PRODUCT INFORMATION

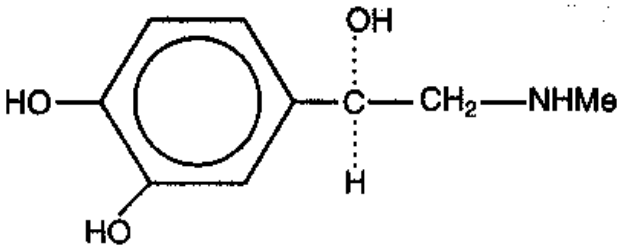
NAME OF DRUG

EpiPen® Jr. 150 µg Adrenaline Auto-Injector

Auto-Injector for Intramuscular Injection of Adrenaline for the Emergency Treatment of Anaphylactic Reactions. Delivers a single 150 microgram (µg) intramuscular dose of adrenaline from Adrenaline Injection 1:2,000 USP (0.3 mL).

DESCRIPTION

Adrenaline is (*R*)-1-(3,4-dihydroxyphenyl)-2-methylaminoethanol; $C_9H_{13}NO_3$. It is a white odourless crystalline powder, soluble in solutions of mineral acids and alkalis. CAS 51-43-4. Its chemical structure is:



The EpiPen® Jr. device provides adrenaline for intramuscular auto-injection in a sterile solution prepared from adrenaline with the aid of hydrochloric acid in Pyrogen Free Water. The EpiPen® Jr. Auto-Injector contains 2 mL Adrenaline Injection 1:2,000 USP and is designed to deliver a single 0.3 mL dose of 150 µg. Each 0.3 mL dose contains: *Active*; 150 µg adrenaline, *Inactive;* 1.8 mg sodium chloride, 500 µg sodium metabisulfite and hydrochloric acid to adjust pH.

PHARMACOLOGY

Adrenaline is a sympathomimetic drug, acting on both alpha and beta receptors. Major effects are increased systolic blood pressure, reduced diastolic pressure, tachycardia, hyperglycaemia and hypokalaemia. It is a powerful cardiac stimulant. It has vasopressor properties, an antihistaminic action and is a bronchodilator.

The onset of action is rapid and of short duration. After intravenous infusion the half life is approximately 5 to 10 minutes. Adrenaline is rapidly distributed to the heart, spleen, several glandular tissues and adrenergic nerves. It is approximately 50% bound to plasma proteins. Adrenaline is rapidly metabolised in the liver and tissues. Up to 90% of the intravenous dose is excreted as metabolites in the urine. It crosses the placenta and is excreted in breast milk.

INDICATIONS

For the emergency treatment of anaphylaxis (acute severe allergic reactions) due to insect stings, drugs or other allergens.

CONTRAINDICATIONS

Contraindications are relative as this product is intended for use in life-threatening emergencies.

Adrenaline should not be used in the presence of cardiac dilation.

Adrenaline should not be used in patients with certain types of arrhythmia, cerebral arteriosclerosis and where vasopressor drugs are contraindicated eg. thyrotoxicosis and in obstetrics where maternal blood pressure is in excess of 130/80.

Adrenaline is also contraindicated in shock (other than anaphylactic shock), in patients with organic brain damage or during general anaesthesia with halogenated hydrocarbons or cyclopropane.

PRECAUTIONS

EpiPen® Jr. Adrenaline Auto-Injector contains sodium metabisulfite, a sulfite, which may itself cause allergic-type reactions in certain susceptible persons. The alternatives to using adrenaline in a life-threatening situation may not be satisfactory. The presence of a sulfite in this product should not deter administration for serious allergic reactions.

DO NOT INJECT INTRAVENOUSLY as cerebral haemorrhage may occur due to a sharp rise in blood pressure.

Use with caution in patients with ventricular fibrillation, prefibrillatory rhythm, tachycardia, myocardial infarction, phenothiazine-induced circulatory collapse and prostatic hypertrophy.

Adrenaline causes ECG changes including a decrease in T-wave amplitude in all leads of normal persons.

Adrenaline can cause potentially fatal ventricular arrhythmias including fibrillation, especially in patients with organic heart disease or those receiving other drugs that sensitize the heart to arrhythmias (see **Interactions with Other Drugs**).

Anginal pain may be induced by adrenaline in patients with coronary insufficiency.

Administer with caution to the elderly, and to individuals with diabetes, cardiovascular disease, hypertension, narrow angle glaucoma, hyperthyroidism and psychoneurosis. In patients with Parkinsonism the drug increases rigidity and tremor.

Syncope has occurred following administration to asthmatic children.

EpiPen® Jr. should not be injected into the hands, feet, ears, nose, buttocks or the genitalia as it may result in loss of blood flow to the affected area. If an accidental injection into one of these areas occurs, specialist medical advice must be sought immediately. Ensure the product is kept well clear of the face.

Use in Pregnancy: Category A
Adrenaline has been given to a large number of pregnant women and women of childbearing age without any proven increase in the frequency of malformations or other direct or indirect harmful effects on the foetus having been observed.

Adrenaline may delay the second stage of labour by inhibiting contractions of the uterus.

Use in Lactation
Adrenaline is excreted in breast milk.

Interaction with Other Drugs
Central nervous system and other drugs
The effects of adrenaline may be potentiated by tricyclic antidepressants, thyroid hormones, monoamine oxidase inhibitors and some antihistamines (eg. diphenhydramine, dexchlorpheniramine).

Other sympathomimetic agents
Adrenaline should not be administered with other sympathomimetic agents because of the danger of additive effects and increased toxicity.

