In the structure of both Groups newborn infants diseases`ve been found leading position belong to cerebral ischemia, intrauterine infection, adjustment cycle abnormality, however, morbidity rate dominated among children of Group II.

Thus, among newborn infants of Group II cerebral ischemia obviously occurred more often - in 2 times, intrauterine infection (infectious disease of skin and mucous coat) – in 1,7 times, intrauterine growth retardation - in 6,9 times, respiratory distress syndrome – in 3,9 times, hematologic indications abnormality with the predomination of hyporesponshreness and reaction of deadaptation in 2,0 times in comparison with the results of Group I ($p<0,05$).

Conclusions. In summary, there is a lesser occurrence of developing complications of pregnancy, partus and better indications of newborn infant's state in case of controlled BA progression under the constant baseline anti-inflammatory therapy. Therefore, achieving an optimal control of BA during pregnancy, being a necessary and top-priority direction of therapy, can make it possible to decrease the occurrence of gestational complications development and to improve generation health state indications.

Data received demonstrate the need of BA primary prevention, including limitation of factor of risk of its developing influence on the perinatal period (antigenic pressure, recrudescence of allergic diseases, development of gestosis, anemia, chronics intrauterine hypoxia, chronic placental insufficiency), on the first year of life (eliminating the risk of developing the intrauterine infection, cerebral ischemia), preventive measures of nutritional, household, epidermal and medical sensibilization, what would allow to decrease manifestation of early asthma and to delay environment factors influence on disease formation in a latter period of infancy.

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To the question concerning the pathogenic treatment of chronic obstructive pulmonary disease

RybasE.G., NaryshkinaS.V.

The Amur State Medical Academy, the department of faculty therapy, Blagoveshensk, Russia

Abstracts: Chronic obstructive pulmonary disease – is a progressing disease that characterizes in systemic manifestations and mixing with the attendant pathology that determines the prognosis, the severity of the disease, the tactic of treatment and the rehabilitation program. Taking into consideration the fact that chronic inflammation is in the basis of COLD the treatment must involve a strong anti-inflammatory therapy. The application of the new class of preparations – inhibitor phosphodiesterase-4 is the perspective direction. Roflumilast is one of their representatives. The clinical effectiveness of roflumilast in patients with midsevere or severe course

of COPD was studied in the set of large randomized placebo-controlled examinations.Their results sustain the fact that roflumilast therapy is accompanied with the regression of the function of external respiration, the reduction of the disease complications and the improvement of the patients' life quality.

Key words: chronic obstructive pulmonary disease, inflammation, complication, phosphodiesterase-4 inhibitor, roflumilast.

Chronic obstructive pulmonary disease (COPD) – is one of the topical problems of pulmonology. At present this pathology has a high rate of morbidity, invalidism and mortality. It is also socio-significant and economically expensive problem for the society [7]. Nowadays about 10% of the population at the age over 40 years old suffer from COLD. In 2005 more than 3 million people with COPD died from this disease all over the world [2].

In documents of the latest years they define COPD as "the disease that can be prevented and cured, characterizing with the persistent limit of pneumatic flow speed that usually progresses and is connected with high chronic inflammatory respondent of lungs to the influence of pathogenic particles or gases" [10].

The development of inflammatory process relates to the basic prognostic COPD criteria. There is a pathologic inflammation in pre-clinical period. And its intensity and cellular characteristics change in progress of the disease [5].

The compound of cellular cooperation taking part in inflammatory process and also in pulmonary parenchyma is similar in whole: neutrophiles, T-lymphocytes and macrophages. The key role belongs to neutrophiles. A large number of biologically active substances are extricated by cells. These substances put on a set of inflammatory reactions that lead to the bronchial obstruction and the destruction of structural alveolar elements restraining the lumen of terminal bronchi with the follow up emphysema formation [8]. FNT-a, anti-inflammatory interleukein 1,6,8,etc. are referred to the inflammatory mediator. Some authors draw attention to the correlation between a quantity of different cells of inflammation and the severity of the disease [11].

Complication rate is a clinical marker pf inflammatory process. Complication – is a destabilization of the course of the disease characterizing in the increase of dyspnea, cough and sputum output. In most cases complications have an acute beginning and appear due to bacterial or viral infection of the respiratory tract. As a rule they require the hospitalization and treatment correlation. The frequency of complications varies in different patients. It is possible to estimate the risk of complications with two methods: spirometric COPD classification (where the 3rd and the 4th class are rated to the group of high risk of complications) and the patient's case history (when two or more cases of complications per year are considered to be a high risk). Frequent complications contribute the aggravation of the condition of patients with COPD and progressing of the respiratory insufficiency [10].

The COPD complication is accompanied with the activation of systemic inflammation [16]. The change in nutrition status, hypotrophy, atrophy of skeletal muscles, depression, cardio-vascular diseases, osteoporosis, normocytic anemia, and metabolic syndrome are referred to the general systemic COPD manifestations [17].

