Current Topics in Biophysics, 2007, 30 (suppl. B) 63

TOTAL ANTIOXIDANT CAPACITY OF BLOOD PLASMA OF PATIENTS WITH DYSLIPIDEMIA

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Total antioxidant capacity (TAC) is a parameter characterizing the sum of the activities of antioxidants present in the material studied. Several studies have shown that TAC may be altered in various diseases. Dyslipidemia is a well-recognized risk factor for cardiovascular disease and one of the major causes of death. It is possible that dyslipidemia causes changes in the antioxidant levels in blood via generation of reactive oxygen species.

The aim of the study was to examine the total antioxidant capacity of blood plasma in patients with dyslipidemia. The study involved 11 patients with dyslipidemia aged 40–70 y and 15 healthy individuals. TAC was estimated by $ABTS^{\bullet+}$ decolorization assay (Re *et al*. 1999) both for "fast antioxidants" – FA (e.g. uric acid and ascorbate) and "slow antioxidants" – SA (e.g. tyrosine). Decolorization was measured at 10 s and 30 min after addition of the sample, respectively. TAC was expressed in µmol of Trolox equivalents per litre (T.e. l^{-1}).

There was a FA-dependent increase in the TAC with concomitant decrease in TAC dependent on SA ($p < 0.001$).

These findings suggest alterations in low-molecular weight antioxidant levels in blood plasma of patients with dyslipidemia.