Alpha-adrenergic blocking agents
Alpha-adrenergic blocking agents such as ergot alkaloids and phentolamine can reverse the

pressor response to adrenaline.

Beta-adrenergic blocking agents

Patients taking non-selective beta-blocking drugs when administered adrenaline for the treatment of an anaphylactic reaction may experience severe hypertension and bradycardia. Propranolol inhibits the bronchodilator effect of adrenaline. The risk of cardiac arrhythmias is higher when adrenaline is given to patients receiving digoxin or quinidine.

General anaesthetics

Halothane and other anaesthetics such as cyclopropane and trichlorethylene increase the risk of adrenaline-induced ventricular arrhythmias and acute pulmonary oedema if hypoxia is present.

Hypoglycaemic agents

Adrenaline-induced hyperglycaemia may lead to loss of blood sugar control in diabetic patients treated with hypoglycaemic agents.

Incompatibilities

Adrenaline is physically incompatible with alkalis, metals, oxidising agents, sodium warfarin, hyaluronidase and many other drugs; it forms polymers with sodium bicarbonate.

ADVERSE REACTIONS

Common symptomatic adverse events include anxiety, restlessness, tachycardia, respiratory difficulty, tremor, weakness, dizziness, headache, dyspnoea, cold extremities, pallor, sweating, nausea, vomiting, sleeplessness, hallucinations, palpitations, fear and flushing or redness of face and skin. Psychomotor agitation, disorientation, impaired memory and psychosis may occur.

Potentially fatal ventricular arrhythmias, including ventricular fibrillation may occur and severe hypertension may lead to cerebral haemorrhage and pulmonary oedema.

DOSAGE AND ADMINISTRATION

EpiPen® Jr. Auto-Injector is intended for children with body weight of 15 - 30 kg.

Before using, check to make sure the solution in the Auto-Injector is not brown in colour. If it is discoloured or contains a precipitate, do not use.

The delivered dose of the EpiPen® Jr. Auto-Injector should be injected intramuscularly into the anterolateral aspect of the thigh. The delivered dose is 0.3 mL of 1:2,000 USP Adrenaline Injection (150 µg), which is the usual paediatric dose for anaphylactic reactions (allergic emergencies).

DO NOT INJECT INTRAVENOUSLY.
Every effort should be made to avoid inadvertent intravascular administration (see **OVERDOSAGE**).

EpiPen® Jr. should not be injected into the hands, feet, ears, nose, buttocks or the genitalia as it may result in loss of blood flow to the affected area. If an accidental injection into one of these areas occurs, specialist medical advice must be sought immediately. Ensure the product is kept well clear of the face.

To manage severe anaphylaxis, repeat EpiPen® Jr. injections may be necessary. Each EpiPen® Jr. Auto-Injector is used once only. The EpiPen® Jr. dose may be repeated after 15 minutes if symptoms recur or have not subsided (see **OVERDOSAGE**).

Appropriate steps should be taken to ensure that the patient thoroughly understands the indications and use of this device. The EpiPen® Jr. Auto-Injector should not be used for demonstration purposes. An "EpiPen® Trainer" injector is available to assist with patient education and practice. The physician should review in detail with the patient, the Consumer Medicine Information, which

includes usage instructions for the EpiPen® Jr. Auto-Injector.

The EpiPen® Jr. Auto-Injector is intended for immediate self-administration. It is designed as emergency supportive therapy only and is not a replacement or substitute for subsequent medical or hospital care.

Patients should be instructed to dispose of the device safely after use by placing the used Auto-Injector in a sharps disposal unit.

OVERDOSAGE

Effects

Overdosage or inadvertent intravascular injection of adrenaline may cause cerebral haemorrhage resulting from a sharp rise in blood pressure. Fatalities may also result from pulmonary oedema because of peripheral vascular constriction together with cardiac stimulation.

Cardiac arrhythmias may lead to ventricular fibrillation and death.

Repeated administration of adrenaline can result in severe metabolic acidosis because of elevated blood concentration of lactic acid.

Treatment

Adrenaline is rapidly inactivated in the body and treatment of acute toxicity is mainly supportive. If necessary, the combined alpha and beta mediated effects of adrenaline may be counteracted by labetalol. Individually, alpha mediated effects may be counteracted by phentolamine whilst beta mediated effects may be counteracted by beta blocking agents.

PRESENTATION

Package containing one EpiPen® Jr. Auto-Injector. The EpiPen® Jr. Auto-Injector contains 2 mL Adrenaline Injection 1:2,000 USP and delivers a single 150 µg adrenaline dose.

STORAGE

Adrenaline is light sensitive and should be stored in the tube provided. STORE AT 25ºC. TEMPERATURE EXCURSIONS TO 15°C PERMITTED. DO NOT REFRIGERATE. PROTECT FROM LIGHT.

NAME AND ADDRESS OF SPONSOR

CSL Limited ABN 99 051 588 348
45 Poplar Road, Parkville 3052 VIC, AUSTRALIA

NAME AND ADDRESS OF SUPPLIER/MANUFACTURER

Supplied by: DEY®, an affiliate of Merck KGaA, Napa, CA 94558, USA
Produced for: DEY®, Napa, California, 94558, USA
by Meridian Medical Technologies, Inc., a subsidiary of King Pharmaceuticals Inc., Columbia, MD 21046, USA

DATE OF TGA APPROVAL 11 April 2005

Date Of PI Editorial Change 6 May 2003