

# 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

Leptomeningeal enhancement,  
intraparenchymal lesions,  
intracranial plasmacytoma  
lesions within the spinal canal

### Pathology

Lumbar puncture  
(atraumatic tap)

### Cytology

Cytospin: differential WCC,  
morphology,  
immunochemistry with appropriate  
antibody panel

Plasma(cytoid) cells,  
CD38+ CD138+

### Immunochemistry

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

### Flow cytometry

8 colour:  
CD19, CD27, CD38, CD45,  
CD56, CD81, CD117, CD138  
 $\kappa$  or  $\lambda$  restriction

Monoclonal CD38+ CD138+  
plasma cells present,  
and / or  $\kappa$  or  $\lambda$  restriction

## Diagnosis CNS Myeloma

Treatment Options

Clinical trials

YES

Eligibility assesment

NO

Current options

Corticosteroids

Next generation novel agents

Radiotherapy

Intrathecal therapy

Future options

Immunotherapy

Molecular targeted

Monoclonal antibodies

Response assesment

1. Radiology 2. CSF

Report to CNS-MM registry