INTERNATIONAL JOURNAL OF INTEGRATIVE AND MODERN MEDICINE

Advantages of Modern Methods of Diagnosis of Bronchitis

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Annotation: Bronchitis is a disease caused by inflammation of the bronchi, and its clinical manifestations are cough, sputum production, and shortness of breath when the small bronchi are affected. With a long-term course, the disease can cause serious complications: pneumonia, increased bronchial reactivity and bronchial asthma, chronic forms of bronchitis and chronic obstructive pulmonary disease. How to properly treat bronchitis in adults and why is it important to take action quickly? Let's look at it in the article.

Keywords: Acute bronchitis, chronic bronchitis, catarrhal, purulent.

The incidence of acute bronchitis increases in the autumn-winter and spring seasons 3 . Its main causes are infectious agents, physical properties of the air that is breathed less often (too dry and hot during the heating period, cold outside), chemical irritants (sulfur compounds, acid vapors, gasoline combustion products) and exposure to allergens. the secret

Predisposing factors that have a negative effect on the body play an important role in the development of acute and exacerbation of chronic bronchitis.

active and passive smoking;

working conditions (occupational hazards - dust, hot or cold air, asbestos fibers, moldy hay),

alcohol abuse;

violation of nasal breathing;

chronic infectious foci in the nasopharynx;

repeated acute respiratory viral infections;

pathology of local immune protection;

obesity and others.

Types of bronchitis

Acute and chronic bronchitis are distinguished in adults. According to the degree of functional impairment, bronchitis is divided into obstructive (with impaired air permeability of the bronchi) and non-obstructive (when air flows freely to the lungs and back).

acute bronchitis

In most cases, acute bronchitis is caused by respiratory viruses 3 . The disease lasts 1-3 weeks, but in some patients, due to the characteristics of the causative factor, it can last up to 4-6 weeks.

Acute bronchitis can be diagnosed in patients who do not have chronic bronchopulmonary diseases and who have a cough (ineffective (with little sputum) or productive) that is not explained by other reasons.

Acute bronchitis can be accompanied by bronchial obstruction syndrome and take a long, wave-like and repeated course. The disease is said to have a recurrent course when there are at least 3 episodes of bronchitis in 3 years.

According to the nature of inflammation, acute bronchitis is divided into 5:

catarrh - superficial inflammation;

swelling - swelling of the bronchial mucosa;

purulent.

chronic bronchitis

Chronic bronchitis is defined as a cough lasting at least 3 months a year for 2 years 8 .

Chronic bronchitis is classified according to the type of inflammatory process:

catarrhal - cough with a slight discharge, the mucous membrane has changed superficially;

purulent - purulent sputum;

catarrhal-purulent;

hemorrhagic - sputum mixed with blood;

fibrinosis - with dense films and fibrin 2 threads.

The main symptoms of acute bronchitis

Acute bronchitis manifests itself with an acute onset - with the appearance of signs of damage to the upper and lower respiratory tract, accompanied by symptoms of various degrees of intoxication.

Cough

At the very beginning of the disease (in the first 2-3 days), the cough is dry, painful and annoying. Then mucous, less often mucous purulent, sputum appears, the cough softens and gradually decreases. In most patients, the cough does not last more than 2 weeks, in some people it lasts up to 4 weeks, and in some it lasts up to 6-8 weeks. Such a long-term cough is mainly associated with a temporary increase in bronchial reactivity. Sometimes chest pain occurs due to spasm of the diaphragm during coughing 3.9.

Disorders of bronchial obstruction

In severe cases, patients may complain of tightness and wheezing in the chest, shortness of breath; Such complaints usually begin to appear on the 3rd-4th day of the disease, last for a week and then gradually decrease 3 .

Damage to the upper respiratory tract

Signs of damage to the upper respiratory tract include nasal congestion and / or runny nose, mouth and oral pain, hoarseness 3 .

General intoxication

Also, the acute process can be accompanied by chills, fever with a temperature of 38 ° C, headache and a feeling of weakness.

The course of acute bronchitis is affected by a number of factors, including the patient's age, constitutional characteristics, the state of the immune system, concomitant pathology, and others.

Permanent changes in the structure of the mucous membrane can disrupt the cleaning of the bronchial tree and lead to the formation of chronic bronchitis. Changes in these characteristics, the amount of bronchial mucus (it thickens, becomes viscous, its volume increases), swelling of the mucous membrane and contraction of bronchial smooth muscles, damage to the epithelial structure, lack of surfactant, and increased sensitivity to allergens. Chronic bronchitis is usually seasonal (spring-autumn).

Cough

At first it seems ineffective, sputum is produced less often, usually in the morning or after physical activity. If the cough becomes paroxysmal, this indicates a violation of bronchial permeability. Coughing attacks of a fried nature can be a sign of a serious violation of air permeability of the trachea

and large bronchi. With purulent and purulent purulent bronchitis, coughing becomes more effective during the exacerbation of the disease, the patient's attention shifts from coughing to the release of a significant amount of sputum.

Phlegm

With superficial inflammation of the bronchus, the amount of sputum is insignificant, it is slimy and often comes out in the morning or after physical activity. As the disease progresses, the amount of discharge increases, it can become purulent and serve as the main, and sometimes the only, complaint. In the presence of spasm and narrowing of the lumen of the bronchi, it becomes difficult to release sputum, patients talk about its small amount and complain of coughing more.

