

UPPER GASTROINTESTINAL BLEEDING EVALUATION IN OUT-OF-HOSPITAL EMERGENCY MEDICAL SERVICE

GRBAVAC J^{1,2}; Zelić N¹; Mikleušević A¹; Šerić A¹

1. Centre for Emergency Medicine, Osijek-Baranja County, Osijek, Croatia

2. Department of Chemistry, Biochemistry and Clinical Chemistry, Faculty of Medicine Osijek, Osijek

Introduction

- Upper gastrointestinal bleeding (UGIB) is a very common medical condition in emergency medicine with various etiologies and presentations. It is defined as blood loss originating proximal to the ligament of Treitz.
- The most common manifestation of UGIB is melena or hematemesis.
- Risk stratification of patients with UGIB in out-of-hospital emergency medical service (EMS) using preendoscopic risk scores can aid physicians in disposition decision-making.
- The goal of this review is to assess the predictive value of preendoscopic risk scores in EMS and their suitability in out-of-hospital EMS.

Review

- The vast majority (80%–90%) of episodes of acute UGIB are non-variceal causes.
- The most common etiologies include gastro-duodenal peptic ulcer (20%–50%), gastroduodenal erosions (8%–15%), erosive oesophagitis (5%–15%), and Mallory-Weiss tear (8%–15%).
- UGIB resolves spontaneously in up to 80% of patients and approximately 15% of patients require medical intervention.
- Patients with UGIB can be divided into a high risk and a low-risk group. The gold standard for division between these two groups is endoscopic intervention, which is not available in out-of-hospital EMS.

Glasgow-Blatchford score

- The Glasgow-Blatchford score (GBS) was developed to predict in-hospital rebleeding, death, as well as the need for treatment.
- The GBS consist of blood urea levels, hemoglobin concentration that are both unavailable in out-of-hospital care, systolic blood pressure, pulse, presentation with melena or syncope, and comorbidities.
- The GBS ranges from 0 to 23, with higher scores indicating higher likelihood of needing endoscopic intervention

Rockall Scoring System				
Variable	Score=0	Score =1	Score =2	Score =3
Age (years)	<60	60-79	>80	
Comorbidity			Congestive heart failure, ischemic heart disease	Renal failure, liver disease, metastatic disease
Shock	No shock	Pulse > 100 bpm	Systolic BP <100 mmHg	
Source of bleeding	Mallory-Weiss Tear	All other diagnoses: e.g., esophagitis, gastritis, peptic ulcer disease, varices	Malignancy	
Stigmata of recent bleeding	None		Adherent clot or spurting vessel	

Figure 1: Rockall scoring system; <https://pulmonarychronicles.com/index.php/pulmonarychronicles>

Rockall score

- Other risk scores are also in use, such as Rockall which is more practical for out-of-hospital usage because it does not require laboratory tests.
- Total score is calculated by simple addition. A score less than 3 carries good prognosis but total score more than 8 carries high risk of mortality.
- Both scores are highly sensitive but have very low specificity.

Reference List

- Khamaysi, I. and Gralnek, I. M. (2013) "Acute upper gastrointestinal bleeding (UGIB) - initial evaluation and management," *Best practice & research. Clinical gastroenterology*, 27(5), pp. 633–638. doi: 10.1016/j.bpg.2013.09.002.
- Ramaekers, R. et al. (2016) "The predictive value of preendoscopic risk scores to predict adverse outcomes in emergency department patients with upper gastrointestinal bleeding: A systematic review," *Academic emergency medicine: official journal of the Society for Academic Emergency Medicine*, 23(11), pp. 1218–1227. doi: 10.1111/acem.13101.
- Samuel, R. et al. (2018) "Evaluation and management of Non-variceal upper gastrointestinal bleeding," *Disease-a-month: DM*, 64(7), pp. 333–343. doi: 10.1016/j.disamonth.2018.02.003.



12.-14. svibnja 2023.
OSIJEK

Conclusion

Overall, guidelines for UGIB provide a comprehensive and evidence-based approach to the management of this challenging condition in the EMS. Future prospective studies are needed to develop robust new scores for use in out-of-hospital EMS assessment.

Admission risk marker		Score
Blood urea (mmol/l)	≥6.5 et < 8	2
	≥8 et < 10	3
	≥10 et < 25	4
	≥25	6
Hemoglobin (g/L) for men	≥12 et < 13	1
	≥10 et < 12	3
	<10	6
Hemoglobin (g/L) for women	≥10 et < 12	1
	<10	6
Systolic blood pressure (mmHg)	≥100 et < 109	1
	≥90 et < 100	2
	<90	3
Other markers	pulse ≥100	1
	Melena	1
	Syncope	2
	Hepatic disease	2
	Cardiac failure	2

A total score more than 8 carries high risk justifying ICU admission.

Figure 2: Glasgow-Blatchford score; <https://www.researchgate.net/publication/233392580>



Posebna zahvala:

Zavodu za hitnu medicinu Osječko-baranjske županije na pomoći oko financiranja sudjelovanja na simpoziju Hitne medicine u Osijeku

Author credentials:
Josip Grbavac M.D
Centre for Emergency Medicine, Osijek-Baranja County, Osijek, Croatia
jgrbavacd@gmail.com
+385919416462