The success in the correct treatment of patients with COPD must be in taking such measures as the estimation of the severity of the disease, the elimination of the risk factors and working out the treatment of complications. Nowadays they suppose that for the effective therapy it is necessary to choose the personnel treatment scheme according to the rate of complications and the evidence of clinical symptoms. To these basic criteria patients may be referred to one of the 4 categories: A,B,C,D [10].

Taking into consideration the pathogenic COPD mechanisms it is obvious that the effective treatment must include a strong anti-inflammatory therapy [7]. Glukocorticosteroids are considered to be the basic anti-inflammatory preparation. According to the number of complications the use of these preparations leads to the authentic reduction of the content of T-lymphocytes, eosinophiles

and anti-inflammatory mediators IL-8 and FNT-a. but it was shown that in comparison with the placebo IGCS monotherapy increases the fatal risk and the risk of pneumonia development in 50% of patients taking fluticosone propionate. During the first 6 months the IGCS therapy led to the authentic increase of FVC 1 (in comparison with the placebo). But in 6 months of the IGCS therapy the reduction of FVC 1 was marked [9].

The combination of IGCS and ß2-agonists with the prolonged action has more effective anti-inflammatory reaction. But also there is an increase of new pneumonia cases in patients with COPD when using the combination of salmeterol /fluthycoson.

There were a sufficient number of examinations of anti-inflammatory activity of anti-inflammatory cytocine inhibitors at COPD. Phenspirid is taken quite good. It is stinted of many subsiding effects, that are characteristic for glucocorticosteroids [4], but anti-inflammatory reaction is worse [6].

At present there is new information about anti-inflammatory effects of the statin. The use of rosuvostatin in a complex therapy of patients with COPD and IHD revealed the decrease of SRP level, FNT-a, and fibrinogen [3].

The application of the new class of preparations - inhibitor phosphodiesterase-4 – is a perspective direction in anti-inflammatory therapy. Roflumilast, registered for the use in Russia in 2011, is a selective phosphodiesterase-4 (PDE-4) inhibitor isoenzyme that influences the general mechanisms of inflammation at COPD. PDE-4 inhibitors are known to stanch the destruction of cyclic adenosine monophosphateand keep a high content of intracellular cyclic adenosine monophosphate. It reduces the ejection of biologically active substances, participating n basic inflammatory phases, by anti-inflammatory cells [12].

The examination of roflumilast anti-inflammatory activity revealed that roflumilast therapy leads to the improvement of functional markers of lungs and to the reduction of number of inflammatory cells in sputum (neutrophiles, lymphocytes and eosinophiles). Besides, the decrease of ejection of inflammatory markers, IL-8, FNT –α from the blood cells, was marked [13].

The study of roflumilast clinical effectiveness in patients with midsevere or severe course of COPD was made in a range of large randomiinimized placebocontrolled investigations – Record (M2-107), Opus, Ratio (M-112), EOS (M2- 107), HELIOS (M2 – 128), AURA (M-124), HERMES (M – 1 25) [14,15].

Roflumlast is proved not to be the actual bronchodilator. But due to its anti-inflammatory effects this preparation may improve the index of the function of the external respiration inpatients with COPD. The FVC 1 index against the roflumilast therapy became better in comparison with the placebo in examinations M2 – 107, M-112 and OPUS. And the results of the latest two examinations did not follow the COPD phenotype and simultaneous taking of IGCS [16].

Roflumilast effectively influences the clinical picture and the quality of life of patients with COPD. So, in examinations M2– 128 the roflumilast therapy led to the decrease of dyspnea, the necessity in short effective broncholytics, the improvement of the patients' condition that have COPD accompanied with the productive cough [14].

The decrease of the frequency and the severity of complications is one of the main aims in COPD treatment [10]. In Ratio and OPUS examinations it was shown that during the use of roflumilast the rate of midsevere and severe complications of COPD was lower in comparison with the placebo group. In a complex analyses of M – 124 and M – 125 examinations the time before the beginning of the 1^{st}, 2^{nd} and 3^{rd} complications in patients taking roflumilast, in comparison with the placebo group, increases significantly [15]. Roflumilast is well-matched with all known preparations that are used I sustained COPD therapy [14].

According to the modern recommendations roflumilast should be administered to the "group D" patients (with a high risk of complications) in addition to the basic therapy [10]. For the "group C" patients' roflumilast is recommended as an alternative preparation for the standard therapy of the first line.

So, taking into consideration the key role of inflammation in COPD pathogenesis, the treatment must include the anti-inflammatory therapy. The use of the new class of preparations - phosphodiesterase-4 inhibitors is the perspective direction. Roflumilast is the representative of this group and has strict signs for the administration according to the new standards of treatment. At the same time it is well-taken and has a high clinically-proved effectiveness. But the question concerning the administration of phosphodiesterase-4 inhibitors to à and ß patients is still open. And the influence of roflumilast to the systemic COPD manifestations is not studied.

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