120mm

170mm

Lanzofix Injection/Capsule

(LANSOPRAZOLE)

لینزوفکس انجکشن/کیپسول

(لینسوپرازول)

COMPOSITION:

LANZOFIX Injection 30mg

Each vial contains:

Lansoprazole powder for reconstitution.....30mg

(Innovator's Specifications)

LANZOFIX Capsule 30mg

Each capsule contains:

Enteric coated pellets eq. to Lansoprazole.....30mg

(USP Specifications)

DESCRIPTION

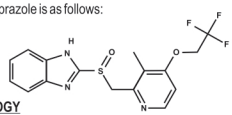
LANZOFIX contains lansoprazole as an active moiety. Lansoprazole is an acid proton pump inhibitor which is a benzimidazoles sulfoxide derivative and produces long lasting inhibition of gastric acid secretion. Lansoprazole is a chiral compound with one chiral center, synthesized as a racemic mixture and both enantiomers are active. Chemically Lansoprazole is identified as 2-[[[3-methyl-4-(2, 2, 2-trifluoroethoxy)-2-pyridinyl] methyl] sulfinyl]-1H-benzimidazole. Lansoprazole is effective in the treatment of duodenal or gastric ulcer, gastroesophageal reflux disease and in the treatment of zollinger-ellison syndrome.

MOLECULAR & STRUCTURAL FORMULA

Molecular formula of Lansoprazole is as follows:

$C_{16}H_{14}F_3N_3O_2S$

Structural formula of Lansoprazole is as follows:



CLINICAL PHARMACOLOGY

MODE OF ACTION

Lansoprazole belongs to a class of anti-secretory compounds, the substituted benzimidazoles, that suppress gastric acid secretion by specific inhibition of the (H+, K+)-ATPase enzyme system at the secretory surface of the gastric parietal cell. Because this enzyme system is regarded as the acid (proton) pump within the parietal cell, lansoprazole has been characterized as a gastric acid-pump inhibitor, in that it blocks the final step of acid production. This effect is dose-related and leads to inhibition of both basal and stimulated gastric acid secretion irrespective of the stimulus. Lansoprazole does not exhibit anticholinergic or histamine type-2 antagonist activity.

INDICATIONS

- Treatment of duodenal and gastric ulcer.
- Treatment of reflux esophagitis.
- Prophylaxis of reflux esophagitis.
- Eradication of Helicobacter pylori (H. pylori) concurrently given with appropriate antibiotic therapy for treatment of Pylori associated ulcers.
- Treatment of NSAID-associated benign gastric and duodenal ulcers in patients requiring continued NSAID treatment.
- Prophylaxis of NSAID-associated gastric ulcers and duodenal ulcers in patients at risk requiring continued therapy.
- Symptomatic gastroesophageal reflux disease.
- Zollinger-Ellison syndrome.

DOSAGE & ADMINISTRATION

- ***For injection***

The recommended adult dose (when patients are unable to take the oral therapy) is 30 mg of lansoprazole (1 vial of **LANZOFIX** Injection) per day administered by infusion over 30 minutes for up to 7 days. Once the patient is able to take medications orally, therapy can be switched to an oral **LANZOFIX** formulation for a total of 6 to 8 weeks. Refer to full prescribing information for the oral formulations of **LANZOFIX.**

No dosage adjustment is necessary in patients with renal insufficiency or the elderly. For patients with severe liver disease, dosage adjustment should be considered.

Administration

Do not administer with other drugs or diluents as this may cause incompatibilities.

Attach the filter and administration set.

Administer **LANZOFIX** (lansoprazole for injection) for Injection over 30 minutes.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration.

Method of Reconstitution

Reconstitute the dry powder in vial with 5ml sterile water for injection and shake thoroughly. The resulting initial solution will contain lansoprazole 6mg/ml (30mg/5ml). This initial reconstituted solution must be further diluted with 50ml of 0.9% w/v sodium chloride solution before iv use.

- ***For capsule***

Treatment of duodenal ulcer:

The recommended dose is 30 mg once daily for 2 weeks. In patients not fully healed within this time, the medication is continued at the same dose for another two weeks.

Treatment of gastric ulcer:

The recommended dose is 30 mg once daily for 4 weeks. The ulcer usually heals within 4 weeks, but in patients not fully healed within this time, the medication may be continued at the same dose for another 4 weeks.

Reflux esophagitis:

The recommended dose is 30 mg once daily for 4 weeks. In patients not fully healed within this time, the treatment may be continued at the same dose for another 4 weeks.

