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КОМПЛЕКСНАЯ ОЦЕНКА СТЕПЕНИ ТЯЖЕСТИ ХОБЛ НА АМБУЛАТОРНО-ПОЛИКЛИНИЧЕСКОМ ПРИЕМЕ

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Цель. Анализ возможности и целесообразности комплексной оценки клинического состояния пациентов с хронической обструктивной болезнью легких (ХОБЛ) на амбулаторно-поликлиническом приеме в условиях небольшой территориальной городской поликлиники. ***Материалы и методы.*** Исследование проводилось на базе ГБУ РО Поликлиника №12 г. Рязани с октября 2012 по декабрь 2014 г. При сборе анамнеза оценивали наследственную отягощенность, наличие неблагоприятных факторов, способствующих развитию и прогрессированию заболевания, кашлевой анамнез, фазу заболевания, наличие специфической медикаментозной терапии, далее проводилось скрининговое эпидемиологическое исследование (анкетирование). В результате, из обратившихся за медицинской помощью пациентов с хроническими респираторными симптомами (кашель, одышка) сформирована группа наблюдения (n=150, возраст 19-81 лет, средний возраст 56,1±2,3 лет), в которой выполнялась скрининговая спирография, проведена оценка степени тяжести ХОБЛ согласно GOLD 2014, сформированы группы наблюдения: A, B, C, D. ***Результаты.*** В группе наблюдения ХОБЛ была подтверждена в 100% случаев, из них 1-я стадия ХОБЛ – 18,7%, 2-я – 43,3%, 3-я – 30,0 %, 4-я стадия – 8,0%. Количество обострений составляло 1-8 в год. Наиболее частыми сопутствующими заболеваниями были: ишемическая болезнь сердца (53,2%), артериальная гипертония (74,3%), хронический гастродуоденит (34,5%). В 31,3% случаев отмечалось сочетание ≥2-х хронических заболеваний. В зависимости от степени ограничения скорости воздушного потока и симптомов заболевания, истории обострений, больные были распределены на следующие группы по GOLD 2014: группа A – 39,3%, группа B – 20,0%, группа C – 19,0%, и группа D – 21,7%. По возрасту, полу и статусу курения статистически значимых различий между группами выявлено не было (p>0,05). ***Выводы.*** Проведенный анализ продемонстрировал возможность и удобство использования стратификации пациентов с ХОБЛ по степени тяжести заболевания (согласно GOLD 2014) с целью индивидуализации дальнейшего ведения таких пациентов.

Ключевые слова*: ХОБЛ, GOLD, амбулаторная практика, спирометрия, шкала одышки, mMRS, опросник CAT.*

COMPLEX ASSESSMENT OF THE DEGREE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE COPD SEVERITY ON OUT-PATIENT VISIT

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Aim. Analysis of the possibility and reasonability of a comprehensive assessment of clinical condition of patients with chronic obstructive pulmonary disease (COPD) on outpatient visit in conditions of a small territorial municipal polyclinic. **Materials and Methods.** The study was carried out on the base of municipal Outpatient clinic №12 (total adult population 7177 people) of Ryazan from October 2012 to December 2014. In history taking, positive family history, existence of unfavorable factors that could provoke development and progress of the disease, coughing episodes in history, phase of the disease, medicinal treatment were evaluated. This was followed by a screening epidemiological examination (questionnaire). In result, an observation group was formed (n=50, aged 19-81 years, mean age 56.1±2.3 years) from patients with chronic respiratory symptoms (cough, dyspnea) seeking medical care, where screening spirography, evaluation of the degree of severity of COPD according to GOLD 2014 were conducted, and four observation groups (A, B, C, D) were formed. ***Results.*** COPD was confirmed in 100% of patients of the observation group, of them the 1st stage COPD was found in 18.7% of cases, 2nd – in 43.3% of cases, 3rd– in 30.0%, 4th – in 8.0%. The number of exacerbations was 1-8 per year. The most common concomitant diseases were ischemic heart disease (53.2%), arterial hypertension (74.3%), chronic gastroduodenitis (34.5%). A combination of 2 or more chronic diseases was observed in 31% of cases. Depending on the degree of airflow rate limitation, symptoms (mMRC results), history of exacerbations, patients were divided into the following groups according to GOLD 2014: group A – 59 patients (39.3%), group B – 30 patients (20.0%), group C – 29 patients (19.0%), and D – 32 patients (21.7%). There were no statistically significant differences between the groups in age, gender and smoking status (p>0.05). ***Conclusion.*** The analysis showed a possibility and convenience of using stratification of patients with COPD by the degree of severity of the disease (according to GOLD 2014) with the aim of individualization of further management of such patients.

