Multiple myeloma with central nervous system relapse

**Neurologic symptoms (direct infiltration) in MM**
- Headaches, seizures, visual disturbances, cranial neuropathy (including dysphagia and dysarthria)
- Malignant spinal cord compression including cauda equina syndrome

**Radiology**
- MRI (Skull & Spine)
- FDG-PET

**Pathology**
- Lumbar puncture (ataumatic tap)

**Cytology**
- Cytospin: differential WCC, morphology, immunocytochemistry with appropriate antibody panel
- Plasma (cytoid) cells, CD38+ CD138+

**Immunohistochemistry**
- CSF/Serum: FLC levels, electrophoresis, immunofixation, TP, ALB, Ig's
- Parallel fluid investigation to determine intrathecal synthesis or diffusion across BBB
- CSF-TP (normal or elevated), normal glucose
- Monoclonal FLC in CSF in the absence of ALB and possible presence of intact and / or FLC M-band
- Immunohistochemistry
  - CD19, CD27, CD38, CD45, CD56, CD81, CD117, CD138 k or λ restriction

**Flow cytometry**
- 8 colour:
  - Monoclonal CD38+ CD138+ plasma cells present, and / or k or λ restriction

**Diagnosis CNS Myeloma**

**Treatment Options**

**Current options**
- Corticosteroids
- Next generation novel agents
- Radiotherapy
- Intrathecal therapy

**Future options**
- Monoclonal antibodies
  - Immunotherapy
  - Molecular targeted

**Response assessment**
- 1. Radiology
- 2. CSF

**Report to CNS-MM registry**

**Clinical trials**

**Eligibility assessment**

[Diagram credits: Egan et al., Haematologica, 2020]