

New Zealand Datasheet

Name of Medicine

Tamsulosin capsules

Presentation

Tamsulosin capsules are size 2 hard gelatin capsules with a brown cap and off-white opaque body.

Each capsule contains 0.4mg tamsulosin hydrochloride equivalent to 0.367mg tamsulosin presented as off-white modified release pellets.

Uses

Actions

Tamsulosin binds selectively and competitively to postsynaptic α 1-adrenoceptors, in particular to subtypes alpha1A and alpha1D. It brings about relaxation of prostatic and urethral smooth muscle.

Tamsulosin increases the maximum urinary flow rate. It relieves obstruction by relaxing smooth muscle in prostate and urethra.

It also improves the irritative symptoms in which bladder instability plays an important role.

These effects on storage and voiding symptoms are maintained during long-term therapy. The need for surgical treatment is significantly delayed.

Alpha1-blockers can reduce blood pressure by lowering peripheral resistance. No reduction in blood pressure of any clinical significance was observed during studies with tamsulosin.

Pharmacokinetics

Absorption

Tamsulosin is rapidly absorbed from the intestine and is almost completely bioavailable. Absorption of tamsulosin is reduced by a recent meal.

Uniformity of absorption can be promoted by the patient always taking tamsulosin capsules after the same meal.

Tamsulosin shows linear kinetics.

After a single dose of tamsulosin capsules in the fed state, plasma levels of tamsulosin peak at around 6 hours and in the steady state, which is reached by day 5 of multiple dosing, C_{max} in patients is about two-thirds higher than that reached after a single dose. Although this was seen in elderly patients, the same finding would also be expected in young ones.

There is a considerable inter-patient variation in plasma levels both after single and multiple dosing.

Distribution

In humans tamsulosin is about 99% bound to plasma proteins and the volume of distribution is small (about 0.2L/kg).

Biotransformation

Tamsulosin has a low first pass effect, being metabolized slowly. Most tamsulosin is present in plasma in the form of unchanged medicine. It is metabolized in the liver.

In rats, hardly any induction of microsomal liver enzymes was seen to be caused by tamsulosin.

No dose adjustment is warranted in hepatic insufficiency.

None of the metabolites are more active than tamsulosin itself.

Excretion

Tamsulosin and its metabolites are mainly excreted in the urine with about 9% of a dose being present in the form of unchanged medicine.

After a single dose of tamsulosin capsules in the fed state, and in the steady state in patients, elimination half-lives of about 10 and 13 hours respectively have been measured.

The presence of renal impairment does not warrant lowering the dose.

Indications

Treatment of functional symptoms of benign prostatic hyperplasia (BPH).

Dosage and Administration

One capsule daily, to be taken after breakfast, or the first meal of the day.

The capsule should be swallowed whole and should not be crushed or chewed as this will interfere with the modified release of the active ingredient.

Contraindications

Hypersensitivity to tamsulosin hydrochloride or any other component of the product.

A history of orthostatic hypotension.

Severe hepatic insufficiency.

Warnings and Precautions

As with other alpha1-blockers, reduction in blood pressure can occur in individual cases during treatment with tamsulosin capsules, as a result of which, very rarely, syncope can occur. At the first signs of orthostatic hypotension (dizziness, weakness), the patient should sit or lie down until the symptoms have disappeared.

Before therapy with tamsulosin capsules is initiated, the patient should be examined in order to exclude the presence of other conditions which can cause the same symptoms as benign prostatic hyperplasia. Digital rectal examination and, when necessary,

determination of prostate specific antigen (PSA) should be performed before treatment and at regular intervals afterwards.

The treatment of severely renally impaired patients (creatinine clearance of < 10ml/min) should be approached with caution as these patients have not been studied.

Intra-operative Floppy Iris Syndrome

'Intra-operative Floppy Iris Syndrome' (IFIS) has been observed during cataract surgery in some patients taking or who have previously been treated with α 1-adrenoceptor antagonists. This variant of small pupil syndrome is characterised by the combination of a flaccid iris that billows in response to intra-operative irrigation currents, progressive intra-operative miosis despite pre-operative dilation with standard mydriatic drugs, and potential prolapse of the iris toward the phaco-emulsification incisions. The patient's ophthalmologist should be prepared for possible modifications to their surgical technique, such as the utilisation of iris hooks, iris dilator rings, or visco-elastic substances. There does not appear to be a benefit of stopping α 1-adrenoceptor antagonist therapy prior to cataract surgery.

Use in Pregnancy and Lactation

Not applicable as tamsulosin capsules are intended for male patients only.

Effects on Ability to Drive and Use Machinery

No data is available on whether tamsulosin capsules adversely affect the ability to drive or operate machines. However, in this respect patients should be aware of the fact that dizziness can occur.

Adverse Effects

The following adverse reactions have been reported during the use of tamsulosin capsules: dizziness, abnormal ejaculation and, less frequently (1-2%), headache, asthenia, postural hypotension and palpitations.

Interactions

No interactions have been seen when tamsulosin capsules have been given concomitantly with either atenolol, enalapril, or nifedipine. Concomitant cimetidine brings about a rise in plasma levels of tamsulosin, and furosemide a fall, but as levels remain within the normal range posology need not be changed.

In vitro, neither diazepam nor propranolol, trichlormethiazide, chlormadinon, amitriptyline, diclofenac, glibenclamide, simvastatin nor warfarin change the free fraction of tamsulosin in human plasma. Neither does tamsulosin change the free fractions of diazepam, propranolol, trichlormethiazide and chlormadinon.

No interactions at the level of hepatic metabolism have been seen during *in vitro* studies with liver microsomal fractions (representative of the cytochrome P450-linked drug metabolizing enzyme system), involving amitriptyline, salbutamol, glibenclamide and finasteride. Diclofenac and warfarin, however, may increase the elimination rate of tamsulosin.

Concurrent administration of other α 1-adrenoceptor antagonists could lead to hypotensive effects.

Overdosage

Acute overdose with 5 mg tamsulosin hydrochloride has been reported. Acute hypotension (systolic blood pressure 70 mm Hg), vomiting and diarrhoea were observed, which were treated with fluid replacement and the patient could be discharged the same day.

If acute hypotension occurs after overdosage, cardiovascular support should be given and maintained. Blood pressure can be restored and heart rate brought back to normal by lying the patient down. If this is insufficient then volume expanders and, when necessary, vasopressors could be administered. Renal function should be monitored and general supportive measures applied. Dialysis is unlikely to be of help as tamsulosin is very highly bound to plasma proteins.

Measures to impede absorption, such as emesis, can be taken. When large quantities of tamsulosin are involved, gastric lavage can be applied and activated charcoal and an osmotic laxative, such as sodium sulphate, can be administered.

Pharmaceutical Precautions

Store below 25°C.

Medicine Classification

Prescription Medicine.

Package Quantities

Strips containing 10 capsules per strip; three strips in a cardboard box.

Further Information

List of Excipients

Tamsulosin capsules modified release capsules contain the following excipients: Hypromellose, Methacrylic-acid copolymer, Triethyl citrate, Propylene glycol, Polysorbate 80, Talc, Ethyl cellulose, Colloidal silicon dioxide, Sugar, Gelatin

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