Keywords: *COPD, GOLD, ambulance situation, spirometry, dyspnea scale, mMRS, CAT questionnaire.*

At present, a general increase in the incidence of chronic obstructive pulmonary disease (COPD) is seen, that often leads to debilitation and death [1,2].

COPD is a multicomponent disease, therefore structural and functional changes occur not only in lungs, but also in other organs, so assessment of the degree of severity of COPD from spirometric data is not sufficient in the modern clinical practice. In particular, the forced expiratory volume in one sec (FEV_1) poorly correlates with such symptoms of the disease as dyspnea, intolerance to physical activity and also with quality of patient's life. It was shown that symptoms of the disease are more closely related to the quality of patient's life than obstruction of the airways [3,4].

In GOLD revision of 2014 a new classification was proposed based on the integral assessment of severity of the condition of patients with COPD. It takes into account not only the degree of severity of the bronchial obstruction based on the results of spirometric examination, but also clinical data of a patient: the number of COPD per year and expressiveness of clinical symptoms from mMRC score (Modified Medical Research Council) and CAT test (COPD Assessment Test) [5]. This classification permits to divide patients into 4 groups: group A (less symptoms, low risk of exacerbations), group B (more symptoms, low risk of exacerbations), group C (less symptoms, high risk of exacerbations) and group D (more symptoms, high risk of exacerbations). A complex stepwise examination permits to identify the degree of obstructive disorders, and also to form groups of patients with COPD with low and high risk [6-8].

Aim – to analyze possibilities and reasonability of complex assessment ofclinical conditions of patients with COPD on an out-

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patient visit to a small territorial municipal polyclinic.

Materials and Methods

The work was conducted at the premises of municipal polyclinics №12 of Ryazan (total adult population 7 177 people) from October 2012 to December 2014. At the moment of start of research 19 patients with COPD were registered in the polyclinic.

The study was approved by Local Ethical Committee of Ryazan State Medial University (2011). Criteria for inclusion of patients were:

1. Signing of written informed consent for participation in the study and sufficient compliance of a patient;

2. Chronic respiratory symptoms (key symptoms for diagnosis were: chronic cough, chronic sputum production, dyspnea);

3. Deviations of the parameters of the lung function test (LFT) from the norm: forced vital capacity of lungs (FVC), FEV_1, Tiffenau index (FEV_1/FVCL), and of the results of X-ray radiography of chest;

4. Influence of risk factors in history.

Criteria for exclusion:

1. Absence of distinct signs of COPD in a patient;

2. Existence of other severe diseases (chronic cardiac failure, oncological diseases, anemia, specific lesions of lungs – sarcoidosis, tuberculosis, etc.).

3. Psychological and social factors preventing fulfilment of the study program.

The study was conducted using standardized individual cards. In taking history, positive heredity, existence of adverse factors promoting development and progress of the disease, coughing episodes, phase of the disease, use of specific medicinal therapy, were taken into account.

At the first stage a screening epidemiological study was conducted (questionnaire), the second stage included screening spirography of the individuals with respiratory symptoms or risk factors for COPD, at the third stage A, B, C, D groups were formed (Figure 1) and the degree of severity of COPD was assessed according to modern classification (GOLD 2014).

