RESEARCH JOURNAL OF TRAUMA AND DISABILITY STUDIES

Volume: 3 Issue: 5 | May–2024 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

Bronchial Asthma

Tursunova Gulnoza Jamshidovna
Assistant teacher at BSMU
Abu Ali Ibn Sino Bukhara State Medical Institute, Bukhara, 200100 Republic of Uzbekistan

Abstract: The article shows the etiology, pathogenesis, classification, treatment, diagnosis, clinic. The graph of the structure of the incidence of bronchial asthma and the graph of treatment of bronchial asthma is reflected.

Key words: bronchial asthma, beta blockers, inflammation, desynchronization of the bronchi.

Introduction: Bronchial asthma is a chronic disease of the respiratory tract, which is characterized by the presence of symptoms such as shortness of breath, wheezing, chest congestion, cough. An important link in bronchial asthma is mast cells, eosinophils and lymphocytes. Bronchial asthma is one of the important diseases that progresses every year, as the number of patients with this disease increases. Many factors (exogenous, endogenous) play a role in the development of this disease. Bronchial asthma leads to permanent disability, a decrease in the quality of life, as well as mortality. According to statistics, there are about 130 million patients. The fear of an attack, which can manifest itself in bronchial asthma, does not allow you to do simple work, and the symptoms of the course lead to patient care for several days. In Uzbekistan, bronchial asthma affects about 12% (adult population) and 19% (children), in recent years the incidence of bronchial asthma has worsened, and the number of cases has increased by 2 times. According to statistics, the birth rate of a child with bronchial asthma is 50% if both parents are sick, but at the same time, characteristic symptoms may not appear, the environment plays a big role. In childhood, bronchial asthma is often confused with whooping cough and bronchopneumonia. Bronchial asthma is most common in Australia, New Zealand, the USA, Israel and Ireland.[10]Bronchial asthma is based on bronchial obstruction of the bronchi, which is variable and hyperactive, also as a result of any inflammation, the bronchi become hyperactive in response to any allergic agent, an allergic reaction is caused by type 1, immediate inflammation, less often immunocomplex (type 3). According to the data GINA more than 260 thousand people die from bronchial asthma, according to these indicators, they are the leaders: Uzbekistan, South Korea and Singapore. Bronchial asthma often develops in childhood, but it can develop at any age (over 40 years or later). Factors that contribute to the development of bronchial asthma are, genetic predisposition, the presence of an allergic reaction to household dust, to animal hair (of all animals, regardless), to plant pollen, fungi of a number of penicillins, pollutants, it is also possible to have allergies to food (fish, egg white, nuts, citrus fruits. Inflammatory mediators include: bradykinin, histamine, interleukins, chemokines, and inflammatory cells include: mast cells, eosinophils, neutrophils, T lymphocytes. Bronchial asthma is one of the most progressive diseases of mankind. It is based on a larger measure of genetic predisposition. The most important factors are: household dust, cat and dog hair. The influence of climate on the lungs. The doctor should take into account that climatic and geographical conditions also play a major role in the epidemiology of allergic diseases in the country. The key role is given to the nature of vegetation, absolute and relative humidity, the height of the terrain above sea level, the variability of ambient temperature and daylight hours. Most people suffer from asthma in the area where the influence of air masses prevails (in the Bukhara and Navoi regions, the incidence of bronchial asthma is 5-10 times higher than in other areas with a dry climate). Meteorological conditions affect the occurrence of asthma attacks. So,

Volume: 3 Issue: 5 | May–2024 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

seizures occur in most cases in cold, windy weather with high humidity. Therefore, a high incidence of this disease is noted in Tashkent, Gulistan, Samarkand, where such weather prevails throughout the year. In mountainous areas and in areas with a hot, dry climate, seizures are much less common, they are not intense. People with bronchial asthma need to know this information, if possible, change the climate in severe cases of asthma, and go for treatment in an optimal climate.

In numerous long-term studies, it was found out that residents of mountainous areas almost do not suffer from bronchial asthma, which laid the foundation for the sanatorium treatment of patients with bronchopulmonary diseases in the highlands. Low atmospheric pressure, stable climatic conditions without temperature changes, humidity have a positive effect on the entire bronchopulmonary apparatus.

