How are asthma medicines classified?

Medicines used to treat asthma are classified either as controllers or as relievers:

Controllers are taken on a daily basis to keep asthma under control, mainly through their anti-inflammatory effects.

Relievers are taken on an as-needed basis, and act quickly to reverse bronchoconstriction and to relieve the symptoms of asthma.

Why are medicines for asthma usually given by the inhaled route?

The major advantage of giving medicines for asthma by the inhaled route is that the medication is delivered directly into the airways, producing higher local concentrations, with a significantly reduced risk of side-effects.

What is the most effective controller medicine?

Inhaled corticosteroids (ICS) remain the most effective anti-inflammatory medicines for the treatment of persistent asthma. Several extensive studies have demonstrated the efficacy of ICS in reducing asthma symptoms, improving lung function, decreasing airway hyper-responsiveness, controlling airway inflammation, reducing the frequency and severity of exacerbations, improving quality of life and reducing asthma mortality.

Do all patients with asthma require a controller medicine?

A controller is recommended for all asthma patients, with the exception of those who only have occasional daytime symptoms, e.g. twice or less per week, or less frequently, and which are of short duration, e.g. lasting only a few hours. The patient is asymptomatic with normal lung function between episodes and there is no nocturnal awakening. When symptoms are more frequent and/or worsen periodically, patients require regular controller treatment.

What is asthma control?

The goal of asthma treatment is to achieve and maintain clinical control. This can be achieved in most patients through a continuous adjustment of the asthma medication. If the asthma is not controlled on the current medication, treatment should be stepped up until control is achieved. When control has been maintained for at least three months, treatment can be stepped down again.

Controlled asthma means that all of the following have been met:

- **Daytime symptoms:** None to twice or less per week
- **No nocturnal symptoms or awakenings**
- **No limitation of activities**
- **Reliever use:** None to twice or less per week
- **Normal lung function.**

What is the role of the leukotriene modifier in asthma?

Leukotriene modifiers, such as montelukast and zafirlukast, may be used as an alternative treatment for adult patients with mild persistent asthma. Some patients with aspirin-sensitive asthma respond well to leukotriene modifiers. Leukotriene modifiers, as add-on therapy, may reduce the dose of ICS required by patients with moderate to severe asthma, and may improve asthma control in patients whose asthma is not controlled with low or high doses of ICS.

Leukotriene modifiers provide a clinical benefit in children for all levels of asthma severity, but generally less than that of low-dose ICS. Combination therapy with an ICS and a leukotriene modifier is less effective in controlling asthma in children than an increase in ICS to moderate doses. Leukotriene modifiers also provide partial protection against exercise-induced asthma in children.

What is the role of the long-acting inhaled bronchodilator?

Long-acting inhaled β₂ agonists (LABAs), including formoterol and salmeterol, should only be used in combination with an ICS in asthma. This combination is the preferred treatment when a medium dose of ICS fails to achieve control of the asthma.

Fixed-combination inhalers of an ICS plus a LABA may be preferred as they ensure that the LABA is always accompanied by an ICS. In addition, fixed-combination inhalers are more convenient, and may improve patient compliance. Because formoterol is a LABA with a rapid onset of action, the fixed-combination inhaler of formoterol and budesonide is suitable for use as a reliever, as well as a controller, i.e. as rescue and maintenance therapy, in patients with moderate to severe asthma.

How often should patients use a reliever medicine?

Increased use, especially daily use, of a reliever medication, is a warning of deterioration of asthma control and indicates the need for treatment to be reassessed, i.e. the need to step up therapy according to the treatment plan recommended by the doctor, or to contact the doctor so that the treatment can be reconsidered.

Bibliography