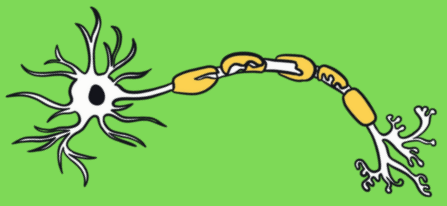
Multiple Sclerosis



What is it?

Cell-mediated **autoimmune** disease causing **demyelination** in the CNS.
Unknown aetiology- genetic and env factors
More common in women, aged 20-40
Ongoing **neurodegeneration** with superimposed acute **relapses**
Inflammation caused in CNS- especially periventricular white matter, juxtacortical white matter, optic nerves, cervical cord, brainstem

Types

Relapsing-Remitting (most common)- intermittent CNS inflammation attacks, well in between
Primary Progressive- progressive disability from onset
Relapsing-Progressive- a combination of the other 2
Relapse= new neuro sx lasting >24 hrs- spontaneous or precipitated by infection
Secondary Progressive- often follows relapsing-remitting. The disease gets steadily worse with no relapses

Signs and Symptoms

Optic neuritis- blurred vision, pain on moving eye
Cervical myelitis- ascending sensory sx, Lhermitte's phenomenon, bladder urgency, hesitancy etc, UMN sx and signs (bilateral)
Brainstem- ataxia, vertigo, diplopia
RAPD
Internuclear Ophthalmoplegia- lesion of MLF

Investigation and Diagnosis

Largely a **clinical diagnosis** with a hx of attacks consistent with pathology.
Supporting investigaions:

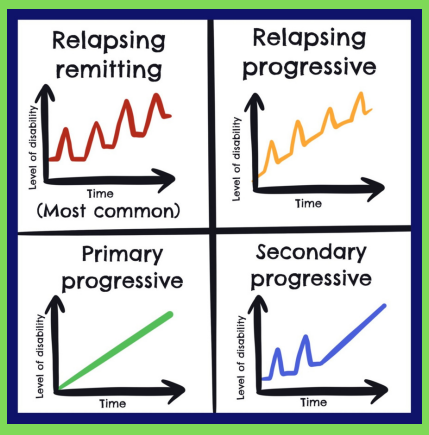
- **MRI**- high signal **T2** lesions, periventricular lesions, Dawson fingers
- **LP**- **mismatched oligoclonal bands** (only present in CSF, not serum), high IgG index, mild pleocytosis, normal protein and glucose
- **Evoked potentials**- normal waveform but **'delayed'**

Management and Treatment

- **MDT** including MS specialist nurses
- Psychological support
- Relapse treatment
  - Look for possible infection and treat
  - **Oral/IV methylprednisolone 500mg OD 5/7**- shortens relapse but no impact on eventual outcome
  - Only for relapses that are severe/disabling
- Treatment for sx e.g. depression, bladder dysfunction, spasticity, fatigue
- Disease- modifying treatment for 'active' disease (2 relapses in 2 years) or newly diagnosed and high risk relapse

Management and Treatment

- Disease-Modifying Treatment- reduce relapse freq
  - **Interferon Beta** injection-No reduction overall disease effect
  - **Glatiramer acetate** injections similar
  - **Fingolimod** (PO)- prevents lymphocytes leaving LN
  - **Dimethyl fumarate**- PO
  - **Natalizumab**- monoclonal Ab inhibiting T cells entering CNS. Also reduces disability progression. Monthly infusion
  - **Alemtuzumab**- monoclonal Ab. Yearly infusion. Removes autoreactive T cells



Soton Brain Hub