

Early and delayed Tc-99m ECD brain SPECT in SLE patients with CNS involvement

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We compared early and delayed Tc-99m ECD SPECT scans in 32 SLE patients (Group 1, definite neuropsychiatric disorders; Group 2, minor neurologic symptoms or normal) with those of normal controls by visual inspection and semi-quantitative evaluation. With visual interpretation, 13 out of 14 patients in Group 1 (93%) and 7 out of 18 patients in Group 2 (39%) had diffuse uneven decrease in early scans. Seven patients in Group 2 (39%) who had normal early scans demonstrated focal decrease in the medial frontal lobe in delayed scans. With cerebral region to cerebellar ratios, in early scans, the medial frontal lobe in Group 1 and Group 2 was significantly lower than in normal controls, and lateral frontal lobe and occipital lobes in Group 1 were significantly lower than in normal controls. Nevertheless, in delayed scans, every cortical region except for the parietal lobe in Groups 1 and 2 was significantly lower than in normal controls. The retention rates in all regions in SLE patients were significantly lower than in normal controls. No case showed SPECT improvement on follow-up studies in either group in spite of clinical improvement. Delayed Tc-99m ECD brain SPECT of high sensitivity might be useful in detecting CNS involvement. Although the SPECT findings did not correlate with the neuropsychiatric symptoms, early and delayed Tc-99m ECD SPECT seems to provide useful objective diagnostic information in SLE patients.

Key words: technetium-99m ECD, systemic lupus erythematosus (SLE), single photon emission computed tomography (SPECT), central nervous system (CNS), neuropsychiatric lupus erythematosus