International Journal of Medical Case Reports
2022; 1(1): 6-8
http://www.sciencepublishinggroup.com/j/ijmcr
doi: 10.11648/j.ijmcr.20220101.12

Evaluation of the Glasgow-Blatchford Score in Upper Gastro-Intestinal Hemorrhage, Outcomes and Prognosis: About a Series of Hospitalized Patients

Boutaina Bouibaouen, Hicham El Bacha, Nadia Benzzoubeir, Tarik Gharbi, Ikram Errabih

Department of Hepato-Gastro-Enterology and Proctology, Ibn Sina Hospital, Rabat, Morocco

Email address:

Boutaina.bouibaouen@gmail.com (B. Bouibaouen)

To cite this article:

Boutaina Bouibaouen, Hicham El Bacha, Nadia Benzzoubeir, Tarik Gharbi, Ikram Errabih. Evaluation of the Glasgow-Blatchford Score in Upper Gastro-Intestinal Hemorrhage, Outcomes and Prognosis: About a Series of Hospitalized Patients. *International Journal of Medical Case Reports*. Vol. 1, No. 1, 2022, pp. 6-8. doi: 10.11648/j.ijmcr.20220101.12

Received: April 20, 2022; **Accepted**: May 6, 2022; **Published**: May 12, 2022

Abstract: The Glasgow-Blatchford Score is based on simple clinical and biological variables that identifies patients who are at low or high risk for therapeutic procedures (interventional endoscopy, surgery and/or transfusions). The aim of this work is to evaluate the prognostic contribution of the Glasgow-Blatchford score GBS during upper gastro-intestinal bleeding. Materials and methods: This is a prospective study from April 2020 to July 2021, involving patients who were hospitalized for upper GI bleeding. All patients underwent biological assessment, FOGD and therapeutic management. Follow-up was done during hospitalization and by telephone consultation after discharge. The analytical study was done using SPSS software. Results: The study included 73 patients with gastro-intestinal bleeding: hematemesis in 17 patients (23.28%), hematemesis and melena in 25 patients (34.24%), melena in 29 patients (39.72%) and rectorrhage in 8 patients (10.95%). The mean age was 56.5 years with a sex ratio (F/H)=1.28. The main diagnoses found were bleeding on portal hypertension in 13 patients (17%), gastro-duodenal ulcer in 23 patients (31.5%), gastric tumor in 4 patients (5%), angiodysplasias in 5 patients (6.8%), peptic esophagitis in (4%). endoscopy was normal in 12 patients (16%). The median GBS was 9 (6-10). The prevalence of hemorrhagic recurrence was 25.2%. Comparison of the two groups: Group 1 (who did not recur) and Group 2 (who recurred) showed a higher mean GBS in Group 2 which was 8 (4-10) compared to 5 (3-7) in Group 1 with (p=0.03). The median GBS was elevated to 9 (6-10) in the transfused group, compared to 6 (7-10) in the non-transfused group with a p=0.47. The median score in patients with normal fibroscopy is 7 (4.5-10) compared to patients with a bleeding endoscopic lesion which is 9 (6-10) with a p=0.19. Conclusion: The GBS is an easy prognostic score to assess in patients with upper GI bleeding. This score predicts the prognosis and the risk of recurrence of bleeding. Further studies are needed for a better discussion of this issue.

Keywords: Glasgow-Blatchford Score, Hemorrhage, Fibroscopy, Prognosis

1. Introduction

Upper gastrointestinal bleeding (UGIB) is a frequent reason for emergency room visits and hospitalization in gastroenterology. To assess the severity and stratify the risk in these patients, we use the Gloscow-Blatchford score.

The Glasgow-Blatchford score is a validated score that is easy to calculate and is based on simple clinical and biological variables such as the presence or absence of melena, the clinical and mainly hemodynamic impact of the gastrointestinal hemorrhage, hemoglobin and urea levels in the blood.

2. Materials and Methods

This is a prospective study from April 2020 to July 2021, involving patients who were hospitalized for UGIB in the department of gastroenterology Medicine B of Ibn Sina Hospital in Rabat.

All patients received a biological assessment, an oeso-gastro-duodenal fibroscopy (OGDF) and an adapted therapeutic management.

Data collection was done using a pre-established exploitation form and the analytical study was done using SPSS software, with a significant $p < 0.05$.

3. Results

The study included 73 patients with UGIB: Haematemesis in 17 patients (23.28%), Association of Haematemesis and melena in 25 patients (34.24%), melena in 29 patients (39.72%) and hematochezia in 8 patients (10.95%). The average age of our patients was 56.5 years with extremes of 20 and 90 years. There were 32 men and 41 women with a sex ratio (F/M) of 1.28.

