Comparison of the AIMS-65 Score with the Glasgow-Blatchford Score in Upper Gastrointestinal Bleed in the Emergency Department

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Abstract

Aim: Upper gastrointestinal (UGI) bleed can be a life-threatening condition commonly seen in the emergency department (ED). Hence, to efficiently allot resources, optimize care, and ascertain the disposition of the patient, it is important to determine the severity of UGI bleeding. The objective of the study is to compare patients presenting with UGI bleeding with both the AIMS-65 and GBS to determine most appropriate score in prognosticating clinical outcomes and to identify high-risk patients needing transfusion of blood, endoscopic intervention, and admission to an intensive care unit (ICU) from the ED.

Materials and Methods: A prospective, observational study of patients presenting with an UGI bleed from April 2014 to June 2015. All patients above 18 years of age presenting to the ED with hematemesis, melena, or having blood on nasogastric aspirate are enrolled into the study. Patients aged less than 18 years with hemoptysis, hematochezia, or traumatic oral bleeding were excluded. The AIMS-65 and GBS were calculated for all patients and correlated with the duration of their stay in the hospital, mortality, the need for blood transfusion and endoscopy.

Results: Of the 138 UGI bleeding patients, 37% had esophageal varices and 23% had peptic ulcer disease. The GBS was better than the AIMS-65 in predicting the need for blood transfusion. Compared with the GBS, the AIMS-65 score was statistically significant in prognosticating mortality in-hospital and the patient's disposition to the ward or an intensive care unit.

Conclusion: The AIMS-65 score is a simple, appropriate, non-endoscopic risk score that can be employed in patients with acute UGI bleeding, aiding in triage, early decision-making, and proper disposition from the ED.

Keywords: Upper gastrointestinal bleed, gastrointestinal hemorrhage, UGI bleed, Glasgow-Blatchford Score, AIMS-65, endoscopic intervention, ICU Care, blood transfusion, disposition from ED, emergency department

Introduction

Upper gastrointestinal (UGI) bleed is a common life-threatening condition seen in the emergency department (ED) (1-3). A careful assessment is mandatory to determine the risk of re-bleeding or death (3). The incidence of UGI bleeding is 50–170 per 100,000 people per year (4). The American College of Gastroenterology practice guideline (5) advises that risk assessment should be done to aid the clinician in making the all-important decision regarding the disposition of the patient (6).

Not all UGI bleeds require an emergency intervention (7, 8). Even though patients with UGI bleed are admitted and managed with inpatient care and endoscopy, this approach is controversial due to the use of a substantial number of resources. Various risk scoring methods for UGI bleeding have been generated and used to predict the need for intervention or survival and to develop a standard management strategy (7, 9-14). An endoscopy-based triage is suggested to reduce cost and stay in hospitals (15), but it is rarely practiced due to the regular unavailability of emergency endoscopy. In such places, a scoring system dependent on clinical features would be desirable for the ED physician (16, 17).

The Glasgow-Blatchford risk score (11) (GBS) and the pre- and post-endoscopic Rockall score (7) have been compared to predict clinical outcomes such as 30-day mortality, the need for hospital-based intervention, blood transfusion, the likelihood of re-bleeding, surgical intervention and, the suitability for early discharge. Despite its limitations, the GBS (11, 18) is still comparable or better than the Rockall score (19-23), and encouraging GBS use in routine risk stratification.

The AIMS-65 score was derived from a comprehensive database and validated to predict inpatient mortality (14). The AIMS-65 is sim-

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Received: 12.12.2016 • **Accepted:** 19.03.2017

DOI: 10.5152/eajem.2017.38258

pler, as it is not weighted and does not require endoscopic findings, thus making it easier to remember and use AIMS-65 score (24). The AIMS-65 does not rely on medical history. Only laboratory investigations commonly performed in an ED and the mental health status of the patient are required.

The objective of this study is to compare patients presenting with UGI bleeding with both the AIMS-65 and GBS to determine the most appropriate score used in prognosticating clinical outcomes and to identify high-risk patients needing transfusion of blood, endoscopic intervention, and admission to an intensive care unit (ICU) from the ED.

Materials and Methods

A prospective, observational study of all patients presenting with UGI bleeding, registered in the ED of a tertiary care university teaching hospital in Chennai, India, which has an annual input of 30,000 patients. The study was conducted over a period of 15 months from April 2014 to June 2015. All patients above the age of 18, presenting to the ED with complaints of hematemesis, melena or having blood on nasogastric aspirate were enrolled in the study.

Patients aged less than 18 years with a history of hemoptysis, hematochezia, and traumatic oral bleeding were excluded.

