

Parameters of antioxidant defense system in patients with diabetes mellitus from various ethnicity



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Introduction

Diabetes Mellitus (DM) are found worldwide and is regarded as one of the main risks to human health. Some studies are reported low DM morbidity rate among the aboriginal people in Arctic and Siberian peoples resulted from the presence of the protective alleles for this nosology. Oxidative stress induced by hyperglycemia and subsequent cellular damage is thought to be one of the major pathophysiological factors causing late complications in diabetes. The aim of this study was to compare antioxidant status in Mongoloids and Caucasians with DM.

Methods

We examined 27 patients with type 1 diabetes mellitus (T1DM) (age range, 18 to 60 years) and 16 patients with type 2 diabetes mellitus (T2DM) (age range, 38 to 58 years) of Caucasians; 38 patients with T1DM and 17 patients with T2DM of analogous age of Mongoloids. There were no significant differences in diet habits and physical activity between the patients of both ethnic groups. Spectrophotometric and fluorometric methods were used.

Results

In patients with T1DM in Caucasians there has been marked significant decrease of superoxide dismutase activity for 15% and in patients of Mongoloids with T1DM – total antioxidant activity increased for 63% compare to controls. In patients with T2DM of Mongoloids the concentration of reduced glutathione was elevated for 51% compare to control.

Conclusions

Thus, antioxidant activity system state in patients with diabetes mellitus of Caucasians and Mongoloids differ.

References

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