

Ranitidine

Updated February 2017

Ranitidine is an antacid in the same family as cimetidine and famotidine. The most common trade name is Zantac.

Mechanism of Action/Pharmacokinetics

Ranitidine is a histamine blocker that acts as competitive inhibitor of the H₂ receptor in the parietal cells in the stomach. As with all H₂ blockers, ranitidine reduces the amount of hydrogen ion and pepsin in gastric secretions. Ranitidine is considered a more potent antacid than cimetidine, but it is less potent than famotidine. Ranitidine may also increase gastrointestinal motility and lower esophageal sphincter tone by inhibiting anticholinesterase activity in the intestinal smooth muscle. Bioavailability of oral ranitidine is lower than cimetidine but higher than famotidine. Absorption is not impaired by food in the stomach. Ranitidine is metabolized by the liver and excreted in the urine.

Indications

- Treatment or prevention of gastritis, gastroesophageal reflux, esophagitis, and other similar diseases
- Prokinetic properties of ranitidine may help with treatment of regurgitation and ileus post-operatively

Dosing Suggestions/Guidelines:

- All dosing for ranitidine in veterinary species is considered Off-Label
- 2 mg/kg PO q8-12 hours; prokinetic effects may only be seen at higher dose (Whitehead 2016)

Adverse effects and Contraindications

- Few side effects have been reported in animals
- Rebound hypersecretion of gastric acid after stopping ranitidine can be minimized by tapering the drug course over 3 days.

Dosage Forms

Ranitidine is available in several forms.

1. Ethos East pharmacy stock: 75mg generic tablets
2. IVG Compounding pharmacy: available for suspension formulation
3. Over-the-counter: 75mg, 150mg, and 300mg tablets
4. Prescription: 15mg/mL liquid (usually mint flavored)
5. Injectable: Currently on the drug-shortage list. Will not be stocked at Ethos East hospitals.

References:

1. Whitehead K, Cortes Y and Eirmann L. Gastrointestinal dysmotility disorders in critically ill dogs and cats. J Vet Emer Crit Care 2016; 26(2): 234–253.
2. Boothe DM. Small Animal Clinical Pharmacology and Therapeutics. 2nd ed. Chapter 19 – Gastrointestinal pharmacology. Elsevier 2012.

