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<th>TITLE: Stress Ulcer Prophylaxis for Hematopoietic Stem Cell Transplant Patients</th>
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HSCT Program Director

Reviewed: _______________________________ Date: _______________

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I. Purpose: Establish guidelines for appropriate interventions to prevent stress ulcer in patients undergoing Hematopoietic Stem Cell Transplantation and to prevent complications associated with stress ulcer prophylaxis.

II. Principle: Use of medications to prevent stress ulcer in Hematopoietic Stem Cell Transplant patients may be appropriate since high dose chemoradiation places the patients at high risk for disruption of gastrointestinal mucosal integrity; however, agents utilized and treatment duration should be limited. Proton Pump Inhibitors (PPIs) such as lansoprazole, omeprazole and rabeprazole should be restricted to patients most in need of potent antisecretory therapy. Use of PPIs in the transplant patient may be harmful. Potent inhibition of hydrochloric acid secretion removes the acid barrier to microbial colonization of the upper gut. This may lead to bacterial and fungal colonization of the upper gut and increased nosocomial infections of the upper airway and intestines. Bone marrow transplant recipients are high risk for stress ulcers due to coagulopathy, infection, sepsis and high dose corticosteroid use.

III. Scope: All patients undergoing Hematopoietic Stem Cell Transplant

IV. Policy:

1. H₂ blockers (ranitidine) will be routinely given to transplant patients on admission. The oral dose of ranitidine for adults is 150 mg PO q day. This may be increased to 150 mg PO BID when necessary for symptom management. For those unable to tolerate PO meds, the IV dose is 50 mg IV every 8 hours. Pediatric patients will be given ranitidine 2mg/kg PO BID (max. 150mg dose). If the patient was on a PPI prior to admission, the patient will be prescribed pantoprazole 1mg/kg PO once daily (max 40 mg dose). If the pediatric patient is unable to take PO medications, the IV doses are as follows: Ranitidine 1 mg/kg IV q 8 hours (max 50 mg dose) and pantoprazole 1mg/kg IV once daily (max 40 mg dose).

2. H₂ blockers (ranitidine) may need to be adjusted for creatinine clearance less than 50ml/min.

3. H₂ blockers may be added to Total Nutrient Admixtures (TNA) rather than being dosed separately.

4. Cimetidine will not be used in hematopoietic stem cell transplant patients due to bone marrow suppressive effects.

5. Appropriate indications for PPIs include: persistent peptic esophagitis, peptic ulcers and persistent hypersecretory symptoms unrelieved with ranitidine.

6. Inappropriate indications for PPIs include: episodic heartburn, nausea, vomiting and gastrointestinal bleeding of uncertain etiology.
7. Medications to avoid while using PPIs include $H_2$ receptor antagonists, sucralfate, and high doses of antacids.

8. PPIs may have significant drug interactions with other medications commonly used in the HSCT patient populations. For example, posaconazole levels are reduced when given concurrently with PPIs. Pharmacy may be consulted with questions about possible drug interactions. Significant drug interactions are routinely monitored by the unit pharmacist during inpatient admission.

9. If patients were not on H-2 blockers or PPI’s prior to admission to the HSCT service, these medications should be reviewed for necessity during the outpatient clinic visit following discharge from the inpatient service. Patients on chronic corticosteroid for treatment of GVHD are appropriate for continuation of stress ulcer prophylaxis therapy.

References:

Clinics in Chest Medicine, GI Problems in Chronically Critically Ill Patients, March 2001 22 (1) 135-147

Critical Care Medicine Pharmacology of Acid Suppression in the Hospital Setting: Focus on Proton Pump Inhibition, Vol 30, Number 6, June 2002.


