

## Raising the threshold for hospital admission and endoscopy in upper gastrointestinal bleeding during the COVID-19 pandemic

Upper gastrointestinal bleeding (UGIB) is a common cause of hospital admissions worldwide. While health care systems are under significant strain during the COVID-19 pandemic, it is logical to reduce hospital admissions for patients at very low risk of poor outcomes. Additionally, upper gastrointestinal endoscopy is recognized as an aerosol-generating procedure that should be restricted during the pandemic, because of the risk of spreading COVID-19 and the limited availability of personal protection equipment [1, 2]. Therefore, elective and even urgent endoscopy has been suspended in many centers worldwide. Current guidelines recommend the use of the Glasgow-Blatchford Score (GBS) for predicting the need for hospital-based intervention in patients with UGIB [3, 4]. Patients with GBS  $\leq 1$  are recognized to be at very low risk and can safely be managed as outpatients with no need for inpatient endoscopy [3, 4].

Based on data from a large international multicenter study including 3012 consecutive patients with UGIB [5], we have evaluated the outcomes associated with extended low risk GBS thresholds for identifying patients needing hospital admission and endoscopic therapy.

► **Table 1** