P2622

ULTRASOUND DIAGNOSIS OF PERIPHERAL NEUROPATHY. THE INITIAL EXPERIENCE

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Background: Visualization previously has not been used widely to diagnose neuropathy, but diagnostic ultrasound is used for peripheral nerves visualization, particularly in regional anaesthesia. The aim of the study was to formulate a diagnostic marker of neuropathy based on own clinical experience.

Materials and methods: 12 patients, who suffered from clinical neuropathy of upper and lower limbs were included to study. In all patients there were registered changes on ultrasound. All patients underwent a standardized nerve motor and sensitive electromyographic study. The neuropathy was confirmed electromyographically in all patients. As control group, 65 volunteers were examined, including 37 women, 28 men without clinical disturbance of peripheral nerves. A survey conducted by using linear 12Mhz probe of Hitachi HV900 with sonoelastography function. The normal US characteristics of lower and upper extremities nerves were established.

Results: We found ultrasound nerve structure changes in all patients with neuropathy. Due to these findings we propose the own method of neuropathy diagnosis (patent N U2011 00907 Ukraine). These findings made possible by the establishment of empirical ultrasonic neuropathy symptoms obtained in assessing the structure of nerve. Also the few US patterns of neuropathy may be divided.

Conclusion: Sonography may be an adequate alternative for neurophysiological studies diagnostic method with high sensitivity and specificity. Research is needed to confirm the results obtained in large groups of patients. We believe that combination of clinical, sonography and US guided electromyography will reliably estimate peripheral nerve diseases.

P2623

CONTRIBUTION OF MRI IN CREUTZFELDT-JACOB'S DISEASE

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Creutzfeldt-Jacob's disease "CJD" is a prion spongiform encephalitis characterized by rapidly progressive dementia, motor disorders and myoclonus. This work aims at illustrating brain anomalies encountered in this fatal disease. We report the MRI features of CJD through 3 cases collected at neurology and neuroradiology departments. The diagnosis was highly suspected: evocative clinical findings, elevation of the protein 14.3.3 in cerebra-spinal fluid, and typical electroencephalographical abnormalities. Confirmation by cerebral neuropathological exam has not been made. Patients were explored using T1 and T2 weighted imaging, Flair and diffusion sequences. Spectroscopy study was done in one patient. MRI revealed high signals in T2 weighted imaging and flair sequences in cortical ribbon and deep gray mater. These lesions are neither visible in T1 weighted imaging. The sequence of diffusion is more sensitive, it objectifies a low apparent diffusion coefficient (ADC) at basal ganglia and extensive areas of cerebral cortex. MRI represents an important non-invasive exam in diagnosis of CJD. Diffusion sequences contribute to the early diagnosis of this disease, not in order to see about therapeutic, but to rapidly undertake control measures, especially medico-surgical equipment decontamination.