Prophylaxis of reflux oesophagitis:

15 mg once daily. The dose may be increased up to 30 mg daily as necessary.

Eradication of Helicobacter pylori:

When selecting appropriate combination therapy consideration should be given to official local guidance regarding bacterial resistance, duration of treatment, (most commonly 7 days but sometimes up to 14 days), and appropriate use of antibacterial agents.

The recommended dose is 30 mg of lansoprazole twice daily for 7 days in combination with one of the following:

Clarithromycin 250-500mg twice daily + amoxicillin 1 g twice daily

Clarithromycin 250 mg twice daily + metronidazole 400-500 mg twice daily

The H. pylori eradication results obtained when

clarithromycin is combined with either amoxicillin or metronidazole give rates of up to 90%, when used in combination with lansoprazole.

Six months after successful eradication treatment, the risk of re infection is low and relapse is therefore unlikely.

Use of a regimen including lansoprazole 30 mg twice daily, amoxicillin 1 g twice daily and metronidazole 400-500 mg twice daily has also been examined. Lower eradication rates were seen using this combination than in regimens involving clarithromycin. It may be suitable for those who are unable to take clarithromycin as part of an eradication therapy, when local resistance rates to metronidazole are low.

Treatment of NSAID associated benign gastric and duodenal ulcers in patients requiring continued NSAID treatment:

30mg once daily for four weeks. In patients not fully healed, the treatment may be continued for another four weeks. For patients at risk or with ulcers that are difficult to heal, a longer course of treatment and/or a higher dose should probably be used.

Prophylaxis of NSAID associated gastric and duodenal ulcers in patients at risk (such as age > 65 or history of gastric or duodenal ulcer) requiring prolonged NSAID treatment:

15 mg once daily. If the treatment fails, the dose 30 mg once daily should be used.

Symptomatic gastro-esophageal reflux disease:

The recommended dose is 15 mg or 30 mg daily. Relief of symptoms is

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120mm

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obtained rapidly. Individual adjustment of dosage should be considered. If the symptoms are not relieved within 4 weeks with a daily dose of 30 mg, further examinations are recommended.

Zollinger-Ellison syndrome:

The recommended initial dose is 60 mg once daily. The dose should be individually adjusted and the treatment should be continued for as long as necessary. Daily doses of up to 180mg have been used. If the required daily dose exceeds 120mg, it should be given in two divided doses.

PHARMACOKINETICS

Absorption

Following the administration of 30 mg of lansoprazole by intravenous infusion over 30 minutes to healthy subjects, plasma concentrations of lansoprazole declined exponentially with a mean (+ standard deviation) terminal elimination half-life of 1.3 (± 0.5) hours. The mean peak plasma concentration of lansoprazole (Cmax) was 1705 (± 292) ng/mL and the mean area under the plasma concentration versus time curve (AUC) was 3192 (± 1745) ngh/mL. The absolute bioavailability of lansoprazole following oral administration is over 80%, and Cmax and AUC of lansoprazole are approximately proportional in doses from 15 mg to 60 mg after single oral administration. The pharmacokinetics of lansoprazole did not change with time after 7-day once daily repeated oral or intravenous administration of 30 mg lansoprazole.

Distribution

The apparent volume of distribution of lansoprazole is approximately 15.7 (± 1.9) L, distributing mainly in extracellular fluid. Lansoprazole is 97% bound to plasma proteins. Plasma protein binding is constant over the concentration range of 0.05 to 5.0 µg/mL

Metabolism

Lansoprazole is extensively metabolized in the liver. Two metabolites have been identified in measurable quantities in plasma (the hydroxylated sulfinyl and sulfone derivatives of lansoprazole). These metabolites have very little or no anti-secretory activity. Lansoprazole is thought to be transformed into two active species which inhibit acid secretion by blocking the proton pump [(H+,K+)-ATPase enzyme system] at the secretory surface of the gastric parietal cell. The two active species are not present in the systemic circulation. The plasma elimination half-life of lansoprazole is less than 2 hours while the acid inhibitory effect lasts more than 24 hours. Therefore, the plasma elimination half-life of lansoprazole does not reflect its duration of suppression of gastric acid secretion.

Elimination

Following an intravenous dose of lansoprazole, the mean clearance was 11.1 (± 3.8) L/h.

PRECAUTIONS

Gastric Malignancy

Symptomatic response to therapy with lansoprazole does not preclude the presence of gastric malignancy.

Acute Interstitial Nephritis

Acute interstitial nephritis has been observed in patients taking PPIs including LANZOFIX. Acute interstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathichypersensitivity reaction. Discontinue **LANZOFIX** if acute interstitial nephritis develops.