Obstructive disorders

Usually they appear only during the exacerbation of the disease and are manifested by the addition of shortness of breath and ineffective cough. A symptom of bronchospasm is difficulty breathing during physical exertion, when exposed to a cold, at the peak of a strong cough, and occasionally at night. Chronic bronchitis often develops slowly, shortness of breath can appear 20-30 years after the onset of the disease.

Symptoms of intoxication

Aggravation of chronic bronchitis is also characterized by general phenomena: increased body temperature, headache, weakness, decreased performance, sweating, etc.

Diagnosis of bronchitis

In order to make a correct diagnosis and exclude other similar diseases, a doctor must make a diagnosis. It consists of medical history, medical examination, laboratory and instrumental studies.

The clinical presentation of acute bronchitis is similar to other diseases, so differential diagnosis is very important here, especially with pneumonia.

Acute bronchitis, compared to pneumonia, is less characterized by a significant increase in temperature (above 38 ° C), changes in breathing rate and heart rate, local physical symptoms such as crepitus and wet rales 10 .

At the beginning of chronic bronchitis, pathological signs may not be detected during medical examination. Then there is a hard breath, scattered dry wheezes appear, the sound of which is determined by the caliber of the changed bronchi. When listening, minimal changes during the period of remission and maximum changes during exacerbation are detected, even unstable wet rales can be heard.

X-rays are performed in all people with chronic bronchitis, but in most patients, signs of pathology are not detected. Sometimes X-rays reveal a reticular disorder of the lung pattern due to the development of pneumosclerosis or signs of pulmonary emphysema 2.

To determine the depth and activity of inflammation, functional and organic lesions, it may be necessary to examine the bronchi with a special device - a bronchoscope 2. Bronx 2

external respiratory function is checked to determine air flow disorders.

Clinical blood tests did not change against the background of a stable course of chronic bronchitis. Sometimes due to severe respiratory failure and lack of oxygen supply, the number of red blood cells can increase compensatory.

Inflammatory activity in bronchitis is shown in the general blood test to a lesser extent than in other diseases: an average increase in the erythrocyte sedimentation rate, a slight leukocytosis, and a shift of the leukocyte formula to the left (depending on the immature forms of neutrophils).). A biochemical blood test is also performed to assess inflammatory activity. It detects total and C-reactive protein, sialic acids. For the same reason, sputum and bronchial lavage are examined.

How to treat bronchitis

Acute bronchitis can be treated at home 6. For bronchitis, it is recommended to constantly drink plenty of fluids and humidify the air in the house, especially in dry and hot weather and in winter. It is necessary to eliminate the influence of factors that cause cough.

For the medicinal treatment of bronchitis, the following are used:

Bronchodilators. Drugs that relax bronchial smooth muscles, reduce bronchospasm and swelling. It is prescribed for bronchial obstruction.

Corticosteroids and oxygen therapy. It is indicated for damage to the bronchial branches of the smallest caliber bronchioles. In this case, inhaled corticosteroids are used.

Mucolytics. Drugs that help to dilute sputum, which causes its viscosity to decrease and to be evacuated more easily.

Expectorant. Herbal preparations. They increase bronchial peristalsis due to stimulation of gastropulmonary reflex 6.

Antitussives. It is indicated only in cases where there is a frequent, obsessive, ineffective cough that interferes with the patient's quality of life. It is not prescribed simultaneously with mucolytics and expectorant. They are used only for a debilitating cough.

Nonsteroidal anti-inflammatory drugs. It is used to reduce the effects of intoxication. They help relieve fever and have an analgesic effect.

Antiviral. If the cause of bronchitis is suspected to be viral, antiviral agents can be used as etiopathogenetic treatment. This group includes neuraminidase inhibitors, M_2 channel blockers and others. However, it is recommended to use them if no more than 48 hours have passed since the onset of symptoms.

Antibiotics. Antibacterial drugs are not included in initial therapy. Against the background of adequate symptomatic therapy 11, antibiotics can be prescribed as a medicine for bronchitis to patients whose symptoms persist or worsen within 5-7 days from the onset of the disease.

Solution for oral administration and inhalation

For adults and newborns,

Suitable for inhalation through nebulizer 7

Can be diluted in water, juice, tea or milk,

Medicines for bronchitis can be taken orally or in the form of inhalations, which allows them to be used at any age, allows to achieve a high concentration of the drug at the site of action with low total accumulation in the body, and provides "targeted" effects. The effect of inhalation occurs faster, because the active substance enters the respiratory system directly. For example, solutions of bronchodilators, corticosteroids and mucolytics (in particular, Lazolvan ® solution) are prescribed by inhalation.

Mucolytics are used to improve the drainage function of the bronchi and facilitate the removal of sputum 3 . These drugs include Lazolvan ® drug, which has an expectorant and mucolytic effect due to the active ingredient ambroxol hydrochloride.

Ambroxol helps to increase the production of surfactants, stimulates the activity of the ciliated epithelium and improves the flow and transport of sputum, which improves sputum and relieves cough. The product is available in various forms: oral solutions, tablets, extended capsules, lozenges. Lazolvan ® solution can be taken orally and used in the form of inhalations, as a result of which the drug immediately enters the respiratory tract.

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