Lansoprazole
An Update of its Pharmacological Properties and Clinical Efficacy in the Management of Acid-Related Disorders

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Lansoprazole is a proton pump inhibitor that reduces gastric acid secretion. It has proved effective in combination regimens for the eradication of Helicobacter pylori and as monotherapy to heal and relieve symptoms of gastric or duodenal ulcers and gastro-oesophageal reflux. After initial healing, it may be used to prevent recurrence of oesophageal erosions or peptic ulcers in patients in whom H. pylori is not the major cause of ulceration and to reduce basal acid output in patients with Zollinger-Ellison syndrome. Usual dosages are 15 to 60 mg/day, although dosages of ≤180 mg/day have been used in patients with hypersecretory states.

In patients with duodenal or gastric ulcer, short term lansoprazole monotherapy was similar to omeprazole and superior to histamine H₂ receptor antagonists in achieving healing rates >90%. Lansoprazole was as effective a component of H. pylori eradication regimens as omeprazole, tripotassium dicitrato bismuthate (colloidal bismuth subcitrate) or ranitidine.

Lansoprazole was superior to ranitidine in symptom relief and healing of gastro-oesophageal reflux disease and tended to relieve symptoms more rapidly than omeprazole, although initial healing was similar. As maintenance treatment, lansoprazole was similar to omeprazole and superior to ranitidine in relieving symptoms and preventing relapse. Lansoprazole was also superior to ranitidine in healing and relieving symptoms of oesophageal erosions associated with Barrett's oesophagus; healing was maintained for a mean of 2.9 years in ≥70% of patients. Lansoprazole was also superior to ranitidine in prophylaxis of redilation of oesophageal strictures.

After ≥4 years of use in patients with Zollinger-Ellison syndrome, lansoprazole 60 to 180 mg/day effectively controlled basal acid output. Dosages may be reduced in some patients once healing and symptom relief has been achieved. Preliminary studies of lansoprazole in patients at risk of aspiration pneumonia or stress ulcers show promise. Although studies show lansoprazole is potentially effective in treating gastrointestinal bleeding, future studies should assess patients' H. pylori status.

Lansoprazole has been well tolerated in clinical trials, with headache, diarrhoea, dizziness and nausea appearing to be the most common adverse effects. Tolerability of lansoprazole does not deteriorate with age and the drug is well tolerated in long term use (≤4 years) in patients with Zollinger-Ellison syndrome or reflux disease.

Thus, lansoprazole is an important alternative to omeprazole and H₂ receptor antagonists in acid-related disorders. In addition to its efficacy in healing or maintenance treatment, it may provide more effective symptom relief than other comparator agents.

Lansoprazole provides dose-related inhibition of gastric acid secretion via inhibition of H⁺/K⁺-adenosine triphosphatase in gastric parietal cells, with doses of 30 to 60 mg producing similar acid suppression to omeprazole 40 mg. Mean 24-hour gastric pH levels are higher when lansoprazole is given in 2 divided doses rather than 1 dose daily. Lansoprazole is 2 to 8 times more potent than omeprazole in inhibitory effects on H. pylori in vitro and is associated with dose-dependent killing of the bacterium.

Orally administered lansoprazole is well absorbed, with peak plasma concentrations (C_max) linear over the dose range from 15 to 60 mg. Sucralfate does reduce