

DATA SHEET

PROSTIN[®] 15M

Carboprost
250 µg/mL Solution for Injection

PRESENTATION

PROSTIN 15M is a clear colourless solution containing 250 µg carboprost (as 332 µg carboprost tromethamine) in 1mL ampoules.

USES

Actions

Carboprost tromethamine administered intramuscularly stimulates in the gravid uterus myometrial contractions similar to labour contractions at the end of a full term pregnancy. Whether or not these contractions result from a direct effect of carboprost on the myometrium has not been determined. Post-partum, the resultant myometrial contractions provide haemostasis at the site of placentation.

Carboprost tromethamine also stimulates the smooth muscle of the human gastrointestinal tract. This activity may commonly produce vomiting or diarrhoea or both when used to terminate pregnancy and for use postpartum. In laboratory animals and also in humans, carboprost tromethamine can elevate body temperature. With the clinical doses of carboprost tromethamine for use postpartum, some patients do experience transient temperature increases.

In laboratory animals and in humans, large doses of carboprost tromethamine can raise blood pressure, probably by contracting the vascular smooth muscle. In some patients, carboprost tromethamine may cause transient bronchoconstriction.

Pharmacokinetics

Drug plasma concentrations were determined by radioimmunoassay in peripheral blood samples collected by different investigators from 10 patients undergoing abortion. The patients had been injected intramuscularly with 250 µg of carboprost at two hour intervals. Blood levels of drug peaked at an average of 2060 picograms/mL one-half hour after the first injection then declined to an average concentration of 770 picograms/mL two hours after the first injection just before the second injection. The average plasma concentration one-half hour after the second injection was slightly higher (2663 picograms/mL) than that after the first injection and decreased again to an average of 1047 picograms/mL by two hours after the second injection. Plasma samples were collected from 5 of these 10 patients following additional injections of the prostaglandin. The average peak concentrations of drug were

slightly higher following each successive injection of the prostaglandin, but always decreased to levels less than the preceding peak values by two hours after each injection.

Five women who had delivery spontaneously at term were treated immediately postpartum with a single injection of 250 µg of carboprost tromethamine. Peripheral blood samples were collected at several times during the four hours following treatment and carboprost tromethamine levels were determined by radioimmunoassay. The highest concentration of carboprost tromethamine was observed at 15 minutes in 2 patients (3009 and 2916 picograms/mL), at 30 minutes in 2 patients (3097 and 2792 picograms/mL), and at 60 minutes in 1 patient (2718 picograms/mL).

INDICATIONS

PROSTIN 15M is indicated for the treatment of postpartum haemorrhage due to uterine atony which has not responded to conventional methods of management. Prior treatment should include the use of intravenously administered oxytocin, manipulative techniques such as uterine massage and, unless contraindicated, intramuscular ergot preparations. Studies have shown that in such cases, the use of PROSTIN 15M has resulted in satisfactory control of haemorrhage, although it is unclear whether or not ongoing or delayed effects of previously administered embolic agents have contributed to the outcome. In a high proportion of cases, PROSTIN 15M used in this manner has resulted in the cessation of life threatening bleeding and the avoidance of emergency surgical intervention.

DOSAGE AND ADMINISTRATION

For Refractory Postpartum Uterine Bleeding:

An initial dose of 250 µg of PROSTIN 15M (1 mL of PROSTIN 15M) is to be given by deep intramuscular injection. In clinical trials, it was found that the majority of successful cases (73%) responded to single injections. In some selected cases, however, multiple dosing at intervals of 15 to 90 minutes was carried out with successful outcome. The need for additional injections and the interval at which these should be given can be determined only by the attending physicians as dictated by the course of clinical events. The total dose of PROSTIN 15M should not exceed 2 mg (8 doses).

CONTRAINDICATIONS

Hypersensitivity to carboprost tromethamine or any of the excipients in PROSTIN 15M.

Acute pelvic inflammatory disease.

Patients with active cardiac, pulmonary, renal or hepatic disease.

WARNINGS AND PRECAUTIONS

This preparation should not be used for induction of labour.

PROSTIN 15M, as with other potent oxytocic agents, should be used only with strict adherence to recommended dosages. PROSTIN 15M should be used by medically trained personnel and is available only to hospitals and clinics with specialised obstetric units where 24 hour resident medical cover is provided.

PROSTIN 15M must not be given intravenously.

Since prostaglandins may potentiate the effect of oxytocin, it is recommended that the use of these drugs simultaneously or in sequence should be carefully monitored.

