200X290

To be prescribed
ATD Code : A02BC01

OMEPRAZOLE-ASTERIA Cap. 20mg

(Omeprazole)

[Composition]
1 capsule contains,
Active ingredient:
Omeprazole **20mg**
Inactive ingredient:
Sucrose, Anhydrous Lactose, Hypromellose, Hydoxypropyl Cellulose, Sodium Lauryl Sulfate, Sodium Phosphate (dehydrate), Hypromellose Phthalate, Diethyl Phthalate, Acetone, Ethanol

[Indications]
Duodenal Ulcer (adults) : Omeprazole capsule is indicated for short-term treatment of active duodenal ulcer in adults. Most patients heal within four weeks. Some patients may require an additional four weeks of therapy. Omeprazole capsule in combination with clarithromycin and amoxicillin, is indicated for treatment of patients with H. pylori infection and duodenal ulcer disease (active or up to 1-year history) to eradicate H. pylori in adults. Omeprazole capsule in combination with clarithromycin is indicated for treatment of patients with H. pylori infection and duodenal ulcer disease to eradicate H. pylori in adults. Eradication of H. pylori has been shown to reduce the risk of duodenal ulcer recurrence.
Among patients who fail therapy, Omeprazole capsule with clarithromycin is more likely to be associated with the development of clarithromycin resistance as compared with triple therapy. In patients who fail therapy, susceptibility testing should be done. If resistance to clarithromycin is demonstrated or susceptibility testing is not possible, alternative antimicrobial therapy should be instituted.
Gastric Ulcer (adults) : Omeprazole capsule is indicated for short-term treatment (4-8 weeks) of active benign gastric ulcer in adults.
Treatment of Gastroesophageal Reflux Disease (GERD) (adults and pediatric patients)
Symptomatic GERD : Omeprazole capsule is indicated for the treatment of heartburn and other symptoms associated with GERD in pediatric patients and adults.
Erosive Esophagitis : Omeprazole capsule is indicated for the short-term treatment (4-8 weeks) of erosive esophagitis that has been diagnosed by endoscopy in pediatric patients and adults. The efficacy of Omeprazole capsule used for longer than 8 weeks in these patients has not been established. If a patient does not respond to 8 weeks of treatment, an additional 4 weeks of treatment may be given. If there is recurrence of erosive esophagitis or GERD symptoms (eg, heartburn), additional 4-8 week courses of omeprazole may be considered.
Maintenance of Healing of Erosive Esophagitis (adults and pediatric patients) : Omeprazole capsule is indicated to maintain healing of erosive esophagitis in pediatric patients and adults. Controlled studies do not extend beyond 12 months. **Pathological Hypersecretory Conditions (adults) :** Omeprazole capsule is indicated for the long-term treatment of pathological hypersecretory conditions (eg, Zollinger-Ellison syndrome, multiple endocrine adenomas and systemic mastocytosis) in adults.

[Dosage and administration]
Short-Term Treatment of Active Duodenal Ulcer : The recommended adult oral dose of Omeprazole capsule is 20 mg once daily. Most patients heal within four weeks. Some patients may require an additional four weeks of therapy.
H. pylori Eradication for the Reduction of the Risk of Duodenal Ulcer Recurrence
Triple Therapy omeprazole capsule/clarithromycin/amoxicillin) : The recommended adult oral regimen is Omeprazole capsule 20 mg plus clarithromycin 500 mg plus amoxicillin 1000 mg each given twice daily for 10 days. In patients with an ulcer present at the time of initiation of therapy, an additional 18 days of Omeprazole capsule 20 mg once daily is recommended for ulcer healing and symptom relief.
Dual Therapy omeprazole capsule /clarithromycin) : The recommended adult oral regimen is Omeprazole capsule 40 mg once daily plus clarithromycin 500 mg three times daily for 14 days. In patients with an ulcer present at the time of initiation of therapy, an additional 14 days of Omeprazole capsule 20 mg once daily is recommended for ulcer healing and symptom relief.
Gastric Ulcer : The recommended adult oral dose is 40 mg once daily for 4-8 weeks.
Gastroesophageal Reflux Disease (GERD) : The recommended adult oral dose for the treatment of patients with symptomatic GERD and no esophageal lesions is 20 mg daily for up to 4 weeks. The recommended adult oral dose for the treatment of patients with erosive esophagitis and accompanying symptoms due to GERD is 20 mg daily for 4 to 8 weeks.
Maintenance of Healing of Erosive Esophagitis : The recommended adult oral dose is 20 mg daily.
Pathological Hypersecretory Conditions : The dosage of Omeprazole capsule in patients with pathological hypersecretory conditions varies with the individual patient. The recommended adult oral starting dose is 60 mg once daily. Doses should be adjusted to individual patient needs and should continue for as long as clinically indicated. Doses up to 120 mg three times daily have been administered. Daily dosages of greater than 80 mg should be administered in divided doses. Some patients with Zollinger-Ellison syndrome have been treated continuously with Omeprazole capsule for more than 5 years.
Pediatric Patients : For the treatment of GERD and maintenance of healing of erosive esophagitis, the recommended daily dose for pediatric patients 1 to 16 years of age is as follows:

