

**DYNAMICS OF THE CATECHOLAMINE LEVEL IN THE ERYTHROCYTES OF PATIENTS WITH BRONCHIAL ASTHMA.**

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**Object of Research.** To study the dynamics of the level of catecholamines (CA) in the erythrocytes (Er) in patients with bronchial asthma (BA) during attacks and during the interattacks period.

**Methods.** Thirty patients with BA and 10 apparently healthy persons of the corresponding age have been examined. The function of external respiration with an analysis of the "flow - volume" curve was studied. Employing a cytochemical method (Y.I. Mardar, D.P. Kladiyenko, 1986), the content of CAs in Ers was evaluated and counted up morphometrically in conventional units (c.u.).

**Results.** A rise of the level of CAs in Ers was observed in all the examined patients during asthmatic fits -  $17, 38 \pm 0.01$  c.u. compared with healthy persons -  $2,87 \pm 0,01$  c.u. ( $p < 0.05$ ) respectively. A decline of the level of CAs was noticed during the period between attacks towards an age - specific standard in 10 patients with completely reversible bronchial obstruction (an increase of the forced expiratory volume (FEV1) 15-20% of appropriate - values after inhalation a bronchial spasmolytic or 150-200 ml; an increase of the number of CA inclusions in one Er against a back ground of a total decrease of the number of stained cells -  $4.7 \pm 0.02$  c.u. ( $p < 0.05$ ) was observed in 20 patients, bronchial obstruction in patients acquiring a partially reversible nature (an increase of FEV1 within the limits of 8-10%).

**Conclusions.** A sharp rise of the CA level in Ers is observed under conditions of an enhanced activity of the sympathoadrenal system during BA attacks, above all, due to a release into the blood of a large amount of adrenaline and noradrenalin that are trapped and carried by Ers to executive organs, namely, to the bronchi. The level of CA in Ers returns to normal in part of the patients after a rapid relief of the asthmatic symptoms since their considerable number is excreted from the organism. Under conditions of a disturbance of the receptor apparatus of the bronchial myocytes, a decrease of the number and diminished susceptibility of  $\beta$ -receptors to bronchial spasmolytics, there occurs a preservation of the high level of CAs in Ers and the appearance of a considerable number of "emptied" Ers without CA inclusions in Ers and that may be accounted for by a disturbance of their very receptor apparatus. The dynamics of the CA level in Ers may serve as a diagnostic criterion of an incomplete return of sensation of the bronchial  $\beta$ -receptor apparatus and a need for further institution of anti-inflammatory therapy.

**LUNG TRANSPLANTATION - CHALLENGE FOR PATIENTS WITH END STAGE LUNG DISEASES.**

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Until the year 2001, lung transplantation was not available in Poland, as the only one among other kinds of solid organ transplantation. In 2001, in the Silesian Center for Heart Diseases the first successful combined heart-lung transplantation was performed. In 2003 a successful, first in Poland, single lung transplantation was performed in Zabrze. Nowadays, about 12 lung transplantations are performed yearly in Zabrze.

Department of Lung Diseases and Tuberculosis in Zabrze is the only center of lung diseases where patients are referred for lung transplantation in Poland. Difficulties involving