CASE 1

- 36 year old, male
- Traumatic brain injury 5 years ago when a brain lesion was diagnosed
- Seizures for 2 years worsen in last 2 months
Post-Bx MRI
Diffuse astrocytoma, WHO grade II
Grade II Glioma

- Diffuse, low grade gliomas are neuroepithelial tumors
- 15% of all brain tumors
- Young adults; 2nd-4th decade of life, slightly more common in males and whites
- Most common locations: temporal and frontal lobes
- Usually without edema or enhancement
- On follow up enhancement and/or volume expansion correspond to malignant transformation

Schneider et al. Dtsch Arztebl 2010; 107: 799-808
Shanaiet al. J Neurosurg 2011; 115: 948-65
CASE 2

- 79 year old female with non-Hodgkin lymphoma since 1999 that recurred one year ago
- Now with aphasia, right hemiparesis and cognitive decline
- Due to a previous GSW, no MRI was done, only CT
Progressive multifocal leukoencephalopathy
PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY

- Uncommon, fatal demyelinating disease
- Reactivation of JC polyomavirus in immunosuppressed patients
- 3 months mortality rate: 20-50%
- Diagnosis by imaging and CSF PCR for JC virus DNA
- Single or multifocal white matter lesions, become confluent with disease progression, involvement usually assymetric, no mass effect or enhancement. Posterior fossa involvement is frequently seen
- Usually hypointense on T1-weighted images
- Newer lesions can present restricted diffusion
- Enhancement can be seen following HAART therapy (IRIS syndrome)

Case 3

- 45 year old, female
- Right-sided facial numbness and pain
Well differentiated neuroendocrine neoplasm
WELL DIFFERENTIATED NEUROENDOCRINE TUMOR

- CNS involvement of neuroendocrine tumors is rare, usually as metastases

- As they are a heterogeneous group of tumors, determining the site of origin of the neuroendocrine tumor is vital to selecting the proper therapeutic approach

- 2/3 of the cases arise from: lung (27%), rectum (15%), jejunileum (13%), pancreas (6.4%) and stomach (6%)

- Metastatic tumor of unknown origin occurs in 9-19% of cases

- Primary tumors should be searched for by CT, MRI, somatostatin receptor imaging (111In-pentetreotide scintigraphy) or PET (60 Ga-labelled somatostatin analogues)

Case 4

♦ 64 year old, male presenting with sebaceous carcinoma of the nasolabial fold

♦ One month ago presented with sepsis ending antibiotic therapy 10 days ago

♦ Presented with right side hemiparesis and garbled speech

♦ Previous history of myelodysplastic syndrome treated by chemotherapy
Fungal leptomeningitis and vasculitis with brain infarcts
FUNGAL LEPTOMENINGITIS AND VASCULITIS WITH BILATERAL BASAL GANGLIA INFARCTS

- More common in immunocompromised patients
- Fungal CNS infection can cause leptomeningitis, granulomas or abscess
- Complications of leptomeningitis include: mycotic aneurysms, arteritis that can be followed by infarction, and venous thrombosis