RANITIDINE

Class: Histamine H_2 Antagonist

Indications:

Zantac®: Short-term and maintenance therapy of duodenal ulcer, gastric ulcer, gastroesophageal reflux disease (GERD), active benign ulcer, erosive esophagitis, and pathological hypersecretory conditions; as part of a multidrug regimen for *H. pylori* eradication to reduce the risk of duodenal ulcer recurrence

Zantac 75® [OTC]: Relief of heartburn, acid indigestion, and sour stomach

Available dosage form in the hospital:

RANITIDINE 150MG TAB, RANITIDINE 300MG TAB, RANITIDINE 50MG/2ML AMP, RANITIDINE 75MG/5ML SYRUP

Dosage:

-Duodenal ulcer: Oral: Treatment: 150 mg twice daily, or 300 mg once daily after the evening meal or at bedtime; maintenance: 150 mg once daily at bedtime

-Eradication of *Helicobacter pylori*: Oral: 150 mg twice daily; requires combination therapy

-Pathological hypersecretory conditions:

-*Oral:* 150 mg twice daily; adjust dose or frequency as clinically indicated; doses of up to 6 g/day have been used

-*I.V.*: Continuous infusion for Zollinger-Ellison: Initial: 1 mg/kg/hour; measure gastric acid output at 4 hours, if >10 mEq or if patient is symptomatic, increase dose in increments of 0.5 mg/kg/hour; doses of up to 2.5 mg/kg/hour (or 220 mg/hour) have been used

-Gastric ulcer, benign: *Oral:* 150 mg twice daily; maintenance: 150 mg once daily at bedtime

-GERD: *Oral:* 150 mg twice daily

-Erosive esophagitis: *Oral:* Treatment: 150 mg 4 times/day; maintenance: 150 mg twice daily

-Prevention of heartburn: *Oral:* Zantac 75® [OTC]: 75 mg 30-60 minutes before eating food or drinking beverages which cause heartburn; maximum: 150 mg in 24 hours; do not use for more than 14 days

-Stress ulcer prophylaxis, ICU patients (unlabeled use; ASHP, 1999): Note: Intended for patients with associated risk factors (eg, coagulopathy, mechanical ventilation for >48 hours, severe sepsis); discontinue use once risk factors have resolved. The Surviving Sepsis Campaign guidelines suggest the use of proton pump inhibitors rather than H_2 antagonist therapy (Dellinger, 2013).

-*Oral, nasogastric (NG) tube:* 150 mg twice daily; may administer a 300 mg loading dose prior to maintenance dosing (Pemberton, 1993)

-*I.V.:* Intermittent bolus: 50 mg every 6-8 hours hours (Cook, 1998; Geus 1993)

-Patients not able to take oral medication:

-*I.M.:* 50 mg every 6-8 hours
-*I.V.:* Intermittent bolus or infusion: 50 mg every 6-8 hours
-*Continuous I.V. infusion:* 6.25 mg/hour

Renal Impairment:

-Cl_{cr} <50 mL/minute:
-Oral: 150 mg every 24 hours; adjust dose cautiously if needed
-I.V.: 50 mg every 18-24 hours; adjust dose cautiously if needed
-Hemodialysis: Adjust dosing schedule so that dose coincides with the end of hemodialysis.
-Stress ulcer prophylaxis (ASHP, 1999): Cl_{cr} <50 mL/minute:
-Oral, nasogastric (NG) tube: 150 mg 1-2 times daily
-I.V.: Intermittent bolus: 50 mg every 12-24 hours

Hepatic Impairment:

Patients with hepatic impairment may have minor changes in ranitidine half-life, distribution, clearance, and bioavailability; dosing adjustments are not necessary; monitor patient.

Common side effect: Frequency not defined.

Cardiovascular: Asystole, atrioventricular block, bradycardia (with rapid I.V. administration), premature ventricular beats, tachycardia, vasculitis
Central nervous system: Agitation, dizziness, depression, hallucinations, headache, insomnia, malaise, mental confusion, somnolence, vertigo
Dermatologic: Alopecia, erythema multiforme, rash
Endocrine & metabolic: Prolactin levels increased
Gastrointestinal: Abdominal discomfort/pain, constipation, diarrhea, nausea, necrotizing enterocolitis (VLBW neonates; Guillet, 2006), pancreatitis, vomiting
Hematologic: Acquired immune hemolytic anemia, acute porphyritic attack, agranulocytosis, aplastic anemia, granulocytopenia, leukopenia, pancytopenia, thrombocytopenia
Hepatic: Cholestatic hepatitis, hepatic failure, hepatitis, jaundice
Local: Transient pain, burning or itching at the injection site
Neuromuscular & skeletal: Arthralgia, involuntary motor disturbance, myalgia
Ocular: Blurred vision
Renal: Acute interstitial nephritis, serum creatinine increased
Respiratory: Pneumonia (causal relationship not established)
Miscellaneous: Anaphylaxis, angioneurotic edema, hypersensitivity reactions (eg, bronchospasm, fever, eosinophilia)

Pregnancy Risk Factor: B