

# Quality of Care Assessment in Hospitalized Patients with Upper Gastrointestinal Bleeding

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## Abstract

**Background:** There are established guidelines for the acute management of patients presenting to the hospital with upper gastrointestinal bleeding. Adherence to these guidelines is inconsistent and few studies have addressed this issue.

**Methods:** Data from patients admitted to one single hospital with the principal diagnosis of upper gastrointestinal bleeding during one year period was collected and quality indicators consistent with currently accepted guidelines for management of patients with upper gastrointestinal bleeding were used to assess the quality of care provided.

**Results:** From January 2014 to December 2014, 36 patients were admitted with a diagnosis of upper gastrointestinal bleeding. Results show significant inconsistencies among providers with the 21 point quality indicators used in the study.

**Conclusion:** Major inconsistencies with adherence to guidelines for UGI bleeding were identified in this study. Practice and implementation of established guidelines at the patient level continues to lag behind research and ideal standard of care based on recommendations of expert panels.

**Keywords:** Upper Gastrointestinal Bleeding; Gastrointestinal hemorrhage

## Introduction

Acute upper gastrointestinal bleeding is one of the most common gastrointestinal emergencies and is associated with high health and economic burden. Annual incidence of upper gastrointestinal bleeding is about 0.7-1.5 per 1000 in the general population in the United States [1,2]. Mortality in upper gastrointestinal bleeding continues to remain as high as 5%-10% [3]. Although different societies have established guidelines for acute management of patients presenting with upper gastrointestinal bleeding, adherence to these guidelines vary in practice in different medical centers and within physicians and nurses. Given these inconsistencies among physicians and nurses, a committee of multidisciplinary expert panel established a specific set of quality indicators for nonvariceal upper gastrointestinal hemorrhage. To these quality indicators, we added two more in order to include cirrhotic patients and potential variceal bleeders.

## Methods

During a one year period, data from consecutive patients with upper gastrointestinal bleeding admitted to one single hospital between January 2014 and December 2014 were collected, analyzed and compared. Patients with ICD (International Classification of Diseases) 9 code of 578.0 (hematemesis), 578.1 (melena), and 578.9 (hemorrhage of gastrointestinal tract, unspecified) presenting to the emergency department of a single hospital from 1/2014 to 12/2014 were searched. Thirty six patients met criteria for inclusion. Review of electronic medical records of patients who met the criteria was conducted and 21 point quality indicators consistent with the currently accepted guidelines for management of patients with upper gastrointestinal bleeding were used to assess the quality of care provided.

## Results

From January 2014 to December 2014, 36 patients were admitted with a diagnosis of upper gastrointestinal bleeding. All the patients had a large bore intravenous access established at the emergency department. Twenty two percent of the patients had signs of hypovolemia at rest and intravenous fluids were started on all of them. Orthostatic vital signs were checked in only 28.6% of the remaining patients. Fifty eight percent of patients had no type and cross sent but other laboratory tests (Complete blood count, Chemistry, Prothrombin Time, and Partial thromboplastin Time) were obtained in all. None of the patients had risk stratification done on initial encounter. Nearly forty percent of patients were admitted to the Intensive Care Unit, 25% of patients to a step down unit and 36.6% of patients to the floor. Intravenous proton pump inhibitor was started in 94.4% of patients. Ten patients (27.8%) had a previous diagnosis of cirrhosis. Intravenous antibiotics were started in 60% of patients with cirrhosis. Eight patients were suspected of variceal bleeding, but IV octreotide was started in only 62.5% of these patients. About forty two percent of patients had an esophagogastroduodenoscopy done within 24 hours, 25% within 48 hours, 11% had a recent esophagogastroduodenoscopy done, 8.3% were deferred for an outpatient esophagogastroduodenoscopy, 11% refused esophagogastroduodenoscopy, and one patient left against medical advice. One-fourth of patients needed therapeutics during esophagogastroduodenoscopy and homeostasis was achieved in all. Proton pump inhibitor (PPI) was continued for 48 hours in 83% of patients. Close to seventeen percent of patients had peptic ulcer disease and *H. Pylori* testing was done in all and treated if positive. The average hospital stay was 2.2 days which was equal to the national average.