Methodology

Once a patient was identified as having UGI bleeding, the treating emergency physician would enter the details of the patients into a preformatted questionnaire. The patient's demographic data, comorbid illness, Glasgow Coma Scale (GCS) score, previous history of surgery/bleeding, history of melena, syncope, vital signs, and the initial investigation values were entered in the questionnaire. The disposition and the clinical outcomes of the patients were also recorded.

As part of the acute care and resuscitation, all UGI bleeding patients received intravenous proton pump inhibitor therapy as a standardized treatment, and patients with variceal hemorrhage received vasoactive therapy with octreotide or somatostatin. A medical gastroenterologist admitted these patients and decided the need for endoscopy, the timing of endoscopy, and the disposition to the ICU or ward.

Patients who were admitted to the ICU or required blood transfusion were considered high-risk patients. All causes of death during hospitalization were considered mortality, while morbidity was related to the number of days of hospitalization. Only the patient data recorded at the time of presentation to the ED were utilized for the study analysis.

Both the AIMS-65 and GBS were calculated for all patients included in the study, based on the original study criteria (11, 14). The indication for blood transfusion was defined as 30–40% blood loss (1500–2000 mL). The admission criteria was defined as (a) age ≥60 years, (b) witnessed hematemesis or hematochezia (suspected continued bleeding), (c) hemodynamic disturbance (SBP <100 mmHg or heart rate >100 bpm), and (d) patients with a known liver disease or varices. The exact study definition for the need of endoscopy, admission to the ICU, and the time for endoscopy was not defined as it was at the discretion of the treating gastroenterologist.

The GBS is derived using the patient's hemoglobin and blood urea nitrogen levels; vital signs like systolic blood pressure and heart rate; and history of syncope, melena, cardiac failure, or hepatic disease (11). The score ranges from 0 to a maximum of 23 (Table 1). The GBS had previously been validated with a suitable cutoff of less than 2 for low-risk patients (8, 25, 26).

The AIMS-65 score is derived using the patient's age (>65 years), blood pressure, GCS score, INR, and albumin levels (14). Each criterion is given a point, and the score ranged from 0 to a maximum of 5 (Table 2). Only a few validation studies have previously been done for the AIMS-65.

Statistical analysis

The data collected in the preformatted questionnaire were entered into a spreadsheet (Microsoft Office Excel 2007; Microsoft Corporation, Redmond, WA, USA). For categorical variables, descriptive analysis like frequency and percentage were calculated. Moreover, for continuous data, the mean and standard deviation were derived. The sensitivity, specificity, positive predictive value (PPV), and neg-

Table 1. Glasgow-Blatchford score for assessing the severity of UGI bleeding

Admission Risk Marker		**Score**
Blood Urea (mmol/L)	≤6.5-7.9	2
	8-9.9	3
	10-24.9	4
	≥25	6
Hemoglobin–Men (g/dL)	≥12	1
	10-11.9	3
	<10	6
Hemoglobin–Women (g/dL)	≥10	1
	<10	6
Systolic Blood Pressure (mmHg)	≥100	1
	90-99	2
	<90	3
Other Markers	Pulse ≥100	1
	Melena	1
	Syncope	2
	Liver Disease	2
	Heart Failure	2

Table 2. The AIM65 score for assessing the severity of UGI bleeding

Feature	**Score**
Albumin less than 3.0 g/dL (30 g/L)	1 Point
INR greater than 1.5	1 Point
Altered mental status (Glasgow Coma score less than 14, disorientation, lethargy, stupor, or coma)	1 Point
Systolic blood pressure of 90 mmHg or less	1 Point
Age older than 65 years	1 Point
Total Score: 0–5	