Patient Weight	Omeprazole Daily Dose
5 < 10 kg	5 mg
10 < 20 kg	10 mg
≥ 20 kg	20 mg

On a per kg basis, the doses of omeprazole required to heal erosive esophagitis in pediatric patients are greater than those for adults.
Alternative administrative options can be used for pediatric patients unable to swallow an intact capsule.
Use with clopidogrel : Avoid concomitant use of clopidogrel and omeprazole. Coadministration of clopidogrel with 80 mg omeprazole, a proton pump inhibitor that is an inhibitor of CYP2C19, reduces the pharmacological activity of clopidogrel if given concomitantly or if given 12 hours apart.

[Side Effects]
The following adverse reactions have been identified during post-approval use of Omerpazole capsule. Because these reactions are voluntarily reported from a population of uncertain size, it is not always possible to reliably estimate their actual frequency or establish a causal relationship to drug exposure.
Body As a Whole : Hypersensitivity reactions including anaphylaxis, anaphylactic shock, angioedema, bronchospasm, interstitial nephritis, urticaria; fever; pain; fatigue; malaise;
Cardiovascular : Chest pain or angina, tachycardia, bradycardia, palpitations, elevated blood pressure, peripheral edema
Endocrine : Gynecomastia
Gastrointestinal : Pancreatitis (some fatal), anorexia, irritable colon, fecal discoloration, esophageal candidiasis, mucosal atrophy of the tongue, stomatitis, abdominal swelling, dry mouth. During treatment with omeprazole, gastric fundic gland polyps have been noted rarely. These polyps are benign and appear to be reversible when treatment is discontinued.
Gastroduodenal carcinoids have been reported in patients with ZE syndrome on long-term treatment with omeprazole capsule. This finding is believed to be a manifestation of the underlying condition, which is known to be associated with such tumors.
Hepatic : Liver disease including hepatic failure (some fatal), liver necrosis (some fatal), hepatic encephalopathy hepatocellular disease, cholestatic disease, mixed hepatitis, jaundice, and elevations of liver function tests [ALT, AST, GGT, alkaline phosphatase, and bilirubin]
Metabolic/Nutritional : Hypoglycemia, hypomagnesemia, hyponatremia, weight gain
Musculoskeletal : Muscle weakness, myalgia, muscle cramps, joint pain, leg pain, bone fracture
Nervous System/Psychiatric : Psychiatric and sleep disturbances including depression, agitation, aggression, hallucinations, confusion, insomnia, nervousness, apathy, somnolence, anxiety, and dream abnormalities; tremors, paresthesia; vertigo
Respiratory : Epistaxis, pharyngeal pain
Skin : Severe generalized skin reactions including toxic epidermal necrolysis (some fatal), Stevens-Johnson syndrome, and erythema multiforme; photosensitivity; urticaria; rash; skin inflammation; pruritus; petechiae; purpura; alopecia; dry skin; hyperhidrosis
Special Senses : Tinnitus, taste perversion
Ocular : Optic atrophy, anterior ischemic optic neuropathy, optic neuritis, dry eye syndrome, ocular irritation, blurred vision, double vision
Urogenital : Interstitial nephritis, hematuria, proteinuria, elevated serum creatinine, microscopic pyuria, urinary tract infection, glycosuria, urinary frequency, testicular pain
Hematologic : Agranulocytosis (some fatal), hemolytic anemia, pancytopenia, neutropenia, anemia, thrombocytopenia, leukopenia, leucocytosis

