Acute Hyperglycaemia and Morphofunctional Characteristics of Red Blood Cells in Patients with Coronary Heart Disease

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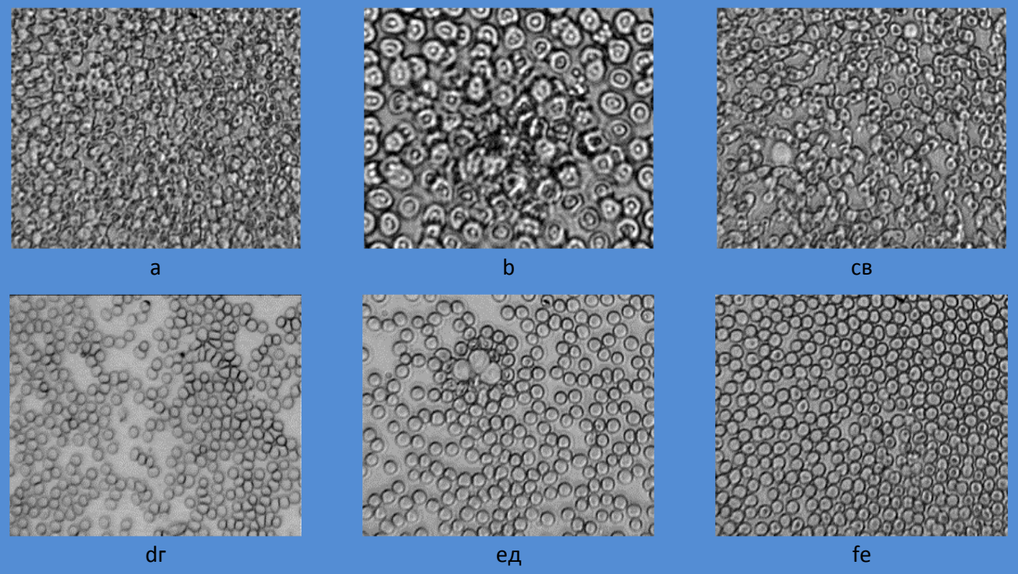
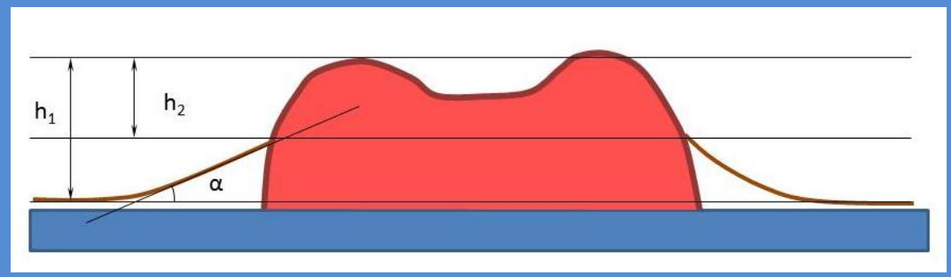


Blood smears, intravenous glucose tolerance test: a, d – patient B., 57 years old, coronary heart disease (CHD), 10 и 120 min; b, c – patient P., 60 years old., coronary heart disease 10 и 120 min; e,f – patient A., 49 лет CHD + NIDDM, 10 и 120 min. 40 fold increase (b – 80 fold increase)

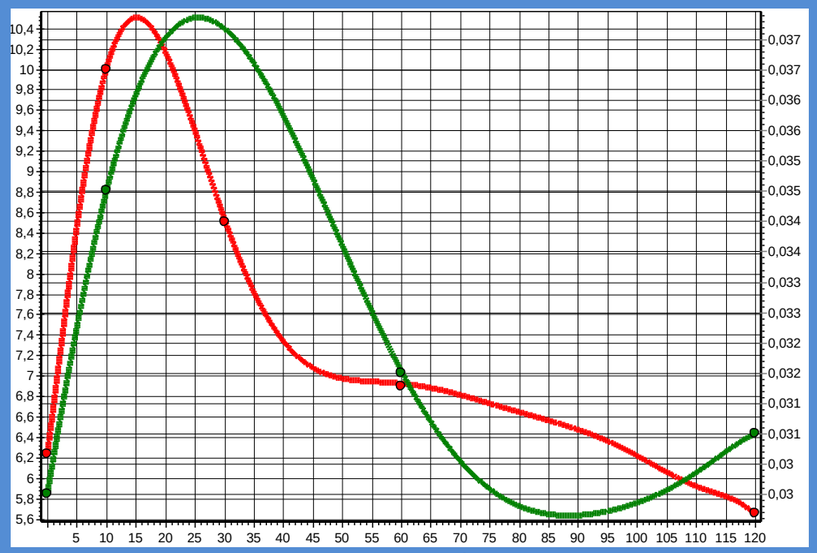
Erythrocytes morphofunctional properties were studied during intravenous glucose tolerance test in patients with coronary heart disease (CHD) and with CHD associated with noninsulin depended diabetes mellitus (NIDDM).

Clinical investigations included fasting blood tests, lipid profile, 12-lead ECG, exercise ECG, ECHO, coronary angiography. Intravenous glucose tolerance test (GTT) was performed according to Ader M. et al., 1997; Bergman R.N., 1997; Vicini P. et al., 1997. Blood glucose levels were measures at 0 – 10- 30 – 60 – 120 min points. Blood smears were prepares at 0 – 10 – 60 – 120 min points. In prepared smears increase of blood plasma layer surrounding single erythrocytes was measures by means of full-field interference microscopy

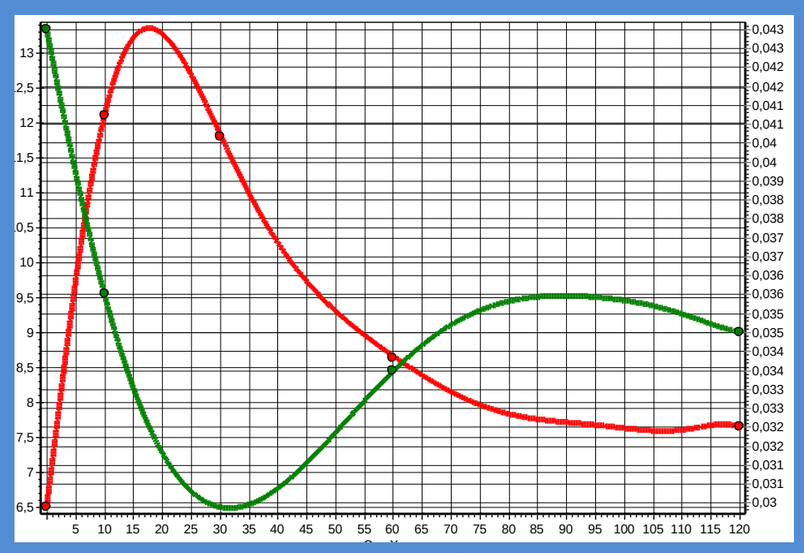


Scheme of measurements

tg α during GTT in patients with CHD (green) and CHD + NIDDM (red)



Blood glucose level (red, left scale, mmol/l) and tg α in patients with CHD during GTT



Blood glucose level (red, left scale, mmol/l) and tg α in patients with CHD + NIDDM during GTT