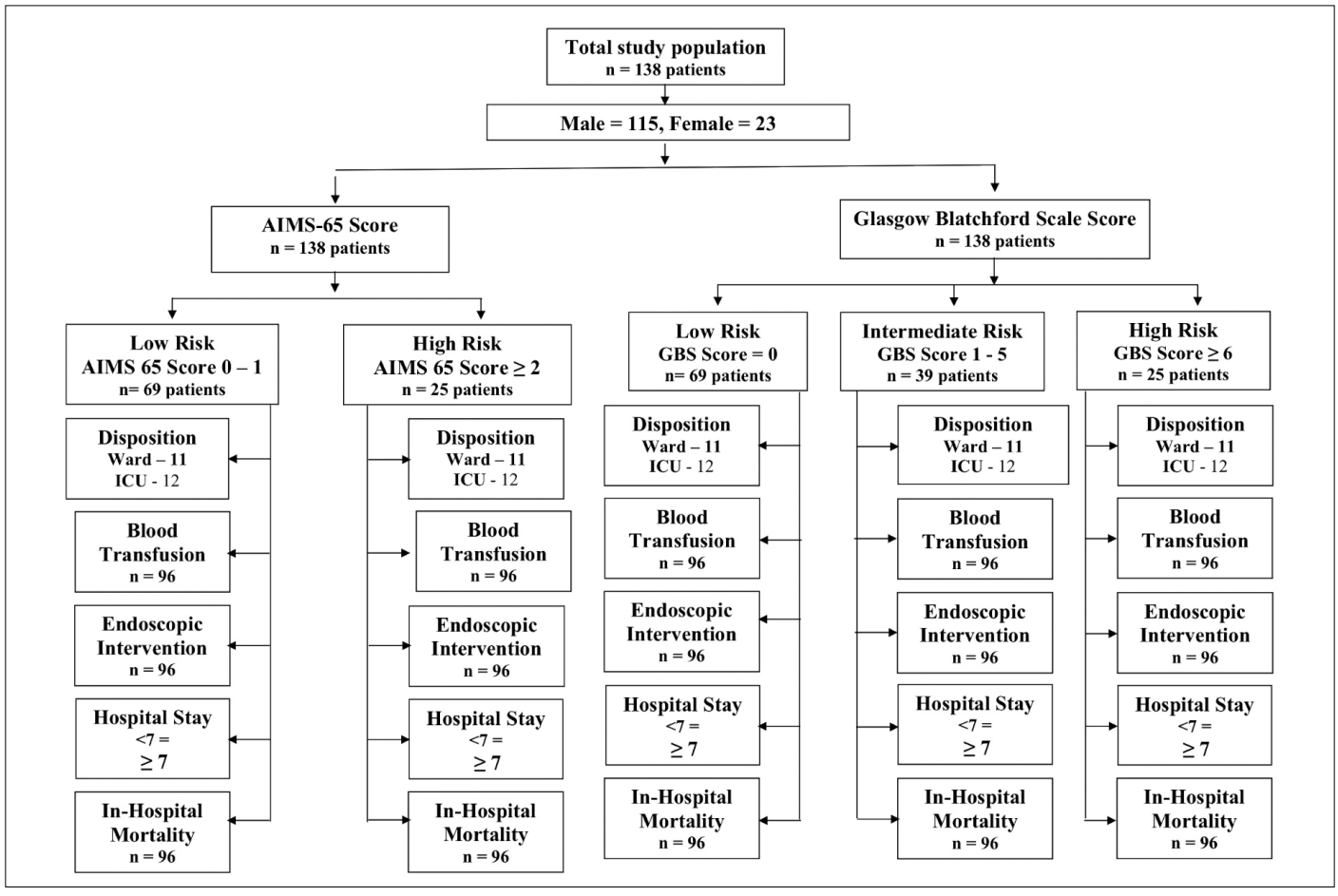

Figure 1. A flowchart Comparing AIMS-65 Vs GBS Scores against five outcomes

ative predictive value (NPV) were analyzed to assess the predictive accuracy of the study outcome using the area under the receiver-operating characteristic (ROC) curve. A p-value of 0.05 was considered as a significant level. Statistical analysis was done using statistical software (IBM SPSS version 23.0; Armonk, NY, USA). This study was approved by the institutional ethics committee, and a written consent was taken from each patient or his/her attendant in both English and his/her mother tongue.

Results

A total of 138 patients were included in the study (Figure 1). Eighty-three percent of the patients in the study were male, with 42% of the patients aged between 61 and 80 years, with ages ranging from 18 to 89 years. Systolic blood pressure <120 mmHg was observed in 70% of the patients, diastolic blood pressure <80 mmHg was observed in 74% of the patients, and tachycardia was present in 62% of the patients. Among the 138 patients with UGI bleeding, 89% presented with a history of melena, 26% presented with the history of syncope, and 15.2% had associated hepatic diseases. Seventy-two percent of patients presented with a GCS of 15. Abnormal BUN levels were observed in 58% of the patients, 61.6% had abnormal albumin levels, and 71% had elevated INRs of more than 1.2 (Table 3). The data of performance (sensitivity and specificity) were calculated in our study with a cut off score of 1.5 for the AIMS-65 score and 8.5 for the GBS.

It was observed that 51% of the patients (71/138) received a blood transfusion (Table 4). The AIMS-65 score predicted that 42 patients required a blood transfusion, whereas the GBS predicted that 43 patients needed blood transfusions (p=0.001). The GBS is the optimal choice, even though both the AIMS-65 score and the GBS have an acceptable prediction rate for classifying a patient's need for blood transfusion (Figure 2).