[Drug interactions]
Concomitant treatment with omeprazole and digoxin in healthy subjects increased the bioavailability of digoxin. Caution should be exercised when omeprazole is given at high doses in elderly patients
Interference with Antiretroviral Therapy
Concomitant use of atazanavir and nelfinavir with proton pump inhibitors is not recommended. Co-administration of atazanavir with proton pump inhibitors is expected to substantially decrease atazanavir plasma concentrations and may result in a loss of therapeutic effect and the development of drug resistance. Coadministration of saquinavir with proton pump inhibitors is expected to increase saquinavir concentrations, which may increase toxicity and require dose reduction.
Omeprazole has been reported to interact with some antiretroviral drugs. The clinical importance and the mechanisms behind these interactions are not always known. Increased gastric pH during omeprazole treatment may change the absorption of the antiretroviral drug. Other possible interaction mechanisms are via CYP 2C19.
Reduced concentrations of atazanavir and nelfinavir
For some antiretroviral drugs, such as atazanavir and nelfinavir, decreased serum levels have been reported when given together with omeprazole. Following multiple doses of nelfinavir (1250 mg, twice daily) and omeprazole (40 mg daily), AUC was decreased by 36% and 92%, Cmax by 37% and 89% and Cmin by 39% and 75% respectively for nelfinavir and M8. Following multiple doses of atazanavir (400 mg, daily) and omeprazole (40 mg, daily, 2 hr before atazanavir), AUC was decreased by 94%, Cmax by 96%, and Cmin by 95%. Concomitant administration with omeprazole and drugs such as atazanavir and nelfinavir is therefore not recommended.
Increased concentrations of saquinavir
For other antiretroviral drugs, such as saquinavir, elevated serum levels have been reported, with an increase in AUC by 82%, in Cmax by 75%, and in Cmin by 106%, following multiple dosing of saquinavir/ritonavir (1000/100 mg) twice daily for 15 days with omeprazole 40 mg daily co-administered days 11 to 15. Therefore, clinical and laboratory monitoring for saquinavir toxicity is recommended during concurrent use with omeprazole capsule. Dose reduction of saquinavir should be considered from the safety perspective for individual patients.
There are also some antiretroviral drugs of which unchanged serum levels have been reported when given with omeprazole.
Drugs for Which Gastric pH Can Affect Bioavailability
Because of its profound and long lasting inhibition of gastric acid secretion, it is theoretically possible that omeprazole may interfere with absorption of drugs where gastric pH is an important determinant of their bioavailability (e.g., ketoconazole, ampicillin esters, and iron salts). In the clinical trials, antacids were used concomitantly with the administration of omeprazole capsule.

Effects on Hepatic Metabolism/Cytochrome P-450 Pathways
Omeprazole can prolong the elimination of diazepam, warfarin and phenytoin, drugs that
are metabolized by oxidation in the liver. There have been reports of increased INR and prothrombin time in patients receiving proton pump inhibitors, including omeprazole, and warfarin concomitantly. Increases in INR and prothrombin time may lead to abnormal bleeding and even death. Patients treated with proton pump inhibitors and warfarin may need to be monitored for increases in INR and prothrombin time.
Although in normal subjects no interaction with theophylline or propranolol was found, there have been clinical reports of interaction with other drugs metabolized via the cytochrome P450 system (e.g., cyclosporine, disulfiram, benzodiazepines). Patients should be monitored to determine if it is necessary to adjust the dosage of these drugs when taken concomitantly with omeprazole capsule.
Concomitant administration of omeprazole and voriconazole (a combined inhibitor of CYP2C19 and CYP3A4) resulted in more than doubling of the omeprazole exposure. Dose adjustment of omeprazole is not normally required. However, in patients with Zollinger-Ellison syndrome, who may require higher doses up to 240 mg/day, dose adjustment may be considered. When voriconazole (400 mg Q12h x 1 day, then 200 mg x 6 days) was given with omeprazole (40 mg once daily x 7 days) to healthy subjects, it significantly increased the steady-state Cmax and AUC0-24 of omeprazole, an average of 2 times (90% CI: 1.8, 2.6) and 4 times (90% CI: 3.3, 4.4) respectively as compared to when omeprazole was given without voriconazole.
Omeprazole acts as an inhibitor of CYP 2C19. Omeprazole, given in doses of 40 mg daily for one week to 20 healthy subjects in crossover study, increased Cmax and AUC of cilostazol by 18% and 26% respectively. Cmax and AUC of one of its active metabolites, 3,4dihydro-cilostazol, which has 4-7 times the activity of cilostazol, were increased by 29% and 69% respectively. Co-administration of cilostazol with omeprazole is expected to increase concentrations of cilostazol and its above mentioned active metabolite. Therefore a dose reduction of cilostazol from 100 mg b.i.d. to 50 mg b.i.d. should be considered.
clopidogrel
Omeprazole is an inhibitor of CYP2C19 enzyme. Clopidogrel is metabolized to its active metabolite in part by CYP2C19. Concomitant use of omeprazole 80 mg results in reduced plasma concentrations of the active metabolite of clopidogrel and a reduction in platelet inhibition.
Tacrolimus
Concomitant administration of omeprazole and tacrolimus may increase the serum levels of tacrolimus.

