Healthcare Innovations
How practice has changed

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Clinical outcomes in risk stratified patients presenting to the emergency department with upper gastrointestinal bleeding

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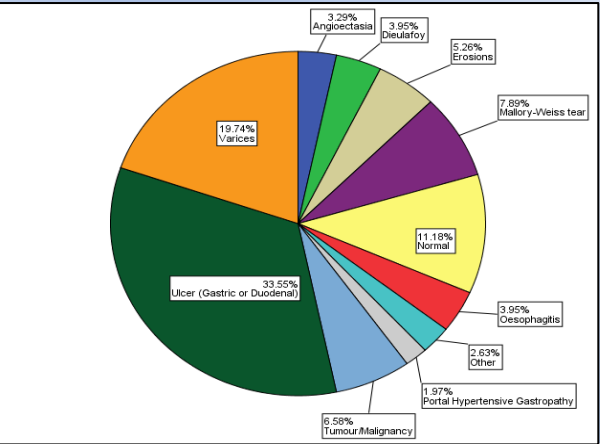
Background / Aims

Upper gastrointestinal bleeding (UGIB) is a common presentation to emergency departments (ED) The aim of this study was to assess mortality and re-bleeding rates in a cohort of patients presenting with UGIB as risk-stratified by the Glasgow Blatchford Score (GBS). Additionally, we sought to benchmark our time to endoscopy, determine aetiology & need for endoscopic treatment.

Methods

Retrospective medical chart review of all patients presenting with UGIB to the RBWH over a 12-month period (June 2016 – July 2017). A descriptive study to summarise medical characteristics related to UGIB as risk-stratified by the GBS.

Figure.1. Aetiology of upper gastrointestinal bleed as found at endoscopy

Results

A total of 211 patients presented with UGIB to the ED. There were 132 high-risk (GBS3+), 49 low-risk (GBS 0-2) and 30 variceal patients. The median age was 57 years and 68% were male. Mortality rates both in-hospital and 30-day were 3%, while 1-year mortality rate was 11%, and re-bleeding rate at 30 days was 4%. High risk patients accessed endoscopy within guidelines, GBS 3+ (23.7h, median) and variceal bleeding (7.3h, median).

Conclusions

Mortality and re-bleeding outcomes are similar to other international UGIB cohorts. Patients with a low-risk bleed were appropriately identified and discharged home. Those at higher risk were correctly identified and accessed timely endoscopy for assessment. The GBS demonstrated clinical utility in an Australian ED cohort of UGIB bleeding patients.

Clinical Outcomes by risk stratification of variceal status and GBS

Characteristic	All Patients	Non-variceal GBS 0-2	Non-variceal GBS 3+	Variceal	p-value
	N=211	N=49	N=132	N=30	
	N (%)	N (%)	N (%)	N (%)	
Mortality					
In-hospital	6 (2.8)	0	3 (2.3)	3 (10.0)	0.028
30-day	7 (3.3)	0	4 (3.0)	3 (10.0)	0.053
1-year	23 (10.9)	0	18 (13.6)	5 (16.7)	0.018
Re-bleeding (<30days)	9 (4.3)	1 (2.0)	5 (3.8)	3 (10.0)	0.214

Baseline Characteristics by risk stratification of variceal status and GBS

	Total cohort	Non-variceal GBS 0-2	Non-variceal GBS 3+	Variceal	p-value
	N=211	N=49	N=132	N=30	
Age in years (median, IQR)	57 (41-71)	32 (22-51)	67 (51.5-78)	50.5 (46-59)	<0.001
Males, n (%)	143 (67.8)	32 (65.3)	90 (68.2)	21 (70.0)	0.898
Charlson Co-morbidity Index, n=210 (median, IQR)	3 (1-5)	0 (0-1)	4 (2-6)	4 (3-4)	<0.001
Initial symptoms, n **(%)**					
Haematemesis	136 (64.5)	41 (83.7)	69 (52.3)	26 (86.7)	<0.001
Melaena	127 (60.2)	12 (24.5)	96 (72.7)	19 (63.3)	<0.001
Medical History and medication					
History of ulcer	50 (23.7)	1 (2.0)	49 (37.1)	0	<0.001
History of cirrhosis	54 (25.6)	2 (4.1)	26 (19.7)	26 (86.7)	<0.001
Current PPI use	62 (29.4)	11 (22.5)	39 (29.6)	12 (40.0)	0.251
Aspirin use	48 (22.8)	4 (8.2)	41 (31.1)	3 (10.0)	0.001
Antithrombotic agents	65 (30.8)	4 (8.2)	58 (43.9)	3 (10.0)	<0.001
NSAIDs	33 (15.6)	4 (8.2)	28 (21.2)	1 (3.3)	0.013
Haemodynamics					
Haemoglobin <80g/dL, n (%)	51 (24.2)	0	39 (29.6)	12 (40.0)	<0.001
Systolic blood pressure <90mmHg, n (%)	23 (10.9)	0	20 (15.2)	3 (10.0)	0.014
Pulse rate >100bpm, n (%)	52 (24.6)	6 (12.2)	35 (26.5)	11 (32.7)	0.036
Processes					
ED Length of stay in hours (median, IQR)	6.1 (3.6-8.9)	4.9 (2.9-6.9)	6.9 (4.4-9.6)	4.3 (2.6-6.5)	<0.001
Hospital length of stay in days (median, IQR)	3.4 (1.5-5.3)	0.2 (0.1-1.5)	4.0 (2.8-5.7)	4.6 (2.7-6.0)	<0.001
Interhospital transfer, n (%)	35 (16.6)	0	25 (18.9)	10 (33.3)	0.001
Disposition, n **(%)**					<0.001
Home	35 (16.6)	28 (57.1)	7 (5.3)	0	
Admitted (Ward / Endoscopy room / OR)	171 (81.0)	19 (38.8)	122 (92.4)	30 (100.0)	
Left against medical advice	4 (1.9)	2 (4.1)	2 (1.5)	0	
Died in ED	1 (0.5)	0	1 (0.8)	0	
Endoscopy performed, n **(%)**	152 (72.0)	11 (22.5)	111 (84.1)	30 (100)	<0.001
Procedure (in those that received endoscopy, n=152), n (%)					
0 (out-of-hours)	45 (29.6)	1 (9.1)	29 (26.1)	15 (50.0)	
1 (in-hours)	107 (70.4)	10 (90.9)	82 (73.9)	15 (50.0)	
Time to Endoscopy in hours (median, IQR), n=152	21.8 (8.1-36.1)	29.1 (26.1-53.8)	23.7 (9.7-39.6)	7.3 (3.6-17.3)	<0.001
Culprit lesion identified, n (%), n=152	135 (88.8)	4 (36.4)	101 (91.0)	30 (100.0)	<0.001
Need for endoscopic treatment, n=152	55 (36.2)	0	35 (31.8)	20 (66.7)	<0.001
Intraluminal Blood present, n=152	51 (33.6)	1 (25.0)	35 (34.7)	15 (50.0)	0.272