Rosugen

Rosuvastatin Tablet

Presentation
Rosugen 10: Each film coated tablet contains Rosuvastatin 10 mg (as Rosuvastatin Calcium BP).
Rosugen 5: Each film coated tablet contains Rosuvastatin 5 mg (as Rosuvastatin Calcium BP).

Pharmacodynamic Properties
Rosugen (Rosuvastatin) is a selective and competitive inhibitor of HMG-CoA reductase, the rate-limiting enzyme that converts 3-hydroxy-3-methylglutaryl coenzyme A to mevalonate, a precursor for cholesterol. The primary site of action of Rosuvastatin is the liver, The target organ for cholesterol lowering. Rosugen (Rosuvastatin) increases the number of hepatic LDL receptors on the cell-surface, enhancing uptake and catabolism of LDL and it inhibits the hepatic synthesis of VLDL, thereby reducing the total number of VLDL and LDL particles.

Pharmacokinetic Properties
Absorption: Maximum Rosuvastatin plasma concentrations are achieved approximately 5 hours after oral administration. The absolute bioavailability is approximately 20 %.

Distribution: Rosuvastatin is taken up extensively by the liver which is the primary site of cholesterol synthesis and LDL-C clearance. The volume of distribution of Rosuvastatin is approximately 134 L.

Metabolism: Rosuvastatin undergoes limited metabolism (approximately 10%), mainly to the N-desmethyl metabolite and the lactone metabolite. The N-desmethyl metabolite is approximately 50% less active than Rosuvastatin whereas the lactone form is considered clinically inactive.

Excretion: Approximately 90% of Rosuvastatin is excreted as unchanged drug in faeces and the remaining part is excreted in urine. The plasma elimination half-life is approximately 19 hours. The elimination half life does not increase at higher dose.

Indications
- Primary Hypercholesterolemia
- Heterozygous Hypercholesterolemia (Famillial and Nonfamillial)
- Homozygous Hypercholesterolemia (Famillial)
- Mixed Dyslipidemia (Fredrickson Type IIa and IIb)

Dosage and Administration
The usual start dose is Rosugen (Rosuvastatin) 5-10 mg once daily and the majority of patients are controlled at this dose. A dose adjustment to 20 mg can be made after 4 weeks, if necessary Rosugen (Rosuvastatin) 40 mg should only be used in patients with severe hypercholesterolemia (including those with familial hypercholesterolemia) who does not achieve their treatment goal on 20 mg.

Use in children: Pediatrics experience is limited to a small number of children (aged 8 years or above) with homozygous familial hypercholesterolemia. Therefore, Rosuvastatin is not recommended for pediatric use at this time.

Use in the elderly: No dose adjustment is necessary.

Dosage in patients with renal insufficiency: No dose adjustment in necessary in patients with mild to moderate renal impairment. For patients with severe renal impairment (CL_{cr} < 30 ml/min/1.73 m^2) the dose of Rosugen (Rosuvastatin) should not exceed 10 mg once daily.

Dosage in patients with hepatic impairment: No dose adjustment is necessary in patients with mild to moderate hepatic impairment. Increased systemic exposure to Rosuvastatin has been observed in patient with severe hepatic impairment therefore the dose of Rosugen (Rosuvastatin) should not exceed 20 mg once daily.

Contraindications
Rosuvastatin is contraindicated in patients with:
- Hypersensitivity to any component of this product
- Active liver disease (including unexplained, persistent elevations of serum transaminases)
- Any serum transaminase elevation exceeding 3 fold the upper limit of normal
- Myopathy
- Receiving concomitant cyclosporine
- Pregnancy and lactation

Side Effects
The adverse events seen with Rosuvastatin are generally mild and transient. In controlled clinical trials less than 4% of Rosuvastatin treated patients were withdrawn due to adverse events. Headache, dizziness, constipation, nausea, abdominal pain, myalgia, asthenia.

Use in Pregnancy & Lactation
Rosuvastatin is contraindicated during pregnancy or lactation as the safety of Rosuvastatin during pregnancy and whilst breast-feeding has not been established.

Drug Interactions

Cytochrom P450 enzymes: Result from in vitro and in vivo studies show that Rosuvastatin is neither an inhibitor nor an inducer of cytochrome P450 isoenzymes. No interactions have been observed between Rosuvastatin and either fluconazole or ketoconazole

Vitamin K antagonists: As with other HMG-CoA reductase inhibitors, the initiation of treatment or dosage up-titration of Rosuvastatin in patients treated concomitantly with vitamin K antagonists (e.g. warfarin) may result in an increase in INR.

Gemfibrozil: Concomitant use of Rosuvastatin and gemfibrozil resulted in a 2-fold increase in Rosuvastatin Cmax and AUC.

Cyclosporin: During concomitant treatment with Rosuvastatin and cyclosporin, Rosuvastatin plasma levels were on average 7 times higher than those observed in healthy volunteers.

Antacid: The simultaneous dosing of Rosuvastatin with an antacid suspension containing aluminium and magnesium hydroxide resulted in a decrease in Rosuvastatin plasma concentration of approximately 50%.

Erythromycin: Concomitant use of Rosuvastatin and erythromycin resulted in a 20% decrease in AUC (0-t) and a 30% decrease in Cmax of Rosuvastatin.

Oral Contraceptive: Concomitant use of Rosuvastatin and an oral contraceptive resulted in an increase in ethinyl oestradiol and norgestrel AUC of 26% and 34%, respectively.

Other medications: There were no clinically relevant interactions with digoxin, fenofibrate, antihypertensive agents, antidiabetic agents and hormone replacement therapy.

Overdose
There is no specific treatment in the event of overdose. In the event of overdose, the patient should be treated symptomatically and supportive measures instituted as required. Liver function and CK levels should be monitored. Haemodialysis is unlikely to be of benefit.

Storage conditions
Store in a cool and dry place, away from light. Keep out of the reach of children.

Commercial Pack
Rosugen 10: Each box contains 2 blister packs of 10 tablets.
Rosugen 5: Each box contains 3 blister packs of 10 tablets.

Manufactured by:
general GENERAL
Pharmaceuticals Ltd.
Kaliakair, Gazipur, Bangladesh

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