[Precautions]
Before giving Omeprazole or other proton pomp inhibitors to patients with gastric ulcers the possibility of malignancy should be excluded since these drugs may mask symptoms and delay diagnosis
This Drug contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactose deficiency or glucose –galactose malabsorption should not take this medicine
Concomitant Gastric Malignancy : Symptomatic response to therapy with omeprazole does not preclude the presence of gastric malignancy.
Atrophic Gastritis : Atrophic gastritis has been noted occasionally in gastric corpus biopsies from patients treated long-term with omeprazole.
Bone Fracture : Several published observational studies suggest that proton pump inhibitor (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). Patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated. Patients at risk for osteoporosis-related fractures should be managed according to established treatment guidelines.
Diminished Anti-platelet Activity of clopidogrel due to Impaired CYP2C19 Function by Omeprazole : Clopidogrel is a prodrug. Inhibition of platelet aggregation by clopidogrel is entirely due to an active metabolite. The metabolism of clopidogrel to its active metabolite can be impaired by use with concomitant medications, such as omeprazole, that interfere with CYP2C19 activity. Avoid concomitant use of clopidogrel and omeprazole. Co-administration of clopidogrel with 80 mg omeprazole, a proton pump inhibitor that is an inhibitor of CYP2C19, reduces the pharmacological activity of clopidogrel if given concomitantly or if given 12 hours apart.
Combination Use of omeprazole capsule with Amoxicillin : Serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported in patients on penicillin therapy. These reactions are more likely to occur in individuals with a history of penicillin hypersensitivity and/or a history of sensitivity to multiple allergens. Before initiating therapy with amoxicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins or other allergens. If an allergic reaction occurs, amoxicillin should be discontinued and appropriate therapy instituted. Serious anaphylactic reactions require immediate emergency treatment with epinephrine. Oxygen, intravenous steroids and airway management, including intubation, should also be administered as indicated.
Pseudomembranous colitis has been reported with nearly all antibacterial agents and may range in severity from mild to life-threatening. Therefore, it is important to consider this diagnosis in patients who present with diarrhea subsequent to the administration of antibacterial agents.
Treatment with antibacterial agents alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by Clostridium difficile is a primary cause of "antibiotic-associated colitis."
After the diagnosis of pseudomembranous colitis has been established, therapeutic measures should be initiated. Mild cases of pseudomembranous colitis usually respond to discontinuation of the drug alone. In moderate to severe cases, consideration should be given to management with fluids and electrolytes, protein supplementation, and treatment with an antibacterial drug clinically effective against Clostridium difficile colitis.
Combination Use of omeprazole capsule with Clarithromycin : Clarithromycin should not be used in pregnant women except in clinical circumstances where no alternative therapy is appropriate. If pregnancy occurs while taking clarithromycin, the patient should be apprised of the potential hazard to the fetus. Co-administration of omeprazole and clarithromycin has resulted in increases in plasma levels of omeprazole, clarithromycin, and 14hydroxy-clarithromycin. Concomitant administration of clarithromycin with cisapride or pimozide, is contraindicated.
Pregnancy
Pregnancy Category C : Reproductive studies in rats and rabbits with omeprazole and multiple cohort studies in pregnant women with omeprazole use during the first trimester do not show an increased risk of congenital anomalies or adverse pregnancy outcomes. There are no adequate and well-controlled studies on the use of omeprazole in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed. The vast majority of reported experience with omeprazole during human pregnancy is first trimester exposure and the duration of use is rarely specified, e.g., intermittent vs. chronic. An expert review of published data on experiences with omeprazole use during pregnancy by TERIS – the Teratogen Information System – concluded that therapeutic doses during pregnancy are unlikely to pose a substantial teratogenic risk (the quantity and quality of data were assessed as fair).
Nursing Mothers : Omeprazole concentrations have been measured in breast milk of a woman following oral administration of 20 mg. The peak concentration of omeprazole in breast milk was less than 7% of the peak serum concentration. This concentration would correspond to 0.004 mg of omeprazole in 200 mL of milk. Because omeprazole is excreted in human milk, because of the potential for serious adverse reactions in nursing infants from omeprazole, and because of the potential for tumorigenicity shown for omeprazole in rat carcinogenicity studies, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.
Pediatric Use : Use of Omerpazole capsule in pediatric and adolescent patients 1 to 16 years of age for the treatment of GERD is supported by a) extrapolation of results, already included in the currently approved labeling, from adequate and well-controlled studies that supported the approval of Omerpazole capsule for adults, and b) safety and pharmacokinetic studies performed in pediatric and adolescent patients. The safety and effectiveness of Omerpazole capsule for the treatment of GERD in patients < 1 year of age have not been established. The safety and effectiveness of Omerpazole capsule for other pediatric uses have not been established.
Geriatric Use : Omeprazole was administered to over 2000 elderly individuals (≥ 65 years of age) in clinical trials in the U.S. and Europe. There were no differences in safety and effectiveness between the elderly and younger subjects. Other reported clinical experience has not identified differences in response between the elderly and younger subjects, but greater sensitivity of some older individuals cannot be ruled out.
Pharmacokinetic studies have shown the elimination rate was somewhat decreased in the elderly and bioavailability was increased. The plasma clearance of omeprazole was 250 mL/min (about half that of young volunteers) and its plasma half-life averaged one hour, about twice that of young healthy volunteers. However, no dosage adjustment is necessary in the elderly.
Hepatic Impairment : Consider dose reduction, particularly for maintenance of healing of erosive esophagitis.
Renal Impairment : No dosage reduction is necessary.
Asian Population : Consider dose reduction, particularly for maintenance of healing of erosive esophagitis.