In our study, 66.7% of patients (92/138) were stable enough to be admitted to the ward, whereas 33.3% required admission to the ICU (46/138). A comparison of both scoring systems was made to predict the need for admission to the ICU (Figure 3). The AIMS-65 score predicted that 31 patients required admission to the ICU; however, the GBS predicted that only 26 patients required admission to the ICU (p=0.001) (Table 5, 6). The in-hospital mortality was 13.2% (18 patients). The AIMS-65 and GBS were compared to predict mortality (Figure 4). The AIMS-65 score with a high predictive power (AUC=0.672; p=0.019) is significantly better with a sensitivity 72% and NPV of 90%. However, the GBS (AUC=0.601; p=0.166) had a sensitivity of 56% and NPV 88%. We thus suggest that the AIMS-65 is the optimal choice for predicting the need for admission to the ICU and in-hospital mortality.

Endoscopy was performed for 79% of the patients (109/138), 32.1% (35/109) of whom required endoscopic intervention such as banding, endotherapy, and adrenaline injection. The AIMS-65 score predicted that 20 patients required intervention during endoscopy,

Table 3. Demographic and clinical characteristic features of patients presenting with UGI bleeding

No	Feature		Frequency (n=138)	%
1.	Age	Up to 40 years	22	15.9
		41–60 years	47	34.1
		61–80 years	58	42
		>80 years	11	8
2.	Gender	Male	115	83.3
		Female	23	16.7
3.	Systolic blood pressure	<120 mmHg	96	69.6
		>120 mmHg	42	30.4
4.	Diastolic blood pressure	<80 mmHg	102	73.9
		>80 mmHg	36	26.1
5.	Heart rate (beats per minute [bpm])	HR >100 bpm	86	62.3
		HR <100 bpm	52	37.7
6.	Melena	Positive	123	89.1
		Negative	15	10.9
7.	Syncope	Positive	36	26.1
		Negative	102	73.9
8.	Hepatic disease	Positive	21	15.2
		Negative	117	84.8
9.	Cardiac disease	Positive	13	9.4
		Negative	125	90.6
10.	Glasgow Coma Scale (GCS) Score	8 or less	5	3.6
		9 to 14	33	23.9
		15	100	72.5
11.	Hemoglobin (Hb)	<8	26	18.8
		8–10	74	53.6
		10.1–12	25	18.1
		>12	13	9.4
12.	Blood Urea Bitrogen (BUN) level	Normal	58	42
		Abnormal	80	58
13.	INR	Normal	40	29
		Elevated	98	71
14.	Albumin	Normal	53	38.4
		Abnormal	85	61.6

but the GBS predicted that 17 patients required intervention during endoscopy (Figure 5). In our study, 73.9% had less than a seven-day stay at the hospital, and 26.1% stayed more than seven days. The AIMS-65 and GBS were used to predict the length of hospital stay (Figure 6). The AIMS-65 score predicted that 18 patients required more than seven days of hospital stay compared with the GBS of 14 patients. Neither score was statistically significant (p=0.277 and p=0.474, respectively).

Discussion

A few EDs utilize risk stratification tools for managing UGI bleeds, and no standard scoring system has been adopted, even though it has been recommended in many guidelines and consensus statements. The risk stratification scores should be simple, and accurate. They should also be easy to remember, calculate, and apply at the bedside by using clinical data obtained from the patient at presen-

Table 4. Investigation and outcomes in patients presenting with UGI bleeding

No	Feature		Frequency (n=138)	%
1.	Endoscopy performed	Yes	109	79
		No	29	21
2.	Endoscopic findings	Esophageal varices	42	37
		Gastritis	18	16
		Gastric ulcer	13	11
		Esophagitis	12	11
		Duodenal ulcer	10	9
		Duodenitis	6	5
		Esophageal ulcers	4	3
		Other	9	8
3.	Endoscopic intervention	Yes	35	25.4
		No	103	74.6
4.	Endoscopic intervention	Banding	30	85.7
		Endotherapy	2	5.71
		Adrenaline injection	3	8.57
5.	Blood transfusion	No	67	48.6
		Yes	71	51.4
6.	Disposition	Ward	92	66.7
		ICU	46	33.3
7.	Days of stay in hospital	≤7 days	102	73.9
		> days	36	26.1
8.	Mortality	Dead	18	13
		Recovered	120	87

