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Title: The dynamics of IV-type collagen contents in BALF of patients with COPD

Prof. Mykola 27666 Ostrovskyy dr.ostrovskyy@rambler.ru MD ¹, Dr. Iryna 27667 Savelikhina iryna.savelikhina@gmail.com MD ¹, Dr. Oleksandr 27668 Varunkiv dr.ostrovskyy@rambler.ru MD ¹ and Dr. Mariana 27669 Kulynych-Miskiv marianakul@meta.ua MD ¹. ¹ internal Medicine #3, Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine, 76018 .

Body: Background. Chronic obstructive pulmonary diseases are diagnosed in 4-6 % of men and 1-3 % of women above 40 years old. The persistent inflammatory process in bronchi, the development of microcirculation disorders, the increasing of hypoxia processes result in the activation of fibroblasts and their production of IV-type collagen, which is manifested by the formation of peribronchial pneumosclerosis. Purpose of the study: the evaluation of the IV-type collagen level dynamics in BALF of patients with COPD. Materials and methods. The contents of IV-type collagen in BALF has been evaluated by the Enzyme-linked immunosorbent assay method in 28 patients with 2nd stage of COPD in a relapse phase, and then in the same patients again in $6,4 \pm 1,2$ years during the transformation of the diagnosis into 3rd stage of COPD. Results of the study: The contents of IV-type collagen in BALF with II stage COPD in the relapse phase was $(38,61 \pm 2,12)$ ng / ml, which is 3,99 times higher than in almost healthy people whose level was $(9,68 \pm 0,54)$ ng / ml. The average FEV1 magnitude was $57,4 \pm 4,2$ %. During the progressing of COPD and its transformation into 3rd stage, the average magnitude of the FEV1 indicator was $43,4 \pm 3,6$ %; the IV-type collagen level in BALF rose up to 35 % in comparison with previous data and was equal (52.13 ± 3.12) ng / ml. Conclusions: The progressing of COPD is accompanied by the increase of the remodulation of bronchial tree due to peribronchial pneumosclerosis, which is manifested by the IV-type collagen levels rise.