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POSTER PRESENTATIONS

BASIC MEDICAL SCIENCE

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3. BACKGROUND LEVEL OF DNA DAMAGE DETERMINED IN WHOLE BLOOD AND LYMPHOCYTES OF MULTIPLE SCLEROSIS PATIENTS

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Background. Oxidative stress is considered to be one of the crucial factors in the pathogenesis of multifactorial multiple sclerosis (MS). DNA breaks could be one of consequences of the oxidative stress, however, data on DNA breakage in MS is very scarce and contradictory.

Purpose. The goal of this study was to determine the level single-stranded DNA breaks by means of alkaline single cell gel electrophoresis (comet assay) in whole blood or isolated lymphocytes.

Materials and methods. Groups of healthy subjects and MS patients were enrolled in the study. Lymphocytes were recovered from human blood of healthy patients and with multiple sclerosis. Alkaline single cell gel electrophoresis was performed on whole blood and lymphocyte samples. Results were analysed statistically to determine the correlation between DNA breaks in healthy patients and patients with multiple sclerosis.

Results. A trend for increase of the level of DNA breakage was observed in specimens taken from MS patients compared to healthy persons, although statistical significance was not reached yet. Continuation of the study is on line, both groups will be increased.

Conclusions. Our data indicates sensitivity of the lymphocyte DNA to the isolation procedure, and presents preliminary data on increased DNA breakage in nucleated blood cells of the MS patients.

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