

MONTELUCAST IN TREATING OF ASTHMA

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Accordingly to World Health Organization (WHO) data, more than 300 millions of people all over the world are suffering from asthma (A) at present time. Annually kills more than 250 thousand people from this disease.

In international recommendations of GINA (Global Initiative for Asthma, 2011) for background therapy such drugs as inhalant glucocorticosteroids (iGCS), long-acting β_2 -agonists and antileucotrien drugs are recommended. Today the usage of antileucotrien drugs is seen as an alternative method of asthma therapy, which helps to reduce the hormonotherapy because of influencing on the leukotrien inflammation development path, which can't be influenced by iGCS. Also it helps to ensure high patients' compliance and to achieve stabile and long-lasting remission.

Leukotriens role in asthma pathogenesis is the reinforcement of mucus secretion, its clearance depression, production increase of cationic proteins that damage epithelial cells. Cysteinyl leukotrienes (CysLT) (LTC_4 , LTD_4 , LTE_4) has powerful bronchoconstriction effect, they are powerful chemoattractive agents for eosinophiles, that's why one of the key-effects of leukotrien receptors antagonists of asthma is connected with suppression of eosinophile inflammation.

Montelukast is one of the first representations of antileukotrien drugs; it blocks selectively leukotrien receptors and specifically inhibits $CysLT_1$ receptors. Montelukast ability to reduce eosinophile in respiratory tract were demonstrated while experimental and clinical researches. After four weeks therapy of asthma patients by Montelukast, it reduced eosinophile number in expectoration by 48%. Montelukast triggers bronchodilatation in two hours after ingestion and also may complete bronchodilatation, triggered by β_2 -agonists. Obstruction duration of LTD_4 -specific receptors is about 24 hours, which allows prescribing the drug once per 24 hours. Montelukast effects indirectly interleukine-5 expression, and also indirectly controls processes of respiratory tract remodeling.

Montelukast is registered under the trade name (Singular®), administered in a dose of 0.5 mg and 10 mg. Montelukast is prescribed by 10 mg before bedtime per os as the first line drug for treating adults with light long-lasting asthma. Montelukast helps to reduce the dose of iGCS while combined treatment from moderately severe asthma. Montelukast is not recommended as monotherapy.

So, the new direction in treating asthma by using drugs, that are leukotrien receptors inhibitors, demonstrated high therapeutic effectiveness.