Cyanocobalamin (vitamin B12) Deficiency

Daily treatment with any acid-suppressing medications over a long period of time (e.g., longer than 3 years) may lead to malabsorption of cyanocobalamin (vitamin B12) caused by hypo- or achlorhydria.

Clostridium Difficile Associated Diarrhea

Published observational studies suggest that proton pump inhibitor (PPI) therapy like **LANZOFIX** may be associated with an increased risk of Clostridium difficile associated diarrhea (CDAD), especially in hospitalized patients. This diagnosis should be considered for diarrhea that does not improve.

Bone Fracture

Several published observational studies suggest that PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist or spine. The risk of fracture was increased in patients who received high-dose, defined as multiple daily doses, and long-term PPI therapy (a year or longer).

Hypomagnesemia

Hypomagnesemia, symptomatic and asymptomatic, has been reported rarely in patients treated with PPIs for at least three months, in most cases after a year of therapy. Serious adverse events include tetany, arrhythmias, and seizures. In most patients, treatment of hypomagnesemia required magnesium replacement and discontinuation of the PPI.

Pregnancy

Pregnancy Category B.

This drug should be used during pregnancy only if clearly needed.

Nursing Mothers

It is not known whether lansoprazole is excreted in human milk. Because many drugs are excreted in human milk, because of the

potential for serious adverse reactions in nursing infants from lansoprazole, and because of the potential for tumorigenicity shown for lansoprazole in rat carcinogenicity studies, a decision should be made whether to discontinue nursing or to discontinue lansoprazole, taking into account the importance of lansoprazole to the mother.

SIDE EFFECTS

Folowing side effects may be seen due to lanzoprazole,

Thrombocytopenia, Anaemia, Agranulocytosis, Eosinophilia, Pancytopenia, Leukopenia, Hypomagnesaemia, Depression, Insomnia, Hallucinnation, Confusion, Headache, Dizziness, Restlessness, Vertigo, Paraesthesia somnolence, Tremor, Visual Disturbances, Nausea, Diarrhoea, Stomach ache, Constipation, Vomiting, Dry mouth or throat, In liver & enzyme levels, Hepatitis,Jaundice, Urticaria, Iching, Rash, Petechiae, Purpura, Steven, Arthralgia, Myalgia, wrist or spine, Interstitial nephritis, Gynaecomastia, Fatigue, Oedema, Anaphylactic shock.

DRUG INTERACTIONS

Lansoprazole partially inhibits the oxidative metabolism of drugs metabolised by the cytochrome p450 enzyme sub family IIC, such a diazepam and phenytoin.

Lansoprazole interacts with several other drugs, either due to its own nature or as a PPI.

PPIs reduce absorption of antifungals (itraconazole and ketoconazole) and possibly increase digoxin in plasma.

Increases plasma concentrations of cilostazol (risk of toxicity)

Lansoprazole possibly interacts with, amongst other drugs:

sucralfate, ampicillin, bisacodyl, clopidogrel, delavirdine, fluvoxamine, iron salts, voriconazole, aminophylline and theophylline, astemizole

CONTRAINDICATIONS

- **LANZOFIX** is contraindicated in patients with known severe hypersensitivity to any component of the formulation of **LANZOFIX**.
- Hypersensitivity reactions may include anaphylaxis, anaphylactic shock, angioedema, bronchospasm, acute interstitial nephritis, and urticaria.
- Lansoprazole should not be administered with atazanavir.

STORAGE & INSTRUCTIONS:

Store between 15-25°C.

Protect from heat, sunlight & moisture.

Keep away from the reach of children.

To be sold on the prescription of a registered medical practitioner only.

HOW SUPPLIED:

LANZOFIX Injection 30mg

1 vial.

LANZOFIX Capsule 30mg

14's capsules.

خوراک وطریقہ استعمال:

ڈاکٹر کی ہدایت کے مطابق استعمال کریں۔

ہدایات:

دوا کو ۱۵-۲۵ ڈگری سینٹی گریڈ درجہ حرارت کے درمیان رکھیں۔

دھوپ، گرمی اور نمی سے بچائیں۔ بچوں کی پہنچ سے دور رکھیں۔

صرف رجسٹرڈ ڈاکٹر کے نسخے کے مطابق فروخت کریں۔

Manufactured by:

PHARMASOL

PRIVATE LIMITED

Plot # 549,Sundar Industrial Estate,

Lahore, Pakistan.

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