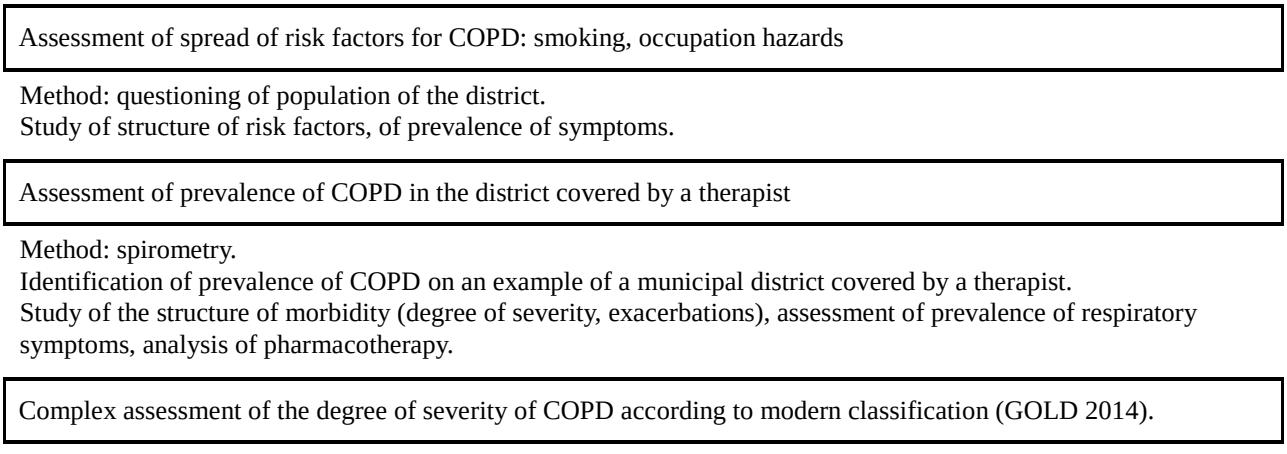

Fig. 1. Design of study

The degree of severity of COPD was assessed according to the generally accepted classification (based on FEV_1 after the use of a bronchodilator) and to modern classification of COPD (A, B, C, D): GOLD1 – mild degree: FEV_1 > 80% of predicted; GOLD2 – moderate degree: 50% < FEV_1 < 80% of predicted; GOLD3 – severe degree: 30% < FEV_1 < 50% of predicted; GOLD4 – very severe degree: FEV_1 < 30% of predicted. Besides the parameter FEV_1 that reflects the degree of obstructive disorders, the degree of COPD severity was also assessed by frequency of exacerbations, mMRS score,

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CAT questionnaire.

In result an observation group was formed from patients with chronic respiratory symptoms (cough, dyspnea), who sought medical assistance (n=150, age 19-81 years, mean age 56.1±2.3 years). The mean duration of COPD was 12.5 years (from 1 year to 58 years). Comorbid cardiovascular pathology (essential hypertension, CHD) was present in 72.7% of the studied group of patients.

Information-analytical data base of the results of the study was created using Microsoft Office 2007 program package. Statistical processing of the results was performed using computer programs Excel (Microsoft, 2007), Statistica 6.0 (Stat Soft Inc., США, 2001), SPSS 13.0 for Windows.

Results and Discussion

All patients included into the study had a smoking history (with pack-year index 24.5±0.93), 19.3% of them worked in dusty industrial conditions for more than a year.

Assessment of the incidence of respiratory symptoms was performed using CAT questionnaire which was filled by the patients twice. All patients highlighted a complain of constant cough both in the first and in repeated questioning. Sputum production was indicated by 24.6% of patients in 2012 and 35.1% in 2014, dyspnea – by 35.2% and 51.2%, respectively. With this, our data agree with the results of other works. Thus, a high incidence of respiratory symptoms was reported by S.N. Kotlyarov (2011): cough in 20.2% of patients who sought medical assistance, dyspnea – in 36.6%; at least one chronic respiratory symptom – in 41.0%, two and more – in 29.2% [6].

In our study, stage I COPD was recorded in 28 patients (18.7%), stage II – in 65 (43.3%), stage III – in 45 (30.0%), stage IV – in 12 (8.0%). It is important to note that of all 150 patients with verified COPD only 10 were aware of their diagnosis, 6 of them had stages III and IV of the disease. Most patients (73.3%) had moderate COPD.

Comparative characteristics of patients with COPD at different stages of the disease are given in Table 1.

