Conservative vs. Aggressive Management for Patients with Stable GI Hemorrhage at Lehigh Valley Hospital–Cedar Crest

Jeremy Li Agostinho MS
USF MCOM - LVHN Campus, jeremy.agostinho@lvhn.org

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Jeremy Li Agostinho
Lehigh Valley Health Network, Allentown, PA

Introduction

When Emergency Physicians evaluate a patient for gastrointestinal hemorrhaging, one of the most important decisions is determining whether their condition warrants admission to the hospital. Patients admitted for inpatient management often times receive an invasive procedure such as upper endoscopy or colonoscopy, which may be an extraneous step in their treatment plan. Discharged patients from the Emergency Department are given a follow-up appointment, and care is performed on an outpatient basis, usually with a gastroenterologist.

Problem Statement

In patients presenting to the ED with stable GI hemorrhaging, are patient outcomes improved with an inpatient hospital admission versus care being performed on an outpatient basis?

Methods

A retrospective chart review was performed to analyze the treatment courses of patients presenting to Cedar Crest Hospital with symptomatic GI hemorrhage. Patients were classified into either outpatient or inpatient management groups. Clinical characteristics and initial care metrics were recorded for both groups. The procedure notes for those patients who underwent endoscopy were evaluated to determine if a therapeutic intervention (clipping, cauterization) was used during the procedure. Patient records were reviewed a 2nd time after 30 days, to assess mortality, re-bleed, and hospital readmission rates.

Results

Of the 39 patients in the study population, the most common reason for seeking medical care was bloody stool. Twenty five patients were admitted to the hospital for management, while the remainder were discharged for follow-up as outpatients. The average age of patients in the outpatient group vs. the inpatient group was 56 and 69 respectively. The average number of chronic co-morbidities for patients managed as outpatients vs. inpatients, was 1.7 and 1.6 respectively. Zero patients met criteria for hypovolemic shock. The average initial hemoglobin of the outpatient group was 12.7, compared to 11.4 of the inpatient group. Four patients in the inpatient group required transfusion of packed RBC's, compared to one in the outpatient group. Of the 25 patients admitted to the hospital, 10 patients underwent either upper endoscopy or colonoscopy, with one patient receiving a therapeutic intervention. None of the patients discharged for outpatient management underwent an invasive procedure.

Chief Complaint

	#
BRBPR	26
Melena	10
Hematemesis	2
Abnormal labs	1

Demographics

	#
Age	64.8
Male	20
Female	19

Etiology of GI Hemorrhage

	#
Unknown	16
Other Lower GI	7
Other Upper GI	5
Internal Hemorrhoids	5
Peptic Ulcer Disease	4
Diverticulosis	1
AV Malformation	1

Hospital Admission Rate

	#
Hospital Admission Rate	64%
Average # of Hospital Days	2.8

Chronic Co-morbidities

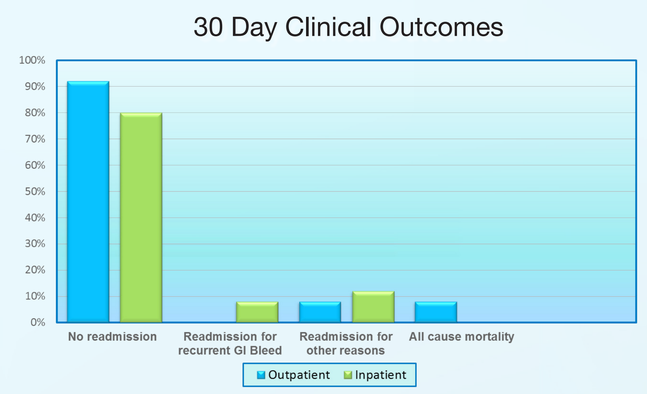
	HTN	CAD	CHF?	Chronic Pulm	ESRD	Cirrhosis	History of CV	Diabetes Mellitus	Malignancy	Coagulopathy	Avg # of Chronic Co-morbidities
Outpatient	5	5	1	5	0	0	2	2	5	3	1.7
Inpatient	16	6	4	1	1	0	5	3	5	3	1.6
Overall	21	11	5	6	1	0	7	5	10	6	

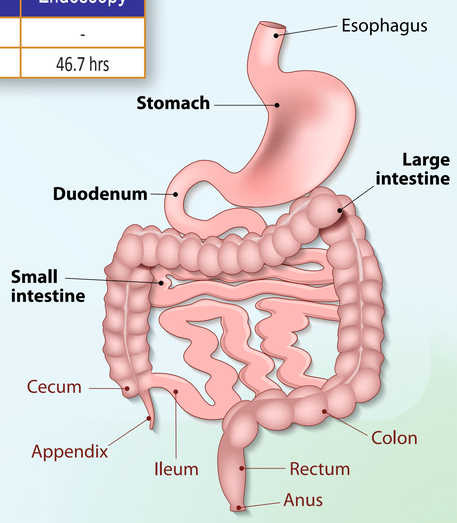
Acute Co-morbidities

	Acute Heart Failure	Respiratory Failure	Acute Kidney Injury	Sepsis Syndrome	Shock?	# of Acute Co-morbid Conditions
Outpatient		0	0	0	0	0
Inpatient	0	0	3	0	0	0.12
Overall	0	0	3	0	0	

Initial Care Metrics

	Time to Fluid Resuscitation	Resuscitation	Average Initial Hemoglobin	Time to GI Consult	Time to Endoscopy
Outpatient	1.8 hrs	1.4 hrs	12.8	-	-
Inpatient	2.2 hrs	1.8 hrs	11.5	15.7 hrs	46.7 hrs





Conclusion

Factors that contributed to hospital admission were patient age, presence of acute co-morbidities, and the need for blood transfusion. The number of chronic comorbidities and patient's initial hemoglobin level did not appear to factor strongly into hospital admission, as initially anticipated. For the ten admitted patients who underwent an invasive procedure, only one patient received an intervention. There did not appear to be a difference between the 30-day mortality, or hospital readmission rates of patients treated as outpatients, and those treated as inpatients. Given the low readmission rate, outpatient management may be preferred to inpatient admission, even in patients with borderline hemoglobin levels. Withholding the use of invasive techniques such as endoscopy may be appropriate as there were a low percentage of patients who benefited from the therapeutic options of these techniques. Additionally, it would be advantageous for organizations to consider the development of an algorithm to determine admission criteria for this patient population.