The personal history of the patients was as follows: Portal Hypertension in 10 patients (13.7%), known peptic ulcer in 3 patients (4%), anti-aggregants in 10 patients (13.7%), anticoagulants in 8 patients (11%) and active smoking in 5 patients (6.8%).

23 patients (31.5%) required transfusion of red blood cells, and 12 patients (16.43%) were admitted to the intensive care unit for hemo-dynamic consequences of the bleeding.

The main diagnoses found were bleeding due to portal hypertension (esophageal varices + cardio-tuberculosis varices) in 13 patients (17%), peptic ulcer in 23 patients (31.5%), gastric tumor process in 4 patients (5%), gastric angiodysplasia in 5 patients (6.8%), peptic esophagitis in (4%) gastroscopy was normal in 12 patients (16%).

1 patient had an injection of biological glue as a hemostatic treatment for a cardio-tubercular varicose vein, 12 patients benefited from a ligation of esophageal varices, coagulation by argon plasma was performed in 3 patients and 3 patients benefited from a placement of hemostatic clips for hemorrhagic ulcer.

The median Glasgow-Blatchford score was 9 with a confidence interval of (6-10).

The prevalence of hemorrhagic recurrence was 25.2% of patients (7 cases).

Table 1. *Univariante analytic study.*

	Glasgow-Blatchford	*p*- value
Hemorrhagic recurrence		
yes	8 (4-10)	0,03
No	5 (3-7)	
Intestive care unity		
yes	8 (3-10)	0,28
No	9 (6-11)	
transfusion		
yes	9 (6-10)	0,19
No	7 (4, 5-11)	

The analytical study (Table 1) compared patient outcomes according to hemorrhagic recurrence, use of blood transfusion, presence or absence of hemorrhagic lesion at FOGD, and need or absence of hemostatic procedure. The results were as follows:

1. The mean GBS was higher in patients with hemorrhagic recurrence, which was 8 (4-10) compared with 5 (3-7) in patients without recurrence. This result was statistically significant with a p = 0.03.
2. The median GBS was 9 (6-10) in the transfused group, compared to 6 (7-10) in the non-transfused group with a p=0.47.
3. We found no difference in the median GBS between patients who stayed in the ICU and those who did not require ICU measures.
4. The median GBS in patients with normal fibroscopy was 7 (4.5-10) compared with patients with a bleeding endoscopic lesion which was 9 (6-10) with a p = 0.19.
5. We found no significant difference regarding the median GBS in patients who had endoscopic hemostatic procedures versus patients who did not require endoscopic hemostatic procedures.

4. Discussion

Gastrointestinal bleeding is the most common gastrointestinal emergency. Upper GI bleeding results in more than 300,000 hospitalizations per year in the U.S. [1, 2]. Recommendations from learned societies emphasize "early risk stratification, using validated prognostic scales" in the management of patients with upper GI bleeding for better management [3].

Risk stratification in the emergency department allows for rapid and accurate triage and appropriate use of resources. This is vital for time management and appropriate patient management. For upper GI bleeding, several prognostic scores have been developed [4, 5]. The most widely used scores are the Glasgow-Blatchford risk score [6] and the Rockwall score [7].

The GB score is the result of a cohort of 1,748 patients in the United Kingdom, developed without the purpose of predicting inpatient mortality, hemorrhagic recurrence, use of endoscopic or surgical intervention, and blood transfusion.

It is a score based on clinical and biological criteria; patients with a score of 0 or 1 do not require hospitalization and can be safely discharged and managed with outpatient endoscopy [8], (Table 2).

Table 2. *Glasgow Blatchford. Score.*

Admission risk marker	score
Blood urea (mmol/l)	
6.5-8	2
8-10	3
10-25	4
>25	6
Hb (g/l)	
Men	
120-130	1
100-120	3
<100	6
Women	
100-120	1
<100	6
Systolic BP (mmHg)	
100-109	1
90-99	2
<90	3
Pulse>100/min	1
History and comorbidities	
Melena	1
Syncope	2
Hepatic disease	2
Cardiac failure	2

In terms of mortality prediction, in a study by Maia et al. the comparison of the Glasgow Blatchford score between patients who survived after GI bleeding and those who died, did not show significant superiority in the second group (13.52 ± 4.65 vs. 12.40 ± 13.51, p = 0.108). This is also comparable to most of the studies reviewed, some studies [9, 10] report that GBS has an Area Under the Curve (AUC) greater than 0.7, although it still does not perform as well.

