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**Cortexin and Pinealon Modulate Free Radical Processes in Patients' Blood that Have Different Levels of Glycated Haemoglobin in an In Vitro Model**

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**Background & Hypothesis:**

The aim of this work was to study the influence of cortexin and pinealon on free radical processes' (FRP) indices in the blood of patients with different levels of glycated haemoglobin in in vitro models.

**Methods:**

The blood of patients with level of HbA1 4,2-6,1 or 6,2-12 was incubated, and a series of experiments were held: 1) 100 µl of physiologic saline (PS) were added to the blood; 2-5) 100 µl of PS containing either cortexin or pinealon in dosages of 10 or 20 ng/µl were added to the blood. The levels of HbA1, outer-erythrocytic hemoglobin (OEH, eq.un.) and the indices chemiluminescence (ChL, H&Sm) were identified.

**Results:**

Cortexin tested in blood with level of HbA1 4.2-6.1 reduces H and the concentration of OEH. Introduction of cortexin in dosages of 20 ng/µl to blood with level of HbA1 6.2-12.0 forwards lead to a rise in FRP intensity. Introduction of pinealon in blood with level of HbA1 6.2-12.0 forwards lead to a rise in OEH level against the background of Sm rise. Both cortexin and pinealon, introduced in blood in dosages of 10 ng/µl, decreased ChL indices.

**Discussion & Conclusion:**

Therefore, the effects of cortexin and pinealon have a dosage-dependent disposition, probably influencing the free radical processes in blood of patients with different levels of glycated haemoglobin, due to the chemical structure of these drugs. This study was carried on the equipment of Center for collective use "High Technology" and supported by the Federal Assignment No 1878 from Russian Ministry of Science and Education.