

Participants, Materials/Methods: In our study we want to investigate the qualitative and temporal course of dysphagia in HD patients.

It is a prospective cohort study. Two blind clinical investigators evaluate the deglutition with an ordinal scale. The investigator divides the deglutition in an oral, pharyngeal and oesophageal part. For HD staging we use the Shoulson's clinical stages. For statistic analysis we use the Spearman SPSS.

Results: We found a significant correlation between stage of illness and the whole oral phase of deglutition and between bolus passages of oesophageal phase. There is a correlation between days of illness and the oral phase and penetration of pharyngeal phase of deglutition.

Conclusions: In future it will be important that HD patients get a speech therapy. Deglutition has a high protective factor for neurological disorders. Because of the early dysfunction in the oral phase malnutrition is a big problem for HD patients.

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The characteristics of visual evoked potentials in speech impaired children

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Introduction/Objectives: Previous studies have resulted that some speech impaired children show slower maturation of central visual function. Evoked visual potentials testing with cortical cartography is a useful diagnostic method for the visualisation of functional changes in visual pathway.

The aim of this study was to investigate the characteristics of visual evoked potentials in children with delayed speech development.

Participants, Materials/Methods: Twenty speech-impaired preschool children aged 6–7 were tested, divided to the verbal results (Reynell Developmental Language Scale). Control group consisted of 10 healthy children, matched by age, gender and non-verbal status.

Complete diagnostic evaluation was performed included ophthalmological, otoneurological, logopedic and psychological evaluation. Subjects and controls were examined by checkerboard pattern reversal visual evoked potentials (VEP) according to the 2004. European standards cortical cartography was simultaneously performed by Neuroscan 32-electrode system using Scan 4.3 software for data analysis.

Results: The results show positive correlation among N 135 wave characteristics (thalamocortical level) in visual evoked potentials and psycholinguistic abilities (Psycholinguistic language Acquisition). Children with immature visuomotor function show significantly shortened amplitude and delayed latency of N 135 wave during monocular and binocular stimulation.

Conclusions: Speech impaired preschool children with immature visuomotor function should be evaluated by visual evoked potentials with the purpose of efficient rehabilitation work.

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Differences in motor conductivity velocity (MCV) between Nervus tibialis and Nervus peroneus in case of diabetic polyneuropathy

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Introduction/Objectives: Diabetic polyneuropathy represent one of the main complications of diabetes. It belongs to the group of mixed axon demyelinating sensory and motor polyneuropathies. EMNG analysis in case of clinically obvious polyneuropathy verifies slow down of the sensitive and motor conduction velocities of the nerves, especially in lower limbs due to their length.

Goal: To determine difference of the motor conductivity velocity between N. peroneus and N. tibialis in patients with diabetic polyneuropathy.

Participants, Materials/Methods: For this paper we have randomly selected 30 patients with Diabetes mellitus and with evident clinical signs of diabetic polyneuropathy. In all cases we measured MCV in N. peroneus and N. tibialis with EMNG method and correlated.

Results: In the sample there was an equal number of male and female patients (15 each gender). Average age was 55.7 years. M: 57.5 and women: 54 years. Average duration of diabetes was 8.8 years. On insulin is 60% (18) patients, and on medications 40% (12). Average MCV in N. peroneus was 38.7 m/s, and MCV in N. tibialis 32.9 m/s. Lowest MCV in N. peroneus was 28.8 m/s, and N. tibialis 23.3 m/s.

Statistical analyses of correlation between MCV in N. peroneus and N. tibialis indicates statistically significant difference in conduction velocity, which is much slower in N. tibialis.

Conclusions: Based on our research we can conclude that the motor conductivity velocities are much slower in N. tibialis than in N. peroneus in vast majority of cases (87%), and in average are lower by 5.8 m/s, and in 4 cases (13%) MCV were lower MCV in N. peroneus compared to N. tibialis.

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Vertigo with hearing loss as the first symptom of leptomeningeal carcinomatosis originating from colorectal carcinoma

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Introduction/Objectives: Leptomeninges are common dissemination site of advanced malignant disease. The most frequent primary sites are breast, lung, melanoma and stomach, whereas colon is rarely reported. On the other hand, as the very first dissemination site of malignant disease leptomeninges appear to be quite rare.

Results: We report a case of a 70-year-old man who was admitted to the neurology emergency room with a 3-week history of mild frontal headache, vertigo and vomiting going back 3 days. The patient had no history of malignancies or any other serious diseases. The neurological examination showed an ataxic gait with the tendency to lean to the right, spontaneous nystagmus increased during the left gaze and hearing loss on the right ear. Findings of the multi-slice computed tomography (MSCT) of the brain were unremarkable. Magnetic resonance imaging (MRI) of the brain showed multiple periventricular white matter lesions. During the next few days the patient symptoms progressed to include right peripheral facial nerve palsy, complete hearing loss and mental alteration. Body temperature and inflammation parameters were normal all of this time. In order to ascertain the cause of the neurological deterioration gadolinium-enhanced MRI was performed, which revealed diffuse leptomeningeal enhancement of the cranial base a thickening of both of the vestibulocochlear nerves especially right one. Cerebrospinal fluid (CSF) analysis showed sterile hypercellular ($1184/3 \text{ mm}^3$) CSF with predominantly low-differentiated malignant cells with numerous mitoses, hypoglycorrhachia (1.7 mmol/l) and elevated protein

