

posterior part of the putamen in RT patients and seem to be independent of the D2-receptor status. In conclusion, the presented data corroborate the hypothesis that RT represents a phenotype of PD. Only few differences were found for the cerebral metabolic glucose consumption and the postsynaptic D2-receptor status, which could account for the missing rigidity and hypokinesia in RT patients.

P0517 Atypical Progressive Multifocal Leucoencephalopathy – A Case Report

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Background: Progressive Multifocal Leucoencephalopathy (PML) is an acquired demyelinating disorder of the CNS caused by JC virus. Typically, it presents in immunocompromised patients with characteristic foci of demyelination in the white matter of the cerebral hemispheres, sometimes also involving the brainstem, cerebellum and spinal cord. This case shows an atypical presentation of rapidly progressive cerebellar and brainstem dysfunction, with MRI findings limited to the posterior fossa, in a patient with no suggestion of immunodeficiency.

Case history: This 60-year-old lady presented with four weeks of right-sided inco-ordination and slurred speech. Examination revealed right-sided cerebellar signs and an initial MRI head showed ill-defined increased T2 signal in the white matter of the right cerebellar hemisphere. Clinical and radiological progression was inexorable over the next 10 weeks. The patient required sedation and she died from bilateral pulmonary emboli.

Neuropathological examination was typical for PML, showing multiple foci of active periaxial demyelination associated with small areas of necrosis. Towards the periphery of these lesions, the astrocytes showed bizarre, sometimes multiple nuclei associated with enlarged oligodendroglial nuclei bearing both eosinophilic and basophilic inclusions. Special stains for myelin showed widespread pallor within the affected areas namely cerebellum, pons, medulla and to a lesser extent mid-brain, thalamus, basal ganglia, cerebral peduncles, internal capsule and subcortical white matter adjacent to the callosal radiation.

Conclusions: An atypical distribution of white matter lesions within the posterior fossa on MRI and no apparent immunocompromise are compatible with the diagnosis of PML.

P0518 Brain Cortical Responses to Vibrotactile Stimulation of the Palm: A fMRI Study

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Purpose: The aim of the study was to implement a vibrotactile stimulation paradigm within the MR environment to be applicable in patients after stroke.

Materials and methods: We used a 1.5 T MR scanner. 15 EPI images were acquired parallel to the AC-PC line. A 50 Hz vibrotactile stimulus with an amplitude of 2mm was applied to the right and left hand palm. Series of 10 images during vibrotactile stimulation (condition A) and 10 images without stimulation (condition B) were alternatively acquired up to a total of 60 images (time series: ABABAB). The vibrator consists of an electromotor, which rotates two excenters pumping simultaneously via two circular rubber membranes air into a pneumatic tube, which is fixed onto the palm of the right and left hand above the basic joints of the fingers I-V.

A single examination consisted of two fMRI measurements, when the right and the left hand palm were vibrated. The whole study was performed in six healthy volunteers. For data analysis we used SPM 99.

Results: Vibrotactile stimulation of the hand palm revealed contralateral activation of the primary sensorimotor, secondary somatosensory and the premotor cortex. The supplementary motor area was activated bilaterally. An ipsilateral activation foci was seen within the gyrus frontalis superior, within the premotor cortex and within the primary and secondary somatosensory cortex, where the strongest activation was found followed by brain activation within the primary sensorimotor cortex. The premotor cortex and the supplementary motor cortex showed only weak activation.

Conclusions: Sensory afferent stimulation by a vibrotactile stimulus to the right and left hand palm can lead to a brain activation response within the sensorimotor cortex like in active motor paradigms as finger-to-thumb tapping. Obviously, our vibrotactile stimulus elicited the vibratory tonic reflex, which involves the cortical motoneurons. Further, it is known, that there is direct afferent input to the sensorimotor cortex from the periphery. This holds promise for the vibrotactile stimulation as an alternative paradigm to active motor paradigms in stroke patients to study motor cortex functions and to monitor poststroke rehabilitation

P0519 Syringomyelia After Radiotherapy for a Hodgkin Lymphoma

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Background: Radiation necrosis is a well-known complication of radiotherapy of the central nervous system, particularly in the brain but also in the spinal cord.

Methods: we report a case of radiation necrosis and syrinx formation in a 36-year woman seven years after the completion of this treatment with thoracic radiotherapy (Mantle, total dose of 35 Gy) for an advanced Hodgkin lymphoma. She progressively developed sensory loss involving pain and temperature sensibility with preservation of posterior column sensory modalities: light touch, vibratory sense and position sense (dissociated sensory loss).

Results: Magnetic resonance imaging (MRI) of the cervical and thoracic spine demonstrated a high-intensity lesion on T2-weighted images, enhancing with gadolinium and with appearance of small syrinx from T3-T5 and T8-T10. There was no hydrocephalus, Arnold-Chiari malformation or intramedullary spinal cord associated.

Conclusions: the mechanism for the production of noncommunicating syrinx in radiation necrosis may be secondary to cystic intramedullary necrosis or to fibrotic changes around and in the central canal, resulting in trapping of a portion of the CSF-containing space and enlargement. Radiation necrosis in the spinal cord seems to be related with treatment time, fractionated dose and length of irradiated cord as well as other individual factors

P0520 Brain Activation Changes Within the Sensorimotor Cortex After Short Term Simulated Microgravity

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Purpose: The aim of this study was to deprive the brain from proprioceptive input and thus to evaluate the effects of short term

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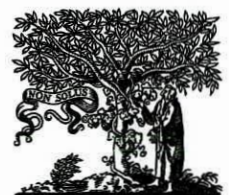
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