

DATASHEET

VENTOLIN Elixir™

Salbutamol Elixir 2mg/5mL

Qualitative and quantitative composition

VENTOLIN Elixir: Salbutamol BP 2mg as sulphate in each 5mL of a fruit-flavoured, sugar free elixir, which is devoid of artificial colouring agents.

Clinical particulars

Therapeutic Indications

Salbutamol is a selective β_2 adrenoceptor agonist. At therapeutic doses it acts on the β_2 adrenoceptors of bronchial muscle, with little or no action on the β_1 adrenoceptors of the heart. It is suitable for the management and prevention of attack in asthma.

Bronchodilators should not be the only or main treatment in patients with severe or unstable asthma. Severe asthma requires regular medical assessment as death may occur. Patients with severe asthma have constant symptoms and frequent exacerbations, with limited physical capacity, and PEF values below 60% predicted at baseline with greater than 30% variability, usually not returning entirely to normal after a bronchodilator. These patients will require high dose inhaled (eg >1mg/day beclomethasone dipropionate) or oral corticosteroid therapy. Sudden worsening of symptoms may require increased corticosteroid dosage which should be administered under urgent medical supervision.

Ventolin Elixir is indicated for relief of bronchospasm in bronchial asthma of all types, chronic bronchitis and emphysema.

Ventolin Elixir is suitable oral therapy for children or those adults who prefer liquid medicines.

Posology and method of administration

Salbutamol has a duration of action of 4 to 6 hours in most patients.

Increasing use of β_2 agonists may be a sign of worsening asthma.

Under these conditions a reassessment of the patient's therapy plan may be required and concomitant glucocorticosteroid therapy should be considered.

As there may be adverse effects associated with excessive dosing, the dosage or frequency of administration should only be increased on medical advice.

Adults:-

The usual effective dose is 10mL salbutamol (4 milligrams of salbutamol) three or four times per day. If adequate bronchodilation is not obtained each single dose may be gradually increased to as much as 20mL of elixir (8 milligrams salbutamol).

Some patients obtain adequate relief with 5mL of elixir (2 milligrams salbutamol) three or four times daily.

Children:-

2-6 years: 2.5-5mL of elixir (1-2mg salbutamol) three or four times daily.

6-12 years: 5mL of elixir (2mg salbutamol) three or four times daily.

Over 12 years: 5-10mL of elixir (2-4mg salbutamol) three or four times daily.

Special patient groups:-

In elderly patients or in those known to be unusually sensitive to β -adrenergic stimulant medicines, it is advisable to initiate treatment with 5mL of elixir (2mg salbutamol) three or four times per day.

Contra-indications

Ventolin Elixir is contra-indicated in patients with a history of hypersensitivity to any of its components.

Although intravenous salbutamol and occasionally salbutamol tablets are used in the management of premature labour, uncomplicated by conditions such as placenta praevia, ante-partum haemorrhage or toxemia of pregnancy, salbutamol presentations should not be used for threatened abortion.

Special warnings and special precautions for use

The management of asthma should normally follow a stepwise programme, and patient response should be monitored clinically and by lung function tests.

Increasing use of short-acting inhaled β_2 agonists to control symptoms indicates deterioration of asthma control. Under these conditions, the patient's therapy plan should be reassessed. Sudden and progressive deterioration in asthma control is potentially life threatening and consideration should be given to starting or increasing corticosteroid therapy. In patients considered at risk, daily peak flow monitoring may be instituted.

Patients should be warned that if either the usual relief is diminished or the usual duration of action reduced, they should not increase the dose or its frequency of administration, but should seek medical advice.

Salbutamol should be administered cautiously to patients with thyrotoxicosis.

Potentially serious hypokalaemia may result from β_2 agonist therapy mainly from parenteral and nebulised administration. Particular caution is advised in acute severe asthma as this effect may be potentiated by concomitant treatment with xanthine derivatives, steroids, diuretics and by hypoxia. It is recommended that serum potassium levels are monitored in such situations.

In common with other β -adrenoceptor agonists, Ventolin can induce reversible metabolic changes, for example increased blood sugar levels. The diabetic patient may be unable to compensate for this and the development of ketoacidosis has been reported. Concurrent administration of corticosteroids can exaggerate this effect.

Interaction with other medicaments and other forms of interaction

Salbutamol and non-selective β -blocking agents, such as propranolol, should not usually be prescribed together.

Salbutamol is not contra-indicated in patients under treatment with monoamine oxidase inhibitors (MAOIs).

Pregnancy and lactation

Administration of medicines during pregnancy should only be considered if the expected benefit to the mother is greater than any possible risk to the foetus.

