THE VALUE OF SPECT FOR DIFFERENTIAL DIAGNOSIS OF PSYCHOGENIC PSEUDOEPILEPTIC AND EPILEPTIC SEIZURES. PRELIMINARY RESULTS

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Summary
Introduction. Neuroimaging techniques using radioisotope methods may be useful in the differential diagnosis of epileptic and psychogenic pseudoepileptic seizures (PPS), especially when there is no ictal activity during video-EEG monitoring. Single-photon emission tomography (SPECT) conducted during an epileptic seizure reveals hyperperfusion in the part of the brain in which the seizure is taking place whereas there is suggestion of hypoperfusion during PPS.

Objective. The purpose of this study was to assess the value of ictal and interictal SPECT in patients with PPS.

Material and method. Twelve patients with PPS confirmed by video-EEG monitoring with ictal and interictal SPECT images were studied. Semi-quantitative analysis of the tomographic images was performed.

Discussion and conclusions. Interictal SPECT was analysed in 12 patients and both ictal and interictal SPECT images were analysed in 5 of them. Six patients showed regional decrease of perfusion with dominant deficit in the frontal region (5/6) and one patient showed frontal-temporal-parietal hyperperfusion. In one patient the SPECT images were the same in the ictal and interictal phases and regional decrease in perfusion in the ictal phase compared with the interictal phase was found in 4 patients. Interictal SPECT image cannot be a differential factor in diagnosis of PPS and epileptic seizures. Ictal SPECT with decreasing perfusion can be a useful tool in differential diagnosis. Additionally, the correlation of regional hypoperfusion and interictal EEG changes in the group of patients with PPS suggests that PPS may be biologically determined.

Key words: Psychogenic pseudoepileptic seizures – SPECT – Differential diagnosis