

BACKGROUND

Goal

This study is a retrospective chart review that aims to measure the effect of stress ulcer prophylaxis in hospitalized non-ICU level patients to determine the clinical effect of the presence or absence of stress ulcer prophylaxis.

Definition, Pathogenesis, Incidence of Stress Ulcers

Definition

Superficial ulceration, erosion of gastric mucosa
Most commonly in stomach, but can occur in duodenum or esophagus

Pathogenesis¹⁻³

Acid hyper secretion (especially neurologic and thermal injuries) due to excess gastric stimulation of parietal cells

Also stimulated by stress-triggered vagal stimulation

Pro-inflammatory state causes release of mediators: arachidonic acid metabolites, cytokines, oxygen free radicals

Impaired mucosal protection

Decreased perfusion

Increased concentration of refluxed bills salts and uremic toxins

Synthesis decreased due to poor gut perfusion from shock, sepsis, trauma

Start proximally in the acid-secreting portion of stomach, then progresses: over time, become deeper and move distally

Wedge-shaped mucosal hemorrhages with necrosis of superficial mucosal cells; if progresses to submucosa, can cause significant and life-threatening bleeding

Incidence⁴⁻⁷

Range: 0.005% to 7.85%

*Depending on study, definition of clinically important bleeding, or risk factors present

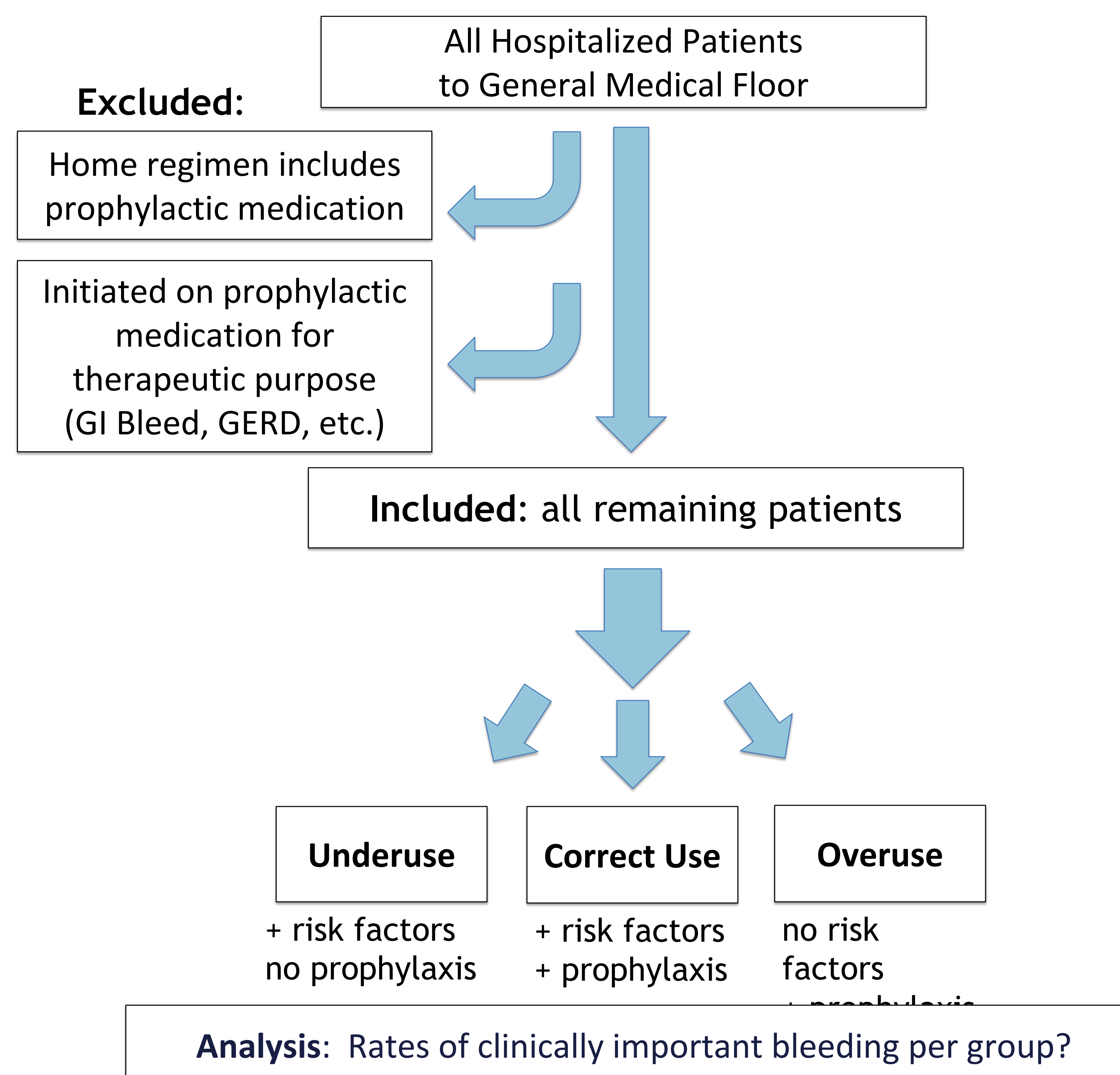
Independent Risk Factors for Stress Ulcer Formation^{1,8}

- Age >60
- Male
- Liver disease
- Acute renal failure (AKI)
- Anticoagulation +/- antiplatelet agent
- NSAID and corticosteroid
- Dual Antiplatelet Therapy (DAPT)
- Sepsis

Definition of Clinically Important Bleeding

- Transfusion
- Endoscopic Evaluation or Intervention
- Perforation or Surgical Intervention
- ICU Upgrade
- Overt GI Bleeding