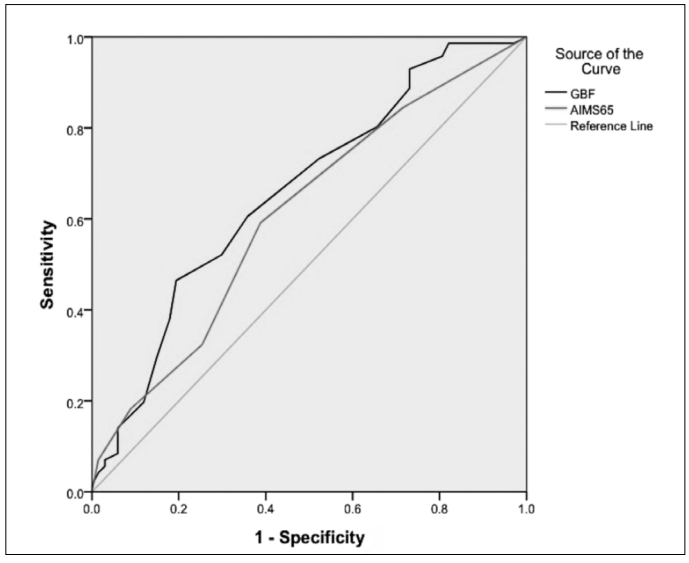

Figure 2. ROC comparing AIMS-65 and GBS scores predicting need for blood transfusion in UGI Bleeding patients

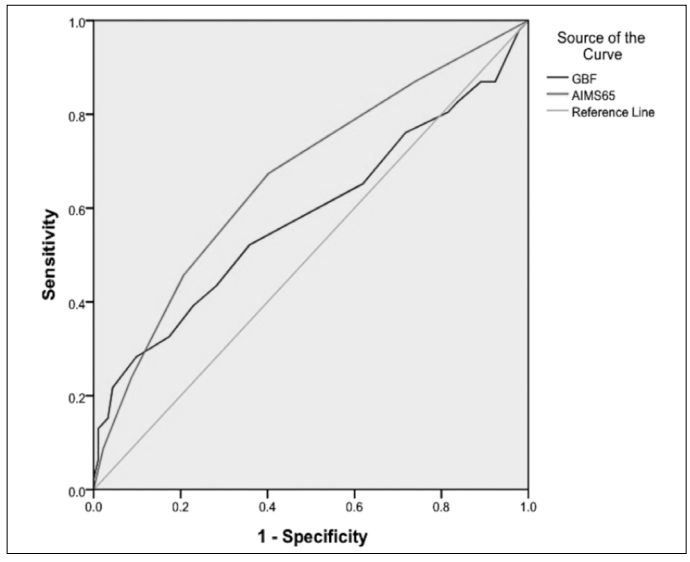

Figure 3. ROC comparing AIMS-65 and GBS scores predicting need for ICU in UGI Bleeding patients

Table 5. Comparison of sensitivity, specificity, PPV, and NPV for five different study outcome criteria between the AIMS-65 and GBS in UGI bleeding patients

Study outcome criteria		Accuracy (%)	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Positive likelihood	Negative likelihood
Disposition	AIMS-65	63	67	60	46	79	1.7	0.6
	GBS	56	56	55	39	72	1.3	0.8
Blood transfusion	AIMS-65	60	59	61	62	58	1.5	0.7
	GBS	63	61	64	64	61	1.7	0.6
Endoscopic intervention	AIMS-65	55	57	53	29	79	1.2	0.8
	GBS	51	49	51	25	75	1	1
Duration of hospital stay	AIMS-65	51	50	51	26	74	1	1
	GBS	46	40	48	21	70	0.8	1.2
In-hospital mortality	AIMS-65	68	71	55	25	90	1.6	0.5
	GBS	57	67	55	24	88	1.5	0.6

PPV: positive predictive value; NPV: negative predictive value.

Table 6. Comparison of ROC analysis for five different study outcome criteria between the AIMS-65 and GBS in UGI bleeding patients

Study outcome criteria		AUC*	Std. error†	Asymp. sig.‡	Asymptotic 95% confidence interval	
					Lower bound	Upper bound
ICU admission	AIMS-65	0.668	0.050	0.001§	0.570	0.765
	GBS	0.583	0.055	0.111	0.475	0.692
Blood transfusion	AIMS-65	0.611	0.048	0.025§	0.517	0.705
	GBS	0.660	0.046	0.001§	0.569	0.751
Endoscopic intervention	AIMS-65	0.533	0.056	0.560	0.423	0.643
	GBS	0.526	0.055	0.649	0.419	0.633
Duration of hospital stay	AIMS-65	0.460	0.054	0.474	0.354	0.566
	GBS	0.439	0.054	0.277	0.333	0.545
In-hospital mortality	AIMS-65	0.672	0.064	0.019§	0.547	0.798
	GBS	0.601	0.064	0.166	0.475	0.727

The cut-off points for the AIMS-65 and GBS were 1.5 and 8.5, respectively.

