Ranitidine and Side Effects

Pages with reference to book, From 80 To 80

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Ranitidine (Zantac-Glaxo) is another H_2 receptor antagonist, for treatment of duodenal ulcer and the Zollinger-Ellison syndrome. The only original previously available histamine H_2receptor antagonist is cimetidine (Tagamet-Smithkline), extensively used worldwide in the treatment of peptic ulcer disease. Ranitidme contains a furan ring instead of the imidazole ring of cimetidine.

Ranitidine inhibits secretion of gastric acid stimulated not only by histamine but also by insulin, pentagastrin, food or a physiological vagal reflux. It has about 4-5 times greater antisecretory effect than cimetidine on molar basis. This difference in molar potency of the antisecrctory effect has not been reflected in increased therapeutic effects.

Ranitidine is similar to cimetidine in pharmacokinetics. Oral doses are well absorbed. Peak plasma concentrations are achieved two to three hour after oral administration. The drug is partly metabolized in the liver and is excreted in the urine mostly in an unchanged form. Bioavailability is about 50%, probably due to first-pass metabolism. The elimination half-life is about three hours (Martin, 1982).

Many double blind control trials have shown that Ranitidine 150 mg twice daily is about as effective as Cimetidine 400 mg BID or 1 G given in divided doses in healing duodenal ulcers. In most studies both the diagnosis and therapeutic effects were confirmed by endoscopy. Studies comparing Ranitidine and Cimetidine found healing rates between 60 to 80% after weeks treatment with either drug (Brogden, 1982). In one larger multi-centre study, endoscopic healing rates of 74% with Ranitidine were identical to the healing rates of 72% with Cimetidine (Zeitoun and D'd'Azemar, 1982).

One report suggests that taking one 150 mg tablet of Ranitidine at night is as effective as taking 400 mg of Cimetidine in preventing recurrence of duodenal ulcer; among 61 patients followed with;endoscopy for one year, the recurrence rate was about 25% with either drug (Hunt, 1981). Ranitidine also appears to be comparable to Cimetidine in effectiveness for treatment of gastric ulcers and the Zollinger-Ellison syndrome (Wright, 1982).

Experience with Ranitidine is still limited. Some adverse reactions have been recently reported with this new drug and have appeared in the International medical journals. It can stimula te prolactin secretion when given intravenously (Delitala,1981), and serum prolactin was increased in one patient taking oral Ranitidine (Lombardo 1982). After eight days of 150 mg daily of Ranitidine, one man developed unilateral gynecomastia, which disappeared when the drug was stopped and recurred three weeks after treatment was started again (Tosi and Canoli, 1982).

Bradycardia has been reported, recurring in one patient after administration of the drug (Shah, 1982). Transient increase in serum concentrations of creatininc have occurred (Barbier, 1979). In one study, the white blood cell count fell slightly in 11 of 12 patients one week after a single low oral dose of Ranitidine (Lebert, 1981). Skin rash, headache, diarrhea, dyspepsia, impotence, loss of libido, dizziness and mental confusion have also been reported in patients taking Ranitidine.

Transient anicteric hepatitis in one patient resolved even though the drug was continued (Barr, 1981). Ocular pain, blurred vision and increased intraocular pressure occurred in one patient with chronic glaucoma treated with Cimetidine; symptoms and increased intraocular pressure recurred one year later when 150 mg bid of Ranitidine was given (Dobrilla, 1982).

Ranitidine has been reported as not decreasing the hepatic metabolism of various drug that can accumulate in toxic amounts. In one study, however, Ranitidine produced dose-dependent inhibition of acetaminophen metabolism in vitro (Mitchel, 1981), in another Ranitidine slightly decreased antipyrine and thephylline clearance in volunteers (Breen, 1982).

Decreased clearance of warfarin, which occurs with Cimetidine has also been reported with Ranitidine (Desmond, 1982). It has also been reported to decrease hepatic blood flow (Grag, 1982).
The introduction of a second H_2 receptor antagonist in the field of gastroenterology is a positive progress in the treatment of Peptic Ulcer Disease.

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