Etiology

Among the etiological factors, there are many factors that can contribute to the development of bronchial asthma. There are endogenous and exogenous factors. Among the endogenous factors are a genetic predisposition, the presence of an allergic reaction to various foods (fish, chicken protein, citrus fruits, sweets, nuts), as well as the presence of an allergic reaction to animal hair, house dust, and penicillin mushrooms. Exogenous factors include inhalation of vapors from cigarettes, hookah, exhaust fumes, an allergic reaction to a bee sting, wasps.The presence of physical activity leads to suffocation or asthmatic status. In addition, it has a lot of important effects on bronchial asthma – this is stress, a sudden change of position, emotional stress. The presence of an allergic reaction to medications (iodine-containing). The development of asthmatic syndrome is based on inflammation of the walls of the bronchi, which leads to significant narrowing and swelling of the membranes, as a result of which there is an abundant secretion of mucus and followed by obstruction. Consequently, the process of inflammation occurs in certain cells

Pathogenesis

There are 4 phases in the pathogenesis of bronchial asthma: phase 1: immunological (secretion of specific antibodies (immunoglobulins F) and their fixation on the surface of mast cells and basophils. Phase 2: immunochemical (pathochemical) (upon repeated admission, the allergen interacts with antibodies on the surface of mast cells, their degranulation occurs with the release of inflammatory and allergy mediators – histamine, prostaglandins, leukotrienes, bradykinin, etc.). Phase 3: pathophysiological (bronchospasm, swelling of the mucous membrane, infiltration of the bronchial wall by cellular elements, hypersecretion of mucus, arising under the influence of inflammatory mediators and allergies). [5]As a result of all this, the development of chronic inflammation in the bronchi occurs. mast cells, eosinophils and their receptors are hyperreactive to exposure to cold, odor, dust and other triggers that cause degranulation of cells leading to bronchospasm, swelling of the mucous membrane and hyperproduction of mucus (pseudoallergic reaction). An important component in the pathogenesis of bronchial asthma is primarily bronchial hyperactivity, which represents a characteristic violation of bronchial function. In the development of bronchial hyperactivity, there are: excessive contraction of the smooth muscles of the respiratory tract (due to an increase in the volume and contractility of the smooth cells of the bronchi), desynchronization, thickening of the bronchial wall, due to edema and structural changes, which contributes to an increase in the degree of narrowing of the respiratory tract and sensitization of sensitive nerves.

Classification of bronchial asthma

A) By severity:

1. Mild asthma: asthma that is well controlled (stages 1 and 2), low doses of inhaled glucocorticosteroids or antileukotriene drugs.

Volume: 3 Issue: 5 | May–2024 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

2. Moderate asthma: asthma that is well controlled (step 3), low doses of inhaled glucocorticosteroids or low doses of long-acting b2 agonists.

3. Severe asthma: asthma that requires stage 4 and 5 therapy, medium doses of inhaled glucocorticosteroids or long-acting b2 agonists.

B) By phenotype:

1. Allergic asthma: usually manifests itself in childhood, is associated with other allergic diseases (food allergy, vasomotor rhinitis), eosinophilic inflammation of the respiratory tract.

2. Non-allergic asthma: most often occurs in adults, is not associated with an allergic reaction, inflammation of the respiratory tract, is of a mixed nature: eosinophilic-neutrophilic.

3. Bronchial asthma with late onset: most often occurs in women in adulthood, there is no allergic reaction, large doses of inhaled glucocorticosteroids are required for treatment.

4. Bronchial asthma with fixed airway obstruction

5. Bronchial asthma in obese patients

C) According to the phase of the disease:

1. The period of precursors: this phase is characterized by a sharp start from a few minutes, hours and days. The patient has shortness of breath, dry mucous membranes and paroxysmal cough, rhinitis is also noted, among other things, rapid fatigue and a sharp change of mood.

2. An attack of suffocation: as a rule, they often occur at night with a continuous cough. The patient has a feeling of lack of air, the patient assumes a pose to relieve the condition, the patient is scared, depressed and panicking.

3. The period of reverse development of the attack: this period is characterized by difficulty breathing, shortness of breath, weakness, sometimes thirst and hunger can be observed, usually this period can last several hours.

Complications of bronchial asthma

Complications of bronchial asthma include: asthmatic status, spontaneous pneumothorax, chronic pulmonary disease, pneumomediastinum. Asthmatic status is one of the most severe complications of bronchial asthma, which is based on severe and progressive respiratory failure, which is caused by obstruction of the airways. As a rule, the etiological factors are: emotional stress, prolonged use of antihistamines (suprastin, claritin, zirtek).; incorrectly selected corticosteroid therapy, exacerbation of chronic inflammatory processes in the lungs. Clinical manifestations: there are three syndromes:

A) Respiratory syndrome, intense shortness of breath appears, musculature helps in the act of breathing, cyanosis, difficult and sharply prolonged inhalation, the patient assumes a forced position to relieve his condition, cough and sputum are absent.