*AUC: area under the curve; †: standard error (under the nonparametric assumption); ‡: asymptotic significance (null hypothesis: true area = 0.5); §: statistically significant as $p<0.05$

tation to the ED and give independent predictive knowledge if they must be adopted widely (27, 28).

The most validated risk scores for UGI bleeding are the GBS and the Rockall score. However, these scores are poorly implemented by emergency physicians, as they have various limitations that include the need for endoscopic data, complex calculations, and weighting. The use of the AIMS-65 could help overcome the above limitations and help standardize the management of patients with UGI bleeding. The AIMS-65 is simple, acronym-based, easy to remember and calculate, highly accurate, and non-weighed and uses parameters easily and routinely collected in the ED (14). Like previous studies, this study validates the AIMS-65 score as an accurate risk stratification score in patients presenting with UGI bleeding.

Of the 138 patients included in this study, the majority of patients (42%) were aged between 61 to 80 years, with a median age of 67 years. In their studies, Cheng et al. (29) and Nakamura et al. (30) had a similar median age of 56 years and 66 years, respectively. In our study, 83% of males were affected with UGI bleeding compared with 17% of females. Similarly, Hyett et al. (5) and Nakamura et al. (30) also suggested that males presented to the ED with UGI bleeding more often than females did.

In our study, 15.2% of patients suffered from hepatic disease, and 9.4% of patients suffered from the cardiac disease. In contrast, in the retrospective study by LeCleire et al. in France (31), 21.9% of patients with UGI bleeding had hepatic disease. However, in the retrospective study by Dicu et al. in Romania, 58% of patients with UGI bleeding had cardiac disorders. Our study sample had fewer patients with hepatic disease than the above two studies, which can be a limitation in our findings. This difference between our study and the findings of Dicu et al. (3) and LeCleire et al. (31) may be due to the difference

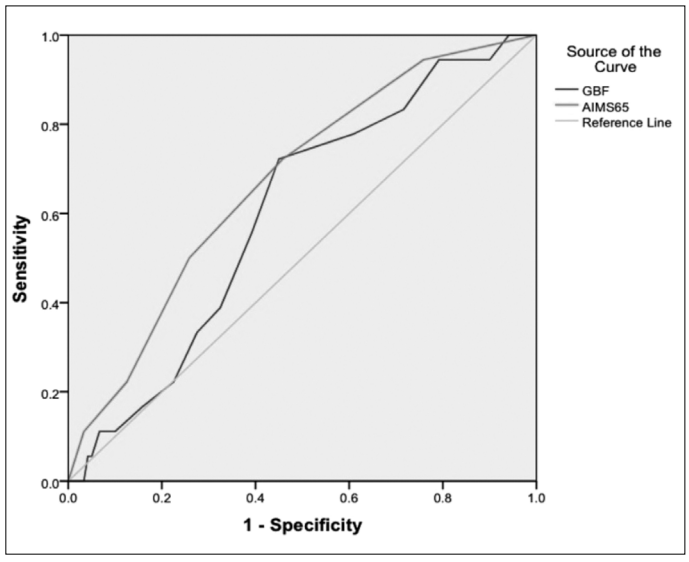

Figure 4. ROC comparing AIMS-65 and GBS scores predicting mortality in UGI Bleeding patients

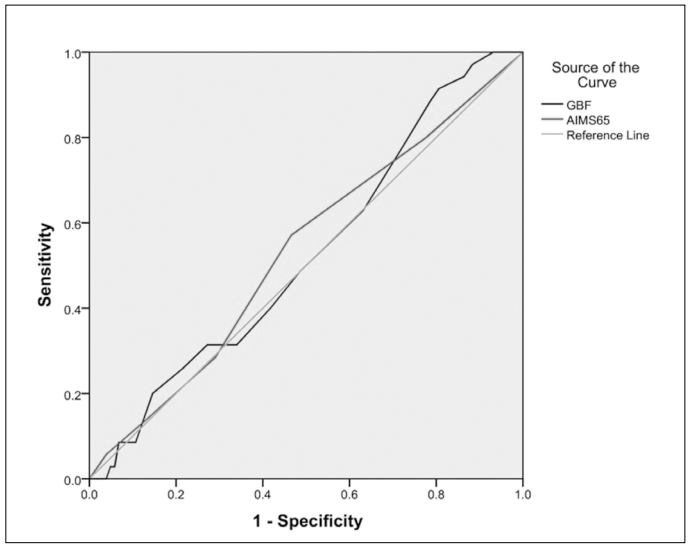

Figure 5. ROC comparing AIMS-65 and GBS scores predicting endoscopic intervention in UGI Bleeding patients

in the geographical location and food and lifestyle habits of the patients.