Very rare cases of cardiovascular collapse have been reported following the use of prostaglandins. This should always be considered when using PROSTIN 15M.

PROSTIN 15M should be used with caution in patients with a history of glaucoma or raised intra-ocular pressure, asthma, hypertension or hypotension, cardiovascular disease, renal disease, hepatic disease (see CONTRAINDICATIONS), anaemia, jaundice, diabetes or past history of epilepsy.

During the clinical trials with PROSTIN 15M, 5/115 (4%) patients had an increase in blood pressure reported as a side effect. The degree of hypertension was moderate. The cases reported did not require specific therapy for the elevated blood pressure.

During the clinical trials with PROSTIN 15M, chorioamnionitis was identified as a complication contributing to postpartum uterine atony and haemorrhage in 8/115 (7%) of cases, 3 of which failed to respond to PROSTIN 15M. This complication during labour may have an inhibitory effect on the uterine response to PROSTIN 15M similar to what has been reported for other oxytocic agents.

As with other oxytocic agents, PROSTIN 15M should be used with care in patients with compromised (scarred) uteri. The possibility of uterine rupture should be borne in mind where high tone myometrial contractions are sustained.

Animal studies lasting several weeks at high doses have shown that prostaglandins of the E and F series can induce proliferation of bone. Such effects have also been noted in newborn infants who have received prostaglandin E1 during prolonged treatment. There is no evidence that short-term administration of PROSTIN 15M can cause similar bone effects.

Decreases in maternal arterial oxygen content have been observed in patients treated with carboprost tromethamine. A causal relationship to carboprost tromethamine has not been established, however, it is recommended that patients with pre-existing cardio-pulmonary problems receiving PROSTIN 15M are monitored during treatment and given additional oxygen if necessary.

Prostin 15M contains benzyl alcohol which is associated with severe adverse effects, including fatal "gasping syndrome", in paediatric patient. The minimum amount of benzyl alcohol at which toxicity may occur is unknown. The risk of benzyl alcohol toxicity depends

on the quantity administered and the capacity of the liver and kidneys to detoxify the chemical. Premature and low birth weight infants may be more likely to develop toxicity.

Use in Pregnancy

Australian Pregnancy Category D.

Administration of prostaglandins such as carboprost during pregnancy stimulates the uterus and may cause inability to sustain pregnancy and irreversible fetal damage or death. PROSTIN 15M is indicated in the postpartum period. It is not indicated for use during pregnancy.

Carboprost has been found to cross the placenta and distribute to the fetus in pregnant women. Any dose of carboprost that produces increased uterine tone could put the fetus at risk.

In animal studies, administration of carboprost for 3 or more days during gestation caused a high incidence of resorptions in rats and rabbits and embryotoxic effects in rats. The lowest dose of carboprost which caused these effects was approximately 6 and 36 times lower, in rats and rabbits respectively, than the recommended maximum dose in humans (based on surface area comparisons).

Administration of carboprost to rats for 7 - 8 days prior to delivery was associated with shortened gestation length, dystocia, increased incidence of still births and decreased offspring body weight. The lowest dose of carboprost which caused these effects was approximately 100 times lower than the recommended maximum dose in humans (based on surface area comparisons).

Administration of carboprost at doses up to 3 times the expected maximum human dose (based on surface area) for 3 or 6 days prior to mating had no effect on male or female fertility in rats, although other carboprost-like drugs are known to disrupt fertility.

PROSTIN 15M contains benzyl alcohol which can cross the placenta (see WARNINGS AND PRECAUTIONS).

Use in Lactation

It is not known if carboprost is secreted into breast milk, however, this possibility cannot be ruled out.

Administration of carboprost to rats during the pre- and post-natal period resulted in failure of dams to lactate. The lowest dose of carboprost which caused these effects was approximately 100 times lower than the recommended maximum dose in humans (based on surface area comparisons). The effect was reversible.

The relevance of these findings to lactation in humans treated with carboprost is unclear. However, based on plasma clearance rates it is recommended that breast feeding does not occur for at least 6 hours after administration.

Paediatric Use

Safety and efficacy in paediatrics patients have not been established.

ADVERSE EFFECTS

On rare occasions, cardiovascular collapse has been reported with some of the prostaglandins, so this should always be considered when using PROSTIN 15M.

The adverse effects of PROSTIN 15M are generally transient and reversible when therapy ends.

