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Title: The localization and activity of the leptins and adiponectins receptors in the thigh tissue in COPD-patients

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Body: Objective: To determine the localization and activity of receptors for leptin and adiponectin in the tissues of the thigh in patients with COPD. The study included 90 patients with COPD (I stage, n = 30; II stage, n = 30, III stage, n = 30, control group n = 10). The samples of thigh tissue are obtained with fine-needle biopsy of the automatic MAGNUM system. The localization and activity of leptins and adiponectins receptors are studied using the immunofluorescence method and the quantification of the signals in the three fields of view, according to the protocol DakoCytomation. Positive expression of tags is observed in the cytoplasm and cell membrane. The positive expression of the signals is obtained in the control group in the skin, connective tissue and muscle. The disappearance of signals to the adipokins in muscle tissue is observed with increasing of the stage of COPD. Receptor cell activity in leptin and adiponectin in COPD-patients varies and depends on the stage of the disease. The most significant decrease in the number of signals to leptin occurs in stage III disease as compared with the control group. In contrast, in the same group the quantity of signals for adiponectin increases and reaches a maximum level as compared with the control group. The activity of the leptins and adiponectins receptors in muscle tissue disappears with the increasing of the COPD stage. Quantification of activity depends on the severity of the disease, the number of receptors to leptin decreases and the number of receptors to adiponectin increases.