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level. The highly increased serum levels of the tumor marker carbohydrate antigen 19-9 led us to investigate whether any GI tract malignancy was present. Ultrasound and MSCT of the abdomen, esophagogastroduodenoscopy as well as ultrasound of the thyroid gland and chest X-ray did not find any signs of malignant disease. However, colonoscopy revealed an infiltrating process that protrudes into the lumen of the ascending colon. The patient showed no symptoms of intestinal obstruction or any other GI tract symptoms. Histopathological analysis of biopsy samples verified adenocarcinoma. The patient refused intratecal chemotherapy and underwent whole-brain radiotherapy. Despite treatment, the patient's state deteriorated and as a result he died shortly after.

Conclusions: Unilateral hearing loss progressing to bilateral deafness within short period of time is a rare clinical manifestation of the leptomeningeal carcinomatosis. To our knowledge this is the first case of vertigo with hearing loss as the first symptom of leptomeningeal carcinomatosis which originated from colorectal carcinoma.

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Cranial base tumors: MDCT and MR imaging

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Cranial base tumours, accounting for less than 1% of intracranial tumours, are a group of tumours that grow along different areas under the brain or within the bottom part of the skull. In general, they are considered one of the most difficult head and neck pathological entities to treat surgically. Proximity to vital structures such as cranial nerves, the eye and inner ear, major vascular structures to the brain, and the brain itself makes operating on this region extremely challenging.

The goal is evaluation of diagnostic abilities for CT and MRI techniques in precise presentation of tumour's spread and its morphological characteristics.

Methods: We used multidetector CT (16 rows) and 1.5 T MR Scanner. In analysis of skull base we employed 0.6–3 mm CT cuts in axial coronal and sagittal planes in soft tissue and bone window. In MR analysis we used various sequences in axial, coronal and sagittal planes, with 0.7–3 mm slice thickness.

Results: It is often difficult to determine the site of origin of tumours as anatomical boundaries are frequently breached. Accurate imaging evaluation is useful in planning treatment and may help in the differential diagnosis. We review those CT and MRI features of skull base tumours which may be helpful in identifying a preoperative diagnosis.

Conclusion: Imaging plays a crucial role in the management of tumour patients with skull base involvement. This is a difficult region to evaluate clinically. Radiologist, therefore, plays a great role in determining disease extent and the choice of appropriate treatment methods.

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Neurological manifestation of fabry disease – case report

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Fabry disease is an X-linked recessive glycolipid storage disease. It is caused by deficiency of the lysosomal enzyme α -galactosidase A and leads to the accumulation of the enzyme substrate, globotria-sylceramide (Gb3) in many tissues including endothelial cells, pericytes and smooth muscle cells of blood vessels, renal epithelial cells, cardiac myocytes and numerous neuronal cells.

In this report, we present 20-year-old male patient with ischemic stroke in pons. The case had previously been misdiagnosed as polymyositis and vasculitis.

Angiokeratomas, neuropathic pain and ischemic stroke in young age suggested a Fabry disease. The diagnosis was confirmed biochemically and genetically.

All young adults with stroke, especially if they have additional symptoms like angiokeratomas, proteinuria, neuropathic pain in toes and fingers should be tested for Fabry disease.

Key words: Fabry disease; neurological manifestations; stroke

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Physical acceleration and experimental illusions in man: can evolutionary top-down- or bottom-up-regulation help to understand the dynamics of anticipation or regression of brain function?

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Introduction: Studied was anticipation of potentially dangerous (flying)-situations using increasing acceleration in a Flight Orientation Trainer (FOT) in combination with experimentally induced illusions (EI).

Materials and Methods: Ten right-handed GAFN (German-Air-Force-Novices) aged 20–23 years were trained to perform a situation awareness paradigm (SAP) in three different illusionary states: State I, Situation Unawareness (SU); State II, Spatial Disorientation (SD); State III, Coriolis Kinetosis (CK). Task-related slow potential shifts (SPS), heart-rate and respiration rate were monitored.

Results: Grand means of DC-potential-shift reflect similar reactions to task demands between subjects. Successful adaptation corresponds to negative DC-shift, while unpleasant sensations and unsuccessful performance correspond to positive DC-shift. By real-time-polygraphic registration of task related slow-potential-shifts it was possible to distinguish three illusionary mental states and three types of possible outcome. I) Unrecognized experimental illusions or situation unawareness didn't influence brain function, but were fatal following controlled flight into terrain (CFIT). A pilot's competent and/or incompetent handling of the FOT with false yaw, false pitch or false roll was rated by a peer (professional flight-teacher) and could be correlated with autonomic reactions, eye-movements and brain-waves. II) Anticipation of danger or threat under experimentally induced illusions could be correlated with top-down and bottom-up regulations of executive functions of the brain and performance of the pilot. III) Regression with top-down functional brain states can lead to CK in each pilot/person.

Conclusions: The method described above to study CK can serve as a model to test scientific questions such as the aetiology of certain somatoform disturbances, reactive depressions, cognitive illusions and performance incompetence with special consideration of failing intuitions and free or unfree will.

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