Re-bleeding is an important cause of increased hospital length of stay and readmissions. The results found in the literature are conflicting. Some articles describe that none of these scores are useful in predicting bleeding [10-12] Chandnani et al. [13] concluded that the GB score has a good performance.

The European Society of Gastrointestinal Endoscopy (ESGE) and the most recent recommendations [8, 14] recommend blood transfusion for a target hemoglobin level between 7 and 9 g/dL A higher target should be considered in patients with significant comorbidities. The GB score predicts the need for blood transfusion [10, 15]. According to the study by Maia et al. which showed a superiority of the score in patients requiring transfusions (14.26 ± 2.71 vs. 10.64 ± 3.57, $p < 0.001$) [16].

There are few studies analyzing the contribution of the Glasgow Blatchford score in the use of endoscopic interventions aimed at hemostasis, nevertheless some describe a good predictive value of this score [12, 15].

The role of surgery in non-varicose upper GI bleeding has decreased due to advances in endoscopy and endovascular therapies. As a result, surgical intervention is reserved when the latter have failed [17]. In terms of the use of hemostasis surgery, the GB score does not have a high positive predictive value [16].

5. Conclusion

The Glascow Blatchford score is an easy prognostic score to evaluate in pre-endoscopy in patients with upper GI bleeding. In spite of its limitations, this score remains relevant for the prediction of the prognosis and the risk of recurrence of bleeding. Further studies are needed for a better discussion of the issue.

References

[1] Terdiman JP. Update on upper gastrointestinal bleeding. Basing treatment decisions on patients' risk level. Postgrad Med 1998.

[2] Van Leerdam ME et al. Acute upper GI bleeding: did anything change? Time trend analysis of incidence and outcome of acute upper GI bleeding between 1993/1994 and 2000. Am J Gastroenterol 2003.

[3] Barkun AN, et al. International consensus recommendations on the management of patients with nonvariceal upper gastrointestinal bleeding. Ann Intern Med 2010.

[4] Saeed ZA, et al. A scoring system to predict rebleeding after endoscopic therapy of non-variceal upper gastrointestinal hemorrhage. Am J Gastroenterol 1993.

[5] Hay JA, et al. Upper gastrointestinal hemorrhage clinical guideline: determining the optimal hospital length of stay. Am J Med 1996.

[6] Blatchford O, et al. A risk score to predict need for treatment for upper-gastrointestinal haemorrhage. Lancet 2000.

[7] Rockall TA, et al. Risk assessment after acute upper gastrointestinal haemorrhage. Gut 1996.

[8] Gralnek IM, et al. Diagnosis and management of nonvariceal upper gastrointestinal hemorrhage: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. Endoscopy 2015.

[9] Kim MS, Choi J, Shin WC. AIMS65 scoring system is comparable to Glasgow-Blatchford score or Rockall score for prediction of clinical outcomes for non-variceal upper gastrointestinal bleeding. BMC Gastroenterol. 2019.

[10] Robertson M, et al. Risk stratification in acute upper GI bleeding: comparison of the AIMS65 score with the Glasgow-Blatchford and Rockall scoring systems. Gastrointest Endosc. 2016.

[11] Lu M, et al. Comparison of the Glasgow-Blatchford and Rockall Scores for prediction of nonvariceal upper gastrointestinal bleeding outcomes in Chinese patients. Medicine (Baltimore). 2019.

[12] Stanley AJ, et al.; International Gastrointestinal Bleeding Consortium. Comparison of risk scoring systems for patients presenting with upper gastrointestinal bleeding: international multicentre prospective study. BMJ. 2017.

[13] Chandnani S, et al. Comparison ofrisk scores in upper gastrointestinal bleedingin western India: A prospective analysis. Indian J Gastroenterol. 2019.

[14] Barkun AN, et al. Management of Nonvariceal Upper Gastrointestinal Bleeding: Guideline Recommendations From the International Consensus Group. Ann Intern Med. 2019.

[15] Mokhtare M, et al. Comparison of Glasgow-Blatchford score and full Rockall score systems to predict clinical outcomes inpatients with upper gastrointestinal bleeding. Clin Exp Gastroenterol. 2016.

[16] Maia, S., et al. The clinical impact of Rockall and Glasgow-Blatchford scores in nonvariceal upper gastrointestinal bleeding. *GE-Portuguese Journal of Gastroenterology*, *2021.*

[17] Samuel R, et al. Evaluation and management of Non-variceal upper gastrointestinal bleeding. Dis Mon. 2018.