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Ministry of Health

STRESS ULCER PROPHYLAXIS (SUP) PROTOCOL

FOR ICU AND NON-ICU

ADULT PATIENTS

November 2021 | Version 1

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Introduction

Primary prevention of GI bleeding from stress ulcers is known as stress ulcer prophylaxis (SUP). The administration of stress ulcer prophylaxis (SUP) among adult hospitalized patients is a debate. Unfortunately, in most hospitals, every patient admitted is treated with a prophylactic agent (proton pump inhibitors or Histamine-2 receptor antagonist). This practice associated with increases in rates of Clostridium difficile colitis infections and nosocomial pneumonia. In a strictly medical ICU population, PPIs were independently associated with an increased risk of C. difficile infections. It was estimated that daily PPI use in the inpatient setting resulted in a greater than 70% increase in the odds of developing C. difficile colitis [(12)]. Acid suppressing therapy has also been associated with a greater risk of developing both community and nosocomial pneumonias. [(13)] Data and guidelines now support SUP in selected patients, in particular, patients assessed to be at high risk of bleeding.

Purpose:

Internal medicine clinical pharmacists team -General Administration of Pharmaceutical Care- in collaboration with (Intensivist & Gastrologist) physician developed this Protocol to guide the practitioners for appropriate using of SUP medications.

Aim and scope:

To ensure safe evidence based utilization of stress ulcer prophylaxis to prevent upper gastrointestinal bleeding while minimizing the adverse effects of acid suppressive therapy through a standardized pharmacy driven clinical practice guideline that will evaluate and discontinue inappropriate acid suppression therapy in the ICU environment.

Targeted population:

Inpatient setting (Excluded population: pediatric and Patient on treatment (e.g: Peptic Ulcer, Gastroesophageal Reflux Disease. etc) who need Acid suppressing therapy do not fall under the scope of this guideline.

Targeted end users:

When scheduled acid suppression therapy is prescribed for stress ulcer prophylaxis and the patient does not meet the accepted criteria for use, the clinical pharmacist/pharmacist will discontinue the drug and send the ordering practitioner a text page identifying discontinuation based on clinical practice guidelines.

Setup:

Hospitalized adult patients

Methodology:

The development of Stress Ulcer Prophylaxis (SUP) Protocol is initiated by internal medicine clinical pharmacists as a response to the most clinical pharmacist interventions reported in 2019. the team reviewed and adopted the international guidelines, literature review (1-13) and the MOH formulary to create this protocol. Then the consultant's experts in the field (gastroenterology and intensivist) reviewed it.

Conflict of interest:

This guideline developed based on valid scientific evidence, critical assessment of that evidence, and objective clinical judgment that relates the evidence to the needs of practitioners and patients. No financial relationships with pharmaceutical, medical device, and biotechnology companies.

Funding:

No fund was provided.

Updating:

First version of this guideline created in 2020. The guideline will be updated annually if any changes or updates released by international/national guidelines, pharmacotherapy references or MOH formulary.

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Stress Ulcer Prophylaxis (SUP)

For ICU and non- ICU adult patients

Patient information

Indication of stress ulcer prophylaxis (SUP)

Major criteria: [1,2,3]

- ☐ Patients on mechanical ventilation for greater than 48 hours.
- ☐ Coagulopathy: platelet count <50,000 mm3, INR >1.5, or PTT >2× control value. Note: prophylactic or treatment doses of anticoagulants do not constitute coagulopathy.
- ☐ Chronic liver disease (Portal hypertension, Cirrhosis proven by biopsy, computed tomography scan, or ultrasound, History of variceal bleeding, History of hepatic encephalopathy).
- ☐ History of GI ulceration or GI bleeding within the past year[2].
- ☐ Traumatic brain injury, traumatic spinal cord injury[2].
- ☐ Burns of more than 35% of body surface area[2].
- ☐ DAPT (i.e. clopidogrel, aspirin, ticagrelor) in patients with increased risk of gastrointestinal bleeding (advanced age, concomitant use of warfarin, steroids, or non-steroidal anti-inflammatory drugs)[4].
- ☐ Concomitant use of medications that are known to increase the risk of gastrointestinal bleeding/dyspepsia (e.g. anticoagulants, aspirin, NSAIDs, corticosteroids, antidepressants (selective serotonin reuptake inhibitors, venlafaxine or duloxetine))[4].
- ☐ Patient on NSAIDs (including aspirin) or corticosteroids alone who have ≥ one of the following[4]:

o Aged 65 years or older. o History of gastroduodenal ulcer, GI bleeding, or gastroduodenal perforation. o Using maximum recommended NSAID dose (e.g. ibuprofen >1200 mg/day, naproxen >1000 mg/day, all scheduled ketorolac regimens).	o Prolonged NSAIDs (Rheumatoid arthritis or osteoarthritis) o Using high dose steroids with a daily dose greater than: • 250 mg of hydrocortisone • 50 mg of methylprednisolone • 60 mg of prednisone • 10 mg of dexamethasone

☐ **Two or more of the following (Minor criteria):** [2]

o Cancer	o Sepsis
o Partial hepatectomy	o Shock
o History of GI bleeding	o Occult GI bleeding for six or more days
o Acute kidney injury	o Intensive care unit stay >1 week
o Acute hepatic failure (coagulopathy)	o Multiple trauma injury severity score ≥16

Stress Ulcer Prophylaxis Medications

Proton pump inhibitors (PPI):

o Esomeprazole ☐ 20 mg ☐ 40mg orally

o Omeprazole ☐ 20 mg ☐ 40mg orally/ IV* daily.

No adjustment needed for renal or liver dysfunction.

Histamine-2 receptor antagonist

o If CrCl ≥ 50 ml/min:

☐ Ranitidine: 150 mg Twice daily orally

☐ Ranitidine: 50 mg every 6 – 8 hours IV

o If CrCl < 50 ml/min:

☐ Ranitidine: 150 mg once daily orally

☐ Ranitidine: 50 mg q 18 – 24 hours IV

***Oral rout is preferred except in case Nothing by mouth (NPO), Nasogastric tube (NGT), nausea or vomiting**

Duration of Prophylaxis

Patients should be evaluated for the need of SUP:

On a change patient's condition.	Upon discharge from the hospital.	Upon transfer to a different level of care.	When tolerating enteral feeding

- Stress ulcer prophylaxis may be discontinued once the original stressors are removed.

***Note: Please consult the gastroenterologist for patient who undergoes to a procedure that might need stress ulcer prophylaxis**

Pharmacist recommendation □ No indication, discontinue □ Indicated, Initiate

Physician acceptance □ Yes □ No

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