During worldwide marketing experience, rare cases of various congenital anomalies, including cleft palate and limb defects have been reported in the offspring of patients being treated with salbutamol. Some of the mothers were taking multiple medications during their pregnancies.

Because no consistent pattern of defects can be discerned, and baseline rate for congenital anomalies is 2-3%, a relationship with salbutamol use cannot be established.

As salbutamol is probably secreted in breast milk its use in nursing mothers is not recommended unless the expected benefits outweigh any potential risk. It is not known whether salbutamol in breast milk has a harmful effect on the neonate.

Undesirable effects

Adverse events are listed below by system organ class and frequency. Frequencies are defined as: very common ($\geq 1/10$), common ($\geq 1/100$ and $< 1/10$), uncommon ($\geq 1/1000$ and $< 1/100$), rare ($\geq 1/10,000$ and $< 1/1000$) and very rare ($< 1/10,000$) including isolated reports. Very common and common

events were generally determined from clinical trial data. Rare and very rare events were generally determined from spontaneous data.

Immune system disorders

Very rare: Hypersensitivity reactions including angioedema, urticaria, bronchospasm, hypotension and collapse.

Metabolism and nutrition disorders

Rare: Hypokalaemia.

Potentially serious hypokalaemia may result from beta₂ agonist therapy.

Nervous system disorders

Very common: Tremor.

Common: Headache.

Very rare: Hyperactivity.

Cardiac disorders

Common: Tachycardia.

Rare: Cardiac arrhythmias including atrial fibrillation, supraventricular tachycardia and extrasystoles.

Vascular disorders

Rare: Peripheral vasodilatation.

Musculoskeletal and connective tissue disorders

Common: Muscle cramps.

Very rare: Feeling of muscle tension.

Overdose

The preferred antidote for overdose with salbutamol is a cardioselective β -blocking agent. However, β -blocking agents should be used with caution in patients with a history of bronchospasm.

Hypokalaemia may occur following overdose with salbutamol. Serum potassium levels should be monitored.

Pharmacological properties

Pharmacodynamic properties

Mechanism of action

Salbutamol is a selective β_2 adrenoceptor agonist. At therapeutic doses it acts on the β_2 receptors of bronchial muscle, with little or no action on the β_1 adrenoceptors of cardiac muscle.

Pharmacokinetic properties

Salbutamol administered intravenously has a half-life of 4 to 6 hours and is cleared partly renally and partly by metabolism to the inactive 4'-O- sulphate (phenolic sulphate) which is also excreted primarily in the urine.

The faeces are a minor route of excretion. The majority of a dose of salbutamol given intravenously, orally or by inhalation is excreted within 72 hours. Salbutamol is bound to plasma proteins to the extent of 10%.

After oral administration, salbutamol is absorbed from the gastrointestinal tract and undergoes considerable first-pass metabolism to the phenolic sulphate. Both unchanged drug and conjugate are excreted primarily in the urine. The bioavailability of orally administered salbutamol is about 50%.

Pre-clinical safety data

In common with other potent selective β_2 receptor agonists, salbutamol has been shown to be teratogenic in mice when given subcutaneously. In a reproductive study, 9.3% of foetuses are found to have cleft palate, at 2.5mg/kg, 4 times the maximum human oral dose. In rats, treatment at the levels of 0.5, 2.32, 10.75 and 50mg/kg/day orally throughout pregnancy resulted in no significant foetal abnormalities. The only toxic effect was an increase in neonatal mortality at the highest dose level as the result of lack of maternal care. A reproductive study in rabbits revealed cranial malformations in 37% of foetuses at 50mg/kg/day, 78 times the maximum human oral dose.

Pharmaceutical particulars

Shelf Life

36 months

Storage:-

Store at a temperature not exceeding 30°C. Protect from light.

Package Quantities:-

Ventolin Elixir is supplied in 300mL bottles.

Dilution:-**Sugar-free formulation:**

Ventolin Elixir may be diluted with Purified Water BP. The resulting mixture should be protected from light and used within 28 days.

A 50% v/v dilution of Ventolin Elixir has been shown to be adequately preserved against microbial contamination. However, to avoid the possibility of introducing excessive microbial contamination, the Purified Water used for dilution should be recently prepared or alternatively it should be boiled and cooled immediately before use.

Dilution of Ventolin Elixir with Syrup BP or Sorbitol solution is not recommended at this may result in precipitation of the cellulose thickening agent.

Admixture of Ventolin Elixir with other liquid preparations is not recommended.

Medicine classification

Restricted Medicine

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