PROTOCOL



RESULTS: RATES OF BLEEDING

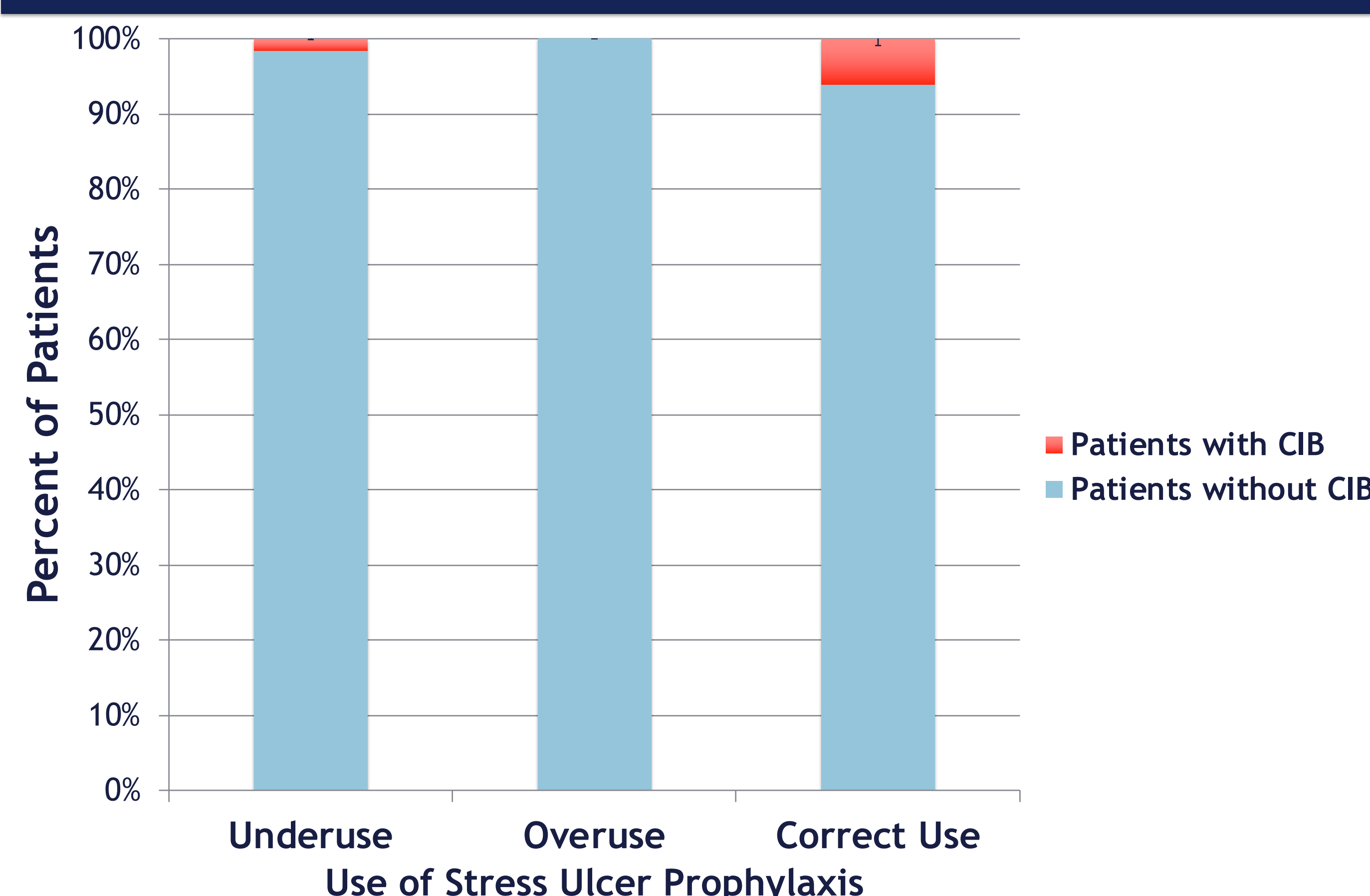


Figure 1. Percent of patients with clinically important bleeding (CIB) based on the use of stress ulcer prophylaxis. Three of 190 patients in the underuse category had clinically important bleeding events. Three of 46 patients with correct use of prophylaxis had events. The result of an ANOVA was $p = 0.156$, conferring no statistical significance.

DISCUSSION

Patients with Clinically Important Bleeding Events

- | | |
|--|---|
| Patient #1 | Patient #4 |
| - Underuse of Prophylaxis | - Correct use of Prophylaxis |
| - Risk factors: male, NSAID and steroid, AKI, sepsis | - Risk factors: age, male, AKI, liver disease |
| - Event: Transfusion, Scope | - Event: Transfusion, ICU Upgrade, Death |
| Patient #2 | Patient #5 |
| - Underuse of Prophylaxis | - Correct use of Prophylaxis |
| - Risk factors: age, male, anticoagulation | - Risk factors: age, male, anticoagulation |
| - Event: Overt GI bleeding | - Event: scope |
| Patient #3 | Patient #6 |
| - Underuse of Prophylaxis | - Correct use of Prophylaxis |
| - Risk factors: age, male, DAPT, AKI | - Risk factors: AKI |
| - Event: Transfusion | - Event: Transfusion |

CONCLUSION

There is no statistically significant difference in clinically important bleeding based on correct or incorrect use of stress ulcer prophylaxis in hospitalized, non-ICU patients. This is consistent with previous literature. Use of stress ulcer prophylaxis on floor patients remains individualized by the clinician, who must give consideration to the specific patient and risk factors present. Further studies are needed to determine if a certain number or combination of risk factors is significant rather than individual risk factors.

REFERENCES

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