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EPAR summary for the public

Bronchitol

Mannitol

This is a summary of the European public assessment report (EPAR) for Bronchitol. It explains how the Committee for Medicinal Products for Human Use (CHMP) assessed the medicine to reach its opinion in favour of granting a marketing authorisation and its recommendations on the conditions of use for Bronchitol.

What is Bronchitol?

Bronchitol is a medicine that contains the active substance mannitol. It is available as capsules (40 mg) containing a dry powder for inhalation using an inhaler device.

What is Bronchitol used for?

Bronchitol is used for the treatment of cystic fibrosis in adults in addition to best standard of care.

Cystic fibrosis is an inherited disease that affects the cells in the lungs and the glands in the gut and pancreas that secrete fluids such as mucus and digestive juices. In cystic fibrosis these fluids become thick and viscous, blocking the airways and the flow of digestive juices. This leads to problems with the digestion and absorption of food, resulting in poor growth, and long-term infection and inflammation of the lungs because of excess mucus not being cleared away.

Because the number of patients with cystic fibrosis is low, the disease is considered 'rare', and Bronchitol was designated an 'orphan medicine' (a medicine used in rare diseases) on 7 November 2005.

The medicine can only be obtained with a prescription.

How is Bronchitol used?

Before initiating treatment with Bronchitol, patients need to undergo an initiation dose assessment during which they are challenged with an increasing dose of Bronchitol up to 400 mg in total to detect

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bronchial hyperresponsiveness (a state in which the airways of the lungs narrow easily). Patients who show bronchial hyperresponsiveness must not be treated with Bronchitol.

This first dose of 400 mg Bronchitol should only be given under the supervision of a qualified healthcare professional in a setting where the patient's breathing can be properly monitored and facilities for resuscitation are available.

Bronchitol is inhaled using the inhaler device provided. The capsules must never be swallowed. The recommended dose is 400 mg (which requires the inhalation of the content of 10 capsules loaded individually into the inhaler) twice a day in the morning and in the evening. The evening dose should be taken two to three hours before bedtime.

For more information on how to use Bronchitol, see the instructions in the package leaflet.

How does Bronchitol work?

The active substance in Bronchitol, mannitol, is a naturally occurring polyol (a sugar alcohol) that is widely used as an osmotic agent. This means that it can promote osmosis (the flow of liquid across a membrane). The exact way in which Bronchitol works in cystic fibrosis is not known. After being inhaled, Bronchitol is believed to cause the inflow of fluid into the airway secretions in the lungs, making them less viscous and therefore easier to be cleared away.

How has Bronchitol been studied?

The effects of Bronchitol were first tested in experimental models before being studied in humans.

Bronchitol was tested in two main studies involving 642 patients between six and 56 years of age with mild or moderate cystic fibrosis. In both studies the patients received either 400 mg of inhaled Bronchitol twice daily or 50 mg of inhaled Bronchitol twice daily (which was considered ineffective and hence intended as placebo (dummy treatment)). Some patients also received additional treatment with rhDNase (another treatment for cystic fibrosis). The main measure of effectiveness was based on the improvement in patients' forced expiratory volume in one second (FEV_1) adjusted for the patients age, height and sex, measured over 26 weeks in both studies. FEV_1 is the maximum volume of air a person can breathe out in one second.

What benefit has Bronchitol shown during the studies?

Patients overall showed an improvement of approximately 2-3% in FEV_1 adjusted for age, height and sex when compared with placebo over 26 weeks of treatment with Bronchitol.

What is the risk associated with Bronchitol?

The most common side effect with Bronchitol (seen in more than 1 patient in 10) is cough. The most serious side effect with Bronchitol is bronchospasm (narrowing of the airways of the lung) during the initiation dose assessment and haemoptysis (coughing of blood) during treatment with Bronchitol. For the full list of all side effects reported with Bronchitol, see the package leaflet.

Bronchitol must not be used in people who are hypersensitive (allergic) to mannitol. Bronchitol must also not be used in patients with bronchial hyperresponsiveness.

Why has Bronchitol been approved?

The Committee took the view that although the improvement in FEV1 shown by the studies was small Bronchitol may be of benefit in patients with cystic fibrosis if used in addition to best standard of care. Regarding the safety of Bronchitol, the CHMP considered that sufficient measures have been proposed by the company to reduce the risks of bronchospasm and haemoptysis. The CHMP therefore concluded that the benefits of Bronchitol in addition to best standard of care outweigh its risks for adult patients with cystic fibrosis and recommended that it be granted marketing authorisation.

What measures are being taken to ensure the safe use of Bronchitol?

The company that makes Bronchitol must ensure that all healthcare professionals expected to prescribe the medicine are provided with important safety information including information on the risk of narrowing of the airways in the lungs and the coughing of blood and how to manage this risk.

In order to obtain further information on effectiveness and safety of Bronchitol in children and adolescents with cystic fibrosis the CHMP requested the company to carry out a study in this patient group.

Other information about Bronchitol

The European Commission granted a marketing authorisation valid throughout the European Union for Bronchitol on 13 April 2012.

The full EPAR for Bronchitol can be found on the Agency's website: ema.europa.eu/Find medicine/Human medicines/European Public Assessment Reports. For more information about treatment with Bronchitol, read the package leaflet (also part of the EPAR) or contact your doctor or pharmacist.

The summary of the opinion of the Committee for Orphan Medicinal Products for Bronchitol can be found on the Agency's website: ema.europa.eu/Find medicine/Human medicines/Rare disease designations.

This summary was last updated in 04-2012.