In our study, endoscopy was performed on 78.9% of patients, with a few patients being unstable or unwilling to undergo the procedure. Esophageal varices (37%) were the most common finding, followed by gastritis (16%), among those who had endoscopy for UGI bleeding. Similarly, Alema et al. (32), in their study of 224 patients, recorded that 40.6% suffered from esophageal varices, and Yaka et al. (17), in their study of 254 patients, showed that 16.5% of their patients had gastritis. However, Dicu et al. (3) also revealed that 41.4% of patients had gastric/duodenal ulcers and that only 27.9% had esophageal varices. Yaka et al. (17) observed that 34.6% of patients had gastric/duodenal ulcers and that only 9.4% had esophageal varices.

A total of 71 patients (51%) received blood transfusion either in the ED, the ICU, or wards. Previous studies have shown that for predicting the need for a blood transfusion, the GBS was better than

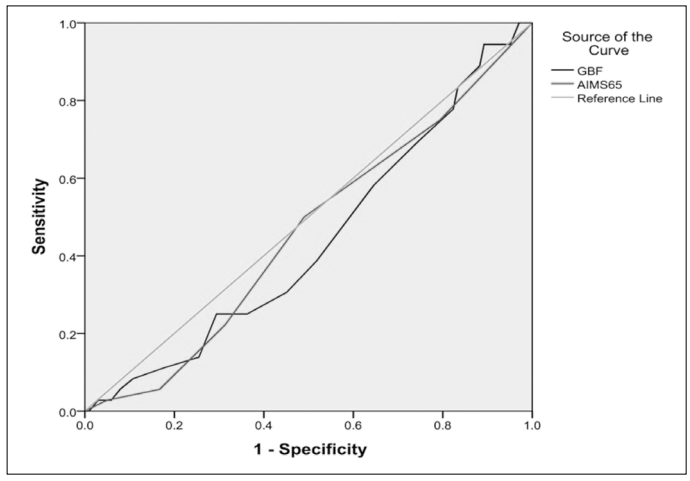

Figure 6. ROC comparing AIMS-65 and GBS scores predicting length of hospital stay in UGI Bleeding patients

other scores (3, 17, 20). A comparison of both scores for prognosticating the need for transfusion shows that the GBS has a higher predictive power than the AIMS-65 score (AUC=0.660 vs. AUC=0.611; p=0.001). The GBS is the optimal choice, even though both the scores have an acceptable prediction rate for classifying a patient's need for blood transfusion. Yaka et al. (17), in their study of 254 patients, also suggested that the GBS was better than the AIMS-65 in prognosticating the need for a blood transfusion (AUC=0.904 vs. AUC=0.796; p<0.001). Similarly, the results of our study also confirmed the superiority of the GBS. Because the levels of hemoglobin at presentation to the ED are included in the GBS, it is a superior predictor of need for blood transfusion.

We found that 92 patients (66.7%) were stable enough to be admitted to the ward, whereas 46 patients (33.3%) required admission to the ICU. A comparison of both scoring systems was made to predict the need for admission to the ICU. Our study established that the AIMS-65 is better than the GBS (AUC=0.668 vs. AUC=0.583; p=0.001) in predicting the need for admission to the ICU. Robertson et al. (24), in their study of 424 patients, also demonstrated that the AIMS-65 is better than the GBS in prognosticating the need for admission to the ICU (AUC=0.74 vs. AUC=0.70; p=0.001). Similarly, Hyett et al. (5) ascertained that the AIMS-65 is better than the GBS (AUC=0.69 vs. AUC=0.63; p=0.35) in predicting the need for admission to the ICU.

The in-hospital mortality was 18 patients (13.2%) in our study. It was observed that there were no deaths in patients with an AIMS-65 score of 0, and the number of fatalities rose with increasing AIMS-65 scores when both scores were compared to predict mortality. The AIMS-65 score with a high predictive power is significantly better than the GBS (AUC=0.672 vs. AUC=0.601; p=0.019). Similarly, Thandassery et al. (33) (AUC=0.74; p<0.001) and Hyett et al. (5) (AUC=0.93 vs AUC=0.68; p<0.001) observed that the AIMS-65 score was superior to the GBS in prognosticating in-hospital mortality.

