by MS Nurse specialists, good education on the role and likely side-effects of treatment and good patient support in the early stages are imperative to ensure compliance.
- In secondary progressive MS there is much more limited evidence for a role of disease modifying agents. Current guidelines (<http://www.theabn.org>) suggest that treatment should be considered in ambulant secondary progressive patients with frequent disabling relapses, though such patients are rare as relapses tend to be less frequent in more advanced disease, again assessment by local Neurology services is appropriate.
- No treatment to date has been found to alter the natural history of primary progressive MS
- In very active MS there may be a role for more potent immunosuppressive treatment, under the guidance of specialist neurology services.

Symptom management

- Careful consideration should be given to the use of symptomatic treatments, particularly in patients on multiple drug treatments. Both drug interactions and impact on other symptoms need to be considered (eg worsening of fatigue or impaired balance with carbamazepine given for neuropathic pain) (ref 173).
- Symptomatic treatment should be regularly reviewed in the light of fluctuations or progression of disease, occasional careful withdrawal of individual drugs may be appropriate to confirm the continued need for treatment
- Symptomatic spasticity (painful spasms, disturbed sleep by spasm) should be treated with anti-spasmodics (Baclofen, Tizanidine). Side-effects can include exacerbation of weakness or impairment of function by alleviation of 'useful' spasticity (eg in the patient who uses the lower limb spasticity to allow them to briefly stand and transfer).
- Neurogenic bladder symptoms of detrusor instability (usually urgency or frequency) can be suppressed with anticholinergics. A significant post-micturition residual (usually >100mls), suggesting detrusor/sphincter dysnergia, should be excluded as this will tend to be worsened by treatment. Incomplete bladder emptying is best managed by clean intermittent self-catheterisation by patients or carers, usually once or twice daily.
- Mood disturbance, particularly depression, is common (up to 50% at some point in the illness) and both under-recognized and treated. Standard treatment with a tricyclic (which may also improve neurogenic bladder instability) or SSRI should be considered.
- Persistent pain occurs in around 30% of patients and may be neuropathic or musculoskeletal, secondary to abnormal gait or limited mobility. Neuropathic pain (generally described with terms such as 'burning, sharp, stabbing') can be treated with low-dose Amitriptyline or anticonvulsants.
- Erectile dysfunction occurs in up to 50% of male patients and should be actively identified, it is particularly likely to occur in conjunction with other symptoms of spinal disease (lower limb weakness and spasticity, bladder dysfunction). Treatment with sildenafil (Viagra) or tadalafil is generally effective, if not consideration should be given to referral to secondary care for assessment.

References

172. Rice GA, Incorvara B, Munan L et al. Interferon in relapsing-remitting Multiple Sclerosis. In: The Cochrane Library, Issue 2, 2002.

173. Burgess M. MS symptoms and their treatment. In: Multiple Sclerosis: Theory & Practice for Nurses. London: Whurr 2002, pp. 72-100.

Referral

Patients with active relapsing remitting MS should be referred to a Neurologist with an interest in MS for consideration of disease modifying therapy

- Consider referral to community occupational therapy or social services for those patients with impaired mobility or more significant disability
- Review the need for additional therapy or specialist referral at the time of acute relapse.
- In patients with complex disability consider involvement of local neuro-rehabilitation services

Resources for patients and families

The Multiple Sclerosis Society 0800 800 8000 (national helpline)

Website: <http://www.mssociety.org.uk>

E-mail: info@mssociety.org.uk

Provides information and support to patients and their families through a national centre and local branch structure. Extensive literature, supports development of MS nurse posts through the MS Nurse fund and is the largest funding body for MS research in the UK

Multiple Sclerosis Trust

Website:

E-mail:

Carers UK 0808 808 7777 (helpline 10-12am, 2-4pm Mon-Fri)

Website: <http://www.carersonline.org.uk>

E-mail: info@ukcarers.org.uk