GLUCOCORTICOID FUNCTION OF ADRENAL GLANDS IN PATIENTS WITH CORONARY ARTERY DISEASE, DIABETES MELLITUS TYPE 2 AND ANEMIA

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Progression of coronary artery disease (CAD), anemia and diabetes mellitus type 2 (DM) is determined by activation of neuro-humoral systems as a response to chronic stress impact. The study was aimed at determining of cortisol levels in patients with CAD, DM and anemia.

Materials and methods. 40 patients with CAD with DM and anemia of different degrees of severity were under investigation. Control group comprised 12 patients with CAD without comorbid pathology.

Results. Cortisol level in control group was 390,8±52,67 nmol/l being within physiological norm. Significant changes of glucocorticoid function of adrenal glands in case of comorbid course of CAD and DM were not found (cortisol content was 476,7±39,11 nmol/l (p>0,05). In patients with CAD and anemia cortisol content was 2,02 times higher (p<0,05) and was 966,2±66,51 nmol/l. In case of CAD, DM and anemia cortisol content in blood was slightly lower (897,4± 8,43 nmol/l), which differed significantly from control group (p<0,05 ) and patients with CAD and DM without anemia (p<0,05).

Thus, both in patients with CAD and anemia, same as in case of CAD and anemia, complicated by DM, activation of glucocorticoid function of adrenal glands occurs due to hypoxia as a stress factor at anemia.

In case of CAD and DM with comorbid mild anemia statistically significant increase of cortisol content in serum was found in 2,07 times (p<0,05 compared to patients with
CAD and DM). As severity of anemia increased, progressive depletion of glucocorticoid function of adrenal glands was observed due to cortisol content decreasing by 26% (p<0.05 compared to patients with CAD, DM and mild anemia).

Perspectives of future investigations are connected with finding out of possible ways of the pharmacological correction of the revealed changes.

References.


Key words: coronary artery disease, diabetes mellitus type 2, anemia, cortisol

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