Efirel®

Prasugrel

Description
Efirel® (Prasugrel) is a novel platelet inhibitor. US Food and Drug Administration approved the use of prasugrel for the reduction of thrombotic cardiovascular events (including stent thrombosis) in patients with acute coronary syndrome who are to be managed with PCI. Prasugrel is a member of the thienopyridine class of ADP receptor inhibitors, these agents reduce the aggregation ("clumping") of platelets by irreversibly binding to P2Y12 receptors.

Mode of action
Efirel® (Prasugrel) is a prodrug, oxidation by intestinal and hepatic cytochrome P-450 enzymes convert prasugrel into its active metabolite. Prasugrel has a rapid and almost complete absorption after oral ingestion of a loading dose. Its active form binds irreversibly to the adenosine diphosphate (ADP) P2Y12 receptor on platelets for their lifespan, thereby inhibiting their activation and decreasing subsequent platelet aggregation. Prasugrel has a greater antiplatelet effect than clopidogrel because it is metabolized more efficiently. Some of the differences in metabolism between clopidogrel and prasugrel may be explained by genetic polymorphisms affecting the cytochrome P-450 system.

Pharmacokinetics
Efirel® (Prasugrel) is a prodrug and is rapidly metabolized to a pharmacologically active metabolite and inactive metabolites with a single enzymatic step. The active metabolite has an elimination half-life of about 7 hours (range 2-15 hours). Following oral administration, more than 79% of the dose is absorbed. Peak plasma concentrations (Cmax) of the active metabolite occur approximately 30 minutes after dosing.

Composition
Efirel® 5 mg Tablet: Each film coated tablet contains Prasugrel Hydrochloride INN 5.490 mg equivalent to Prasugrel 5 mg.
Efirel® 10mg Tablet: Each film coated tablet contains Prasugrel Hydrochloride INN 10.980 mg equivalent to Prasugrel 10 mg

Indications
Prasugrel is indicated to reduce the rate of thrombotic cardiovascular (CV) events (including stent thrombosis) in patients with acute coronary syndrome (ACS) who are to be managed with percutaneous coronary intervention (PCI) as follows: “Patients with unstable angina (UA) or non-ST-elevation myocardial infarction (NSTEMI).” Patients with ST-elevation myocardial infarction (STEMI) when managed with primary or delayed PCI.

Dosage & administration
Initiate Prasugrel treatment as a single 60 mg oral loading dose and then continue at 10 mg orally once daily. Patients taking Prasugrel should also take aspirin (75 mg to 325 mg) daily. Patients with having bodyweight below 60kg should take 5mg daily as maintenance dose. No dose adjustment required for mild to moderate hepatic or renal impaired patients. Prasugrel may be administered with or without food.

Contraindications
Active Bleeding Prasugrel is contraindicated in patients with active pathological bleeding such as peptic ulcer or intracranial hemorrhage, hypersensitivity. Prasugrel is contraindicated in patients with hypersensitivity (e.g., anaphylaxis) to prasugrel or any component of the product.

Side effects
Prasugrel will include a boxed warning alerting prescribers that the drug can cause significant, sometimes fatal, bleeding. The drug should not be used in patients with active pathological bleeding, a history of TIAs (transient ischemic attacks) or stroke, or urgent need for surgery, including coronary artery bypass graft surgery. Some have argued that this boxed warning will make much harder for prasugrel to become a successful drug (in marketing terms).

Use in pregnancy & lactation
Pregnancy Category B - There are no adequate and well-controlled studies of Prasugrel use in pregnant women. Reproductive and developmental toxicology studies in rats and rabbits at doses of up to 30 times the recommended therapeutic exposures in humans (based on plasma exposures to the major circulating human metabolite) revealed no evidence of fetal harm; however, animal studies are not always predictive of a human response. Prasugrel should be used during pregnancy only if the potential benefit to the mother justifies the potential risk to the fetus. It is not known whether Prasugrel is excreted in human milk; however, metabolites of Prasugrel were found in rat milk. Because many drugs are excreted in human milk, prasugrel should be used during nursing only if the potential benefit to the mother justifies the potential risk to the nursing infant.

Precautions
Half-life of prasugrel's active metabolite is short relative to the lifetime of the platelet, it may be possible to restore hemostasis by administering exogenous platelets; however, platelet transfusions within 6 hours of the loading dose or 4 hours of the maintenance dose may be less effective.

Drug interactions
Coadministration of Prasugrel and Warfarin increases the risk of bleeding. Co-administration of Prasugrel and NSAIDs (used chronically) may increase the risk of bleeding.

Over dosage
Platelet inhibition by prasugrel is rapid and irreversible, lasting for the life of the platelet, and is unlikely to be increased in the event of an overdose. In rats, lethality was observed after administration of 2000 mg/kg. Symptoms of acute toxicity in dogs included emesis, increased serum alkaline phosphatase, and hepatocellular atrophy. Symptoms of acute toxicity in rats included mydriasis, irregular respiration, decreased locomotor activity, ptosis, staggering gait, and lacrimation.

Storage
Store in a cool (Below 25˚C temperature) and dry place protected from light.

Packaging
Efirel® 5mg Tablet: Each carton contains 10X2 tablets in Alu-Alu blister pack.
Efirel® 10mg Tablet: Each carton contains 10X1 tablets in Alu-Alu blister pack.

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Opsonin
Opsonin Pharma
ideas for healthcare

Manufactured by
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