Audit: Use of stress ulcer prophylaxis in critically ill patients

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Stress ulcer prophylaxis is prescribed routinely for patients in ICU

- Risk vs benefits
  - Incidence of GI bleed is low
  - Increased risk of hospital acquired pneumonia
  - Associated with increased mortality

- Beneficial if at high risk of GI bleed: ventilated, coagulopathy, trauma, burns and past upper GI bleed/ulcer
AIM

- Evaluate if stress ulcer prophylaxis is prescribed appropriately based on patients risk factors
- Whether appropriate drug and route is prescribed
  - Enteral vs parenteral
• Stress ulcer prophylaxis should be used judiciously, and only in patients considered to be at high risk of upper gastrointestinal (GI) bleeding. Risk Factors are:

I. Coagulopathy, defined as a platelet count <50,000, (INR) >1.5, or (PTT) >2 times the control value
II. Mechanical ventilation for >48 hours
III. History of GI ulceration or bleeding within the past year
IV. Traumatic brain injury, traumatic spinal cord injury, or burn injury
V. Two or more of the following minor criteria: Sepsis, ICU stay more than one week, occult GI bleeding for six or more days, or glucocorticoid therapy (more than 250 mg hydrocortisone)
• Patients who can receive enteral medications and in whom stress ulcer prophylaxis is indicated, use oral PPI rather than an alternative prophylactic agent

• Patients who cannot receive enteral medications and in whom stress ulcer prophylaxis is indicated, intravenous H2 blocker or an intravenous proton pump inhibitor is recommended

• Patients without any of the above risk factors and absorbing NG feed, stress ulcer prophylaxis is not recommended routinely
METHODOLOGY

• Data collected from patients notes and prescription charts over December 2017
• Assessed if guidelines were met during ulcer prophylaxis prescription using audit questionnaire
• A total of 43 patients included
WHH ITU - Ulcer Prophylaxis Audit

1) Does the patient require ulcer prophylaxis?

**ANY ONE OF THE FOLLOWING MAJOR CRITERIA:**
- Coagulopathy (platelet <50,000, INR >1.5, PTT >2 times control value)
- Mechanical ventilation for >48 hours
- History of GI bleeding/ulceration in past year
- Traumatic brain/spinal cord injury
- Burn injury

**ANY TWO OF THE FOLLOWING MINOR CRITERIA:**
- Septic shock (requiring norepinephrine/renal replacement therapy)
- ICU stay for >1 week
- Occult GI bleeding for >7 days
- Glucocorticoid therapy

2) What is the feeding route?

- [ ] Enteral
- [ ] Parenteral

3) Does the patient have ulcer prophylaxis prescribed?

- [ ] Yes - PPI
  Drug: 
  Dose: 
  Route: 
  Day:
- [ ] Yes - H2 blocker
  Drug:
  Dose:
  Route:
  Day:
- [ ] No

4) Is ulcer prophylaxis being prescribed appropriately?

- [ ] Yes - patient meets criteria, uses enteral route, and is receiving oral PPI
- [ ] Yes - patient meets criteria, uses parenteral route, and is receiving IV H2 blocker/PPI
- [ ] Yes - patient does not meet criteria and is not receiving ulcer prophylaxis
- [ ] No
RESULTS

• 44% met the criteria for ulcer prophylaxis, from that 53% had appropriate route and agent used
• 21% of patients who did not meet the criteria were appropriately not prescribed any ulcer prophylaxis
• Prophylaxis was correctly prescribed in 35% cases
CONCLUSION

• It confirms that many patients admitted to ICU are prescribed ulcer prophylaxis unnecessarily or inappropriately

• Assessments should take place on daily bases
  o Route (PO/I.V) and drug of choice
How can we improve:

Check:
- Ventilation >48hrs
- Coagulopathy
- Previous UGI bleed, trauma, burns
- >2 minor risk factors

Prescribe:
- Lansoprazole 30mg OD PO/NG
- I.V Omeprazole otherwise

Review:
- Stop if fully fed
- Mechanical ventilation is the only risk factor
Use of Stress Ulcer Prophylaxis in Critically Unwell Patients

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Introduction

Stress ulcer prophylaxis was prescribed routinely for all patients admitted to the William Harvey Hospital Intensive Care Unit (ICU) as per the recommendation of routine stress ulcer prophylaxis in the ICU to reduce the incidence of G1 bleeding in these patients. Furthermore, the evidence suggests that this approach may not reduce the incidence of upper GI bleed as a risk factor, and may contribute to an increase risk of hospital-acquired pneumonia and mortality.

Methodology

We conducted this audit to compare the practice in our intensive care unit against the published best practice. Data were collected concurrently from patient notes and prescription charts over December 2017. Patients were assessed firstly on whether they met the widely accepted criteria for prescription of ulcer prophylaxis. Secondly, if they had prophylaxis prescribed, the drug chosen and route were audited. Finally, we concluded whether the prescription overall adhered the guidelines. A total of 43 adult patients, both surgical and medical, were included.

Results

44% of patients audited met the criteria for ulcer prophylaxis. The patients who met the criteria were all prescribed stress ulcer prophylaxis. The choice of agent and route was appropriate in 53%.

21% of patients who did not meet the guidelines were not prescribed prophylaxis.

Overall, prophylaxis was correctly prescribed in 35% of patients.

Discussion

These findings confirm what had been anecdotally suspected prior to commencing the audit. Many patients admitted to the ICU were prescribed ulcer prophylaxis unnecessarily. Many patients are also not being assessed for the appropriateness of prophylaxis prescription on a daily basis. There was little regard for which agent was used, and the route by which it was given.

The current practice needs to change. The balance between benefit and risk of ulcer prophylaxis should be approached pragmatically, with patients being assessed on a case-by-case basis.

We propose use of the following three-step process:

Check

- Ventilation >48hrs
- Coagulopathy
- Previous UGIB, trauma, or burns
- >2 minor risk factors

Prescribe

- Enteral route where possible
- Lansoprazole 30mg OD PO/NG
- IV Omeprazole otherwise

Review

- Stop if:
  - Fully fed
  - Mechanical ventilation is the only risk factor
REFERENCES


THANK YOU