The most frequent side effects observed with the use of PROSTIN 15M are related to its contractile effect on smooth muscle. Thus, nausea, vomiting and diarrhoea have been reported as very commonly encountered. The incidence of vomiting and diarrhoea may be decreased by pre-treatment and concomitant use during treatment of anti-emetic and antidiarrhoeal agents.

Hyperthermia and flushing have been observed after intramuscular PROSTIN 15M, but if not complicated by endometritis, the temperature elevation will usually return to normal within several hours of the last injection.

The table below lists the adverse effects identified through clinical trials and post-marketing surveillance by System Organ Class (SOC) and frequency. Within each frequency grouping, adverse events are presented in order of decreasing seriousness.

<i>System Organ Class</i>	Very common (≥10%)	Common (≥ 1% to < 10%)	Uncommon (≥ 0.1% to < 1%)
<i>Infections and Infestations</i>		Endometritis	Septic shock, urinary tract infection
<i>Psychiatric disorders</i>			Sleep disorder
<i>Nervous system disorders</i>		Headache	Syncope vasovagal, pre-syncope, lethargy, dystonia, paraesthesia, dysgeusia, dizziness, somnolence
<i>Eye disorders</i>			Eye pain, vision blurred
<i>Ear and labyrinth disorders</i>			Tinnitus, vertigo
<i>Cardiac disorders</i>			Tachycardia
<i>Vascular disorders</i>		Flushing, hot flush, Elevated blood pressure	Hypertension
<i>Respiratory, thoracic and mediastinal disorders</i>		Cough	Pulmonary oedema, respiratory distress, hyperventilation, dyspnoea asthma, wheezing, hiccups

<i>System Organ Class</i>	Very common (≥10%)	Common (≥ 1% to < 10%)	Uncommon (≥ 0.1% to < 1%)
<i>Gastrointestinal disorders</i>	Diarrhoea, vomiting, nausea		Haematemesis, epigastric pain, abdominal pain, cramps, dry mouth
<i>Skin and subcutaneous tissue disorders</i>			Diaphoresis, sweating, perspiration,
<i>Musculoskeletal and connective tissue disorders</i>			Back pain, myalgia, torticollis
<i>Reproductive system and breast disorders</i>		Retained placenta or membranes, uterine haemorrhage	Uterine rupture, perforation of uterus, pelvic pain, breast tenderness
<i>General disorders and administration site conditions</i>	Retrosternal discomfort	Chills, shivering	Tightness in chest, injection site pain, injection site erythema
<i>Investigations</i>	Body temperature increased	Fever	

Post-marketing Experience

Infections and Infestations

Upper respiratory tract infection.

Immune System Disorders

Hypersensitivity reactions (e.g., anaphylactic reaction, anaphylactic shock, anaphylactoid reaction, angioedema).

Endocrine disorders

Thyrotoxic crisis.

Psychiatric disorders

Anxiety, nervousness.

Nervous system disorders

Syncope.

Cardiac disorders

Palpitations.

Respiratory, thoracic and mediastinal disorders

Throat tightness, choking sensation, epistaxis, dry throat.

Gastrointestinal disorders

Gastralgia, retching.

Skin and subcutaneous tissue disorders

Rash.

Musculoskeletal and connective tissue disorders

Leg cramps, blepharospasm.

Reproductive system and breast disorders

Uterine sacculation.

General disorders and administration site conditions

Chest pain, excessive thirst, asthenia.

INTERACTIONS

PROSTIN 15M may augment the activity of other oxytocic agents. Concomitant use with other oxytocic agents is not recommended.

OVERDOSAGE

Symptoms

Hypertension, increased body temperature.

Treatment

Treatment of overdose must be symptomatic at this time, as clinical studies with prostaglandin antagonists have not progressed to the point where recommendations may be made. If evidence of adverse effects appears, the frequency of administration of PROSTIN 15M should be decreased or administration discontinued.

Contact the National Poisons Centre on 0800 764 766 for advice on the management of an overdose.

PHARMACEUTICAL PRECAUTIONS

Shelf Life: 4 years.

Store at 2° - 8°C. Refrigerate. Do not freeze.

MEDICINE CLASSIFICATION

Prescription Medicine.

PACKAGE QUANTITIES

PROSTIN 15M is available in ampoules of 1 mL.

FURTHER INFORMATION

Excipients: trometamine, sodium chloride and benzyl alcohol (9.45 mg/mL added as preservative). When necessary, pH is adjusted with sodium hydroxide and/or hydrochloric acid.

NAME AND ADDRESS

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DATE OF PREPARATION

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