B) Cardiovascular syndrome: high blood pressure, sinus tachycardia, swelling of the cervical veins, enlargement and tenderness of the liver, pasty of the lower extremities, all this indicates signs of right ventricular failure, there may also be arrhythmia.

C) Psychomotor syndrome, which is characterized by anxiety, anxiety, trembling in the extremities, as well as respiratory panic it can be in the patient, and as a rule the patient is excited.

Treatment of bronchial asthma

In the treatment of bronchial asthma, there is a step-by-step treatment. The basic principles of the treatment of bronchial asthma are:

Volume: 3 Issue: 5 | May–2024 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

1. It is necessary to select the optimal drug treatment

2. Assessment of clinical symptoms and its correction

3. If there is no clinical effect, then go one step higher to achieve the desired clinical effect.

4. If bronchial asthma is observed within 3 months with full control, then they move to a lower level.

5. If the patient has moderate bronchial asthma and there was no basic therapy before, then the treatment of this bronchial asthma begins with the second stage.

6. If the patient has an uncontrolled course of bronchial asthma, then treatment begins with the third stage.

7. If necessary, then essential medicines are used at each stage.

Before selecting a treatment, the doctor determines thepatient's level of control of bronchial asthma:

A) Controlled bronchial asthma, this asthma is characterized by daytime attacks that are no more than twice a week and with the optional use emergency medications.

B) Partially controlled bronchial asthma, this asthma is characterized by the fact that symptoms prevail more often than twice a week, including at night, therefore, emergency medications are required, and exacerbation 1 time a year

C) Uncontrolled bronchial asthma or severe, this bronchial asthma is often characterized by symptoms both day and night, lung function is very severely impaired, exacerbations occur every week.

Based on the degree of control of bronchial asthma, the appropriate step-by-step therapy is selected, five steps are allocated to the treatment of bronchial asthma.

The first stage of treatment of bronchial asthma, it is typical for those patients in whom the type of bronchial asthma is controlled. Fast-acting b2 agonists in inhaled form are used in treatment according to need, and in addition, an alternative is used, taking anticholinergic drugs or theophylline.

The second stage of treatment of bronchial asthma is characterized by the necessary and regular intake of supportive therapy, both at this level and at subsequent ones, and the reception of emergency therapy. Low doses of inhaled glucocorticosteroids or antileukotriene drugs are used.

The third stage of bronchial asthma treatment is characterized by a combination of low-dose inhaled glucocorticosteroids and long-acting b2 agonists. Another treatment option is the use of an increased dosage of inhaled glucocorticosteroids to medium values, in addition, for maintenance therapy, the use of inhaled glucocorticosteroids together with antileukotriene drugs or slow-release theophylline is possible.

The fourth stage of bronchial asthma treatment, characterized by preferred therapy, is inhaled glucocorticosteroids and long-acting b2 agonists.

List of literature

1. Tursunova G.J. The effectiveness of the prevention of dental caries in children when exposed to adverse environmental factors // ISSN: 2835-3579 "Yearly Scientific Collection of Novels in Innovation and Education" 31-36 p https://www.bjisrd.com/index.php/bjisrd/article/view/1293
2. Tursunova G.J. Gormonlarning ichakning turli qismlarida saxaraza faolligiga ta'siri//Jild: 02 Nashr:12 2023 yil 625-628 betlar https://sciencebox.uz/index.php/amaltibbiyot/article/view/8973
3. Ashurova Nigora, Tursunova Gulnoza, & Miraziz Djumaev. (2022). Principles of prevention and treatment of calcium deficiency conditions in adolescents. Educational Research in Universal Sciences, 1(1), 79–85. Retrieved from https://erus.uz/index.php/erus/article/view/140

Volume: 3 Issue: 5 | May–2024 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

4. Tursunova G.J. Sifatli restavratsiya- muvaffaqiyatli davolash kaliti Scientific journal Scholar Volume 1 Issue13\2023 \\ p 203-208 https://doi.org/10.5281/zenodo.7954958
5. Tailakova D.I., Tursunova G.J. Various methods of preparation of hard tissues of teeth and their comparative characterics\\Tibbiyotda yangi kun 10(48)2022\\ ISSN 2181-712X. EISSN 2181-2187
6. Balabolkin, Ivan Ivanovich Bronchial asthma in children / Balabolkin Ivan Ivanovich. - M.: Medical Information Agency (MIA), 2015. - 529 p.
7. Baur, K. Bronchial asthma and chronic obstructive pulmonary disease / K. Baur. - M.:GEOTAR-Media, 2019. - 296 c