Table1

Basic Spirometric Parameters in Studied Sample of Patients Depending on Stage of COPD

Parameter	**stage I** (n=28)	**stage II** (n=65)	**stage III** (n=45)	**stage IV** (n=12)
FVC, L/sec	3.34±0.42	3.24±0.49	2.20±0.61	1.82±0.29
FEV_1, L/sec	2.60±0.32	2.06±0.32	1.10±0.21*	0.73±0.09*
% of norm	89.04±1.50	66.10±0.83	40.10±1.60	25.00±2.53
FEV_1/FVCL, %	67.80±2.16	62.60±2.67	54.20±2.89	44.60±4.30

Note: * – statistically significant differences as compared to stage I COPD

Of 150 patients, 88 (58.7%) had few symptoms of the disease (mMRS-0-1, CAT<10 points), 62 (41.3%) had many symptoms (mMRS – 0-1, CAT ≥ 10 points).

Exacerbations of COPD were determined byuse of antibiotics, of systemic glucocorticosteroids (GCS) and by hospitalization of patients. Exacerbations more than twice a year were considered frequent. Frequency of COPD exacerbations increased in spring and autumn on average to 1-8 times per year. Increase in frequency of exacerbations with increase in severity of the disease was noted ($p<0.05$). Thus, for stage I COPD

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frequency of exacerbations averaged 1.3 per year, for stage II – 1.9, for stages III and IV – 2.4 and 3.5, respectively.

Most common associated pathologies were CHD (53.2%), arterial hypertension (74.3%), chronic gastroduodenitis (34.5%). In 31.3% of cases a combination of 2 and more chronic diseases was noted.

Depending on the degree of limitation of the airflow (based on the results of mMRC) and on the results of exacerbation history, the patients were divided into the following groups according to GOLD: group A – 59 patients (39.3%), group B – 30 (20.0%), group C – 29 (19.0%) and group D – 32 (21.7%).

There were no significant demographic differences between the groups in age, gender and smoking status ($p>0.05$). The incidence of comorbid conditions was comparable with that in categorization of patients according to COPD stages, except CHD, which, based on the results of our analysis, was more common in patients of groups B and D. Percentage of patients with excessive weight and obesity was higher in group B.

Most patients without exacerbations were referred to group A (45.4%), while (25.9%) of patients were included into groups C and D on the basis of severity of airflow limitation.

On mMRS, 58.3% of patients had 0-1 score, and 41.7% had ≥2 score. By mMRS, ≥2score was recorded in 22.7% patients who did not receive treatment, in 35.4% of patients who received therapy with M-cholinolytics, in 35.6% of patients treated with inhalation GCS and long-acting beta-2-agonists, and in 50.2% of patients receiving a combined therapy with inhalation GCS, beta-2-adrenomimetics and M-cholinolytics. With this, it was found that highly evident dyspnea was presentnot only in patients with stage IV COPD, but in those with stages II and III, and, vice versa, there were patients with stages III and IV with dyspneaevaluated 1 point.

Among patients having filled the questionnaire, the mean CAT score was 17.1 in the total population of patients with COPD. CAT score ≥10 was recorded in 66.7% of patients who did not receive treatment, in 74.5% of patients kept on monotherapy with M-cholinolytics, in 74.4% of patients receiving inhalation GCS and long-acting beta-2-agonists, and in 81.9% of patients receiving a combined therapy with inhalation GCS, beta-2-adrenomimetics and M-cholinolytics.

In general, it should be noted that of 150 patients only 35 were given broncholytic therapy: short-acting beta-2-agonists – 15 patients, M-cholinolytics in combination with beta-2-agonists – 20 patients. Besides, 90.5% of patients said that they resorted to self-treatment in the periods of exacerbation, when they used mostly non-steroidal anti-inflammatory drugs (42.2%) and mucolytics (15.3%). In the periods of exacerbations antibiotic treatment was conducted in 13.2% of patients.

Conclusions

1. The conducted analysis demonstrated a possibility and convenience of stratification of patients with COPD by the degree of severity (according to GOLD 2014) with the aim of individualization of management of such patients.

2. A high prevalence of respiratory symptoms was identified: cough in 100% of patients, discharge of sputum in 35.2%, dyspnea in 51.2% of patients.

3. In all patients who sought assistance in a municipal polyclinic of Ryazan with chronic respiratory symptoms (n=150), COPD was confirmed; here, 2 of each 5 patients were referred to group A according to classification of GOLD 2014, while B, C, and D groups were relatively equal and included 1 of each 5 patients.

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Дополнительная информация [Additional Info]

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