

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 4551

**Publication Number:** P3775

**Abstract Group:** 3.3. Mechanisms of Lung Injury and Repair

**Keyword 1:** COPD - management **Keyword 2:** COPD - mechanism **Keyword 3:** Bronchoalveolar lavage

**Title:** The influence of roflumilast on the IV-type collagen level in patients with III stage COPD

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**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 3rd stage COPD during the treatment with Roflumilast. Materials and methods: The contents of the IV-type collagen in BALF was evaluated in 39 patients with III stage COPD in a relapse stage using enzyme-linked immunosorbent assay before and after 3 months of treatment with the inhibitor of phosphodiesterase -4 – Roflumilast, 500 mg per day, inside, together with the basic 3rd stage COPD treatment (GOLD, 2010). Results of the study: The contents of the IV-type collagen in BALF before the beginning of treatment in patients with 3rd stage COPD was  $(69.13 \pm 3.12)$  ng / ml, which is in 7,14 times higher than in almost healthy people, whose contents constituted  $(9,68 \pm 0,54)$  ng / ml. After the second examination in 90 days, the above – mentioned indicator in patients fell down by 2,45 times and was equal  $(28,26 \pm 2,23)$  ng / ml. Conclusions: The depression of IV-type collagen levels demonstrate the ability to slow down pneumosclerosis progression in patients with III COPD who are treated with Roflumilast.