## Discussion

Guidelines for clinical practice are valuable source for health care

providers as they provide high value interpretation of the best available evidence based medical literature to guide appropriate treatment interventions [4]. Developments of guidelines or clinical care pathways have been shown to improve care for patients presenting with upper gastrointestinal bleeding [5]. In addition, adherence to these guidelines can lead to cost effective and high quality patient care. The practice and implementation of established guidelines at the patient level continues to lag behind research and ideal standard of care based on recommendations of expert panels. While medical knowledge continues to grow and leads to improved evidence based medicine with the development of new guidelines, it might not translate to improved patient outcome if multi-disciplinary healthcare providers such as emergency room physicians, internists, intensivists and subspecialty physicians and nurses are not adherent or adequately trained on providing care consistent with the new guidelines.

This study shows that there are substantive gaps in the implementation of upper gastrointestinal bleeding guidelines which can lead to suboptimal care and adverse consequences. For instance, only 58% of patients had a type and cross sent on initial encounter. This is a major pitfall that can significantly affect the outcome of patients with upper gastrointestinal bleed since some of these patients can acutely and unexpectedly bleed. Delaying the need to transfuse in these patients can significantly increase morbidity and mortality for these patients. Similarly, only 28.6% of patients who were not hypotensive on presentation had their orthostatic vitals checked. In addition, none of the patients had risk stratification done based on Blatchford or pre-endoscopic Rockall score on initial encounter. Risk stratifying patients on initial encounter based on clinical and endoscopic criteria is important as it facilitates triaging patients into low and high risk categories for re-bleeding and mortality.

While this study was conducted in one center, its results follow suit with the findings of a multicenter study that looked into 22 selectively sampled health care professionals actively treating and managing non-variceal upper gastrointestinal bleed (NVUGIB) patients, including emergency room physicians, intensivists, gastroenterologists, and gastroenterology nurses. This study showed similar inconsistencies in the care of patients presenting with upper gastrointestinal bleed [6]. These findings show the importance of providing adequate training and awareness of the current guidelines at all levels of health care providers.

Implementing clinical guidelines into practice has been a challenge facing medical community. Approaches used to disseminate knowledge and increase adherence to guidelines included peer review journals, didactic sessions, seminars, outreach visits and organizational protocols. However, despite these efforts, there continues to be a wide gap between clinical practice guidelines and how physicians actually practice in real life [6]. Factors believed to be contributing to the poor adherence of clinical practice guidelines include healthcare provider's knowledge, behavior, attitudes, organizational and system barriers [7,8]. In order to improve health care provider's ability to embrace and implement evidence based practice guidelines there needs to be a broad thinking to understand methods and strategies that can enhance the dissemination and implementation of information and knowledge. It is very prudent that health care providers maintain a clinical knowledge that is up to bar with their current level of training. Nonetheless, as evident in the literature, there is limited success with only educational conferences and

didactic sessions heavy approach as a tool to change health care provider's clinical practice and increase adherence to clinical practice guidelines [9-11]. Grimshaw et al. [11] suggest behavioral theories for understanding professional behavior change. This might be one of several methods worth exploring as part of multidisciplinary approach to assess health care provider's behavior and attitudes in order to improve quality of care and adherence to clinical practice guidelines at the individual institutional level. This study highlights the continued need to identify and reduce actual and perceived barriers to guideline compliance at the individual institutional level.

## Conclusion

Major inconsistencies with adherence to guidelines for upper gastrointestinal bleeding were identified in this study. Practice and implementation of established guidelines at the patient level continues to lag behind research and ideal standard of care based on recommendations of expert panels.

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