[Overdose]
Reports have been received of overdosage with omeprazole in humans. Doses ranged up to 2400 mg (120 times the usual recommended clinical dose). Manifestations were variable, but included confusion, drowsiness, blurred vision, tachycardia, nausea, vomiting, diaphoresis, flushing, headache, dry mouth, and other adverse reactions similar to those seen in normal clinical experience. Symptoms were transient, and no serious clinical outcome has been reported when Omerpazole capsule was taken alone. No specific antidote for omeprazole overdosage is known. Omeprazole is extensively protein bound and is, therefore, not readily dialyzable. In the event of overdosage, treatment should be symptomatic and supportive.
Single oral doses of omeprazole at 1350, 1339, and 1200 mg/kg were lethal to mice, rats, and dogs, respectively. Animals given these doses 16 showed sedation, ptosis, tremors, convulsions, and decreased activity, body temperature, and respiratory rate and increased depth of respiration.

[Contraindications]
Omerpazole capsule Delayed-Release Capsules are contraindicated in patients with known hypersensitivity to substituted benzimidazoles or to any component of the formulation. Hypersensitivity reactions may include anaphylaxis, anaphylactic shock, angioedema, bronchospasm, interstitial nephritis, and urticaria. Omeprazole like other proton pomp inhibitors(PPIs) must not be used concomitantly with" nelfinavir.

[Storage]
Store in air-tight container, below 30°C.

[Shelf Life]
3 years

[Package]
10 capsules x 3 blisters / box, 10 capsules x 10 blisters / box

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