

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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