Of the 109 patients (79%) who had an endoscopy, 35 required endoscopic intervention (32.1%) such as banding, endotherapy, and adrenaline injection. A comparison to prognosticate the need for intervention during endoscopy found the AIMS-65 has a superior specificity (52%), whereas the GBS has a higher sensitivity (57%) and a lower specificity 43%. Bryant et al. (34) suggested that the GBS predicted the need for endoscopic intervention in their study of 888 patients in which 80% of patients had an endoscopy and 40.3% re-

quired endoscopic therapy. Similarly, Yaka et al. (17), in their study of 254 patients, 83.1% of whom had an endoscopy and 19.3% of whom required endoscopic intervention, found that the GBS had a better prognosticating ability in ascertaining the need for an endoscopic intervention. The difference between the findings of Yaka et al. (17) and Bryant et al. (34) and those of our study may be explained by the fact that esophageal varices were the predominant etiology of UGI bleeding in our study population due to the different lifestyles of patients in our part of the world.

In our study, 102 patients (73.9%) had less than a seven-day stay at the hospital, and 36 patients (26.1%) stayed more than seven days. The AIMS-65 score has a superior predictive value than the GBS (AUC=0.460 vs. AUC=0.439) in predicting the length of hospital stay. However, in predicting the duration of hospital stay, there was no difference between the two scores (p=0.277 and p=0.474, respectively). Hyett et al. (5) found that both scores could prognosticate the duration of stay with higher scores predicting the longer length of stay (AUC = 0.15 [range 0.06–0.23] for the AIMS-65 and AUC = 0.17 [range 0.07–0.26] for the GBS). However, in predicting the outcomes, there was no difference between the AIMS-65 and GBS (p=0.151 and p=0.67, respectively). This difference may be due to the late presentation of patients or the physician's choice of management and timing of discharge.

Neither the AIMS-65 or GBS could predict the need for endoscopic intervention and the duration of hospital stay. This may be explained by the fact that our study population had fewer patients with chronic hepatic disease; the predominant etiology being esophageal varices. This can be attributed to the late presentation of patients to the ED due to lack of awareness. The need for endoscopy and the time for endoscopy were not defined as they were at the discretion of the treating gastroenterologist.

Study limitations

There were a few limitations in this study. The AIMS-65 was originally designed to predict mortality, whereas the GBS aimed to predict the need for emergent endoscopy and blood transfusion. Evaluating both scores on different outcomes is one of the major limitations. Another limitation is that there were fewer chronic hepatic disease patients in our study than in other studies. Moreover, this might be the reason for very low AUROC values compared with other studies discussed above. Not every patient with UGI bleeding underwent endoscopy, as the individual medical gastroenterologist made the decision on the need for an endoscopy and the type of intervention required for each patient. The severity of the disease was not the only factor that influenced the length of stay; patient's financial condition, and the physician's judgment could have played a role in deciding the length of hospital stay. The study was conducted in a single center with protocols for the management of the ED, but the decisions taken by the medical gastroenterologist such as time for endoscopy, blood transfusion, and length of stay may not have been uniformly protocol-driven. This may have influenced the results of predicting the need for endoscopic intervention and the duration of residence at the hospital equally in both the AIMS-65 and GBS.

Conclusion

In our study, in-hospital mortality was the primary outcome; ICU disposition, the need for blood transfusion, endoscopic intervention, and the length of stay were secondary outcome measures. On comparing the AIMS-65 score with the GBS in patients with UGI bleeding, the AIMS-65 score was better in prognosticating the disposition of patients either to the ward or an ICU and in predicting in-hospital mortality. The GBS was only superior in prognosticating the need for transfusion of blood in patients with UGI bleeding. However, both scores could not predict the need for endoscopic intervention and the duration of stay at the hospital.

The AIMS-65 score had higher accuracy for predicting ICU or ward disposition and in-patient mortality. In conclusion, the AIMS-65 score is a simple, appropriate, non-endoscopic risk score that can be employed in patients with acute UGI bleeding, aiding in triage, early decision-making, and proper disposition from the ED. Therefore, the AIMS-65 score can be effectively applied in the ED. However, further studies may be required in multiple centers with a larger study population to validate the AIMS-65 score for the overall management of patients with UGI bleeding.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Sri Ramachandra University- Chennai (Ref: CSP-MED/14/FEB/12/29).

Informed Consent: Written informed consent was obtained from all the patients who participated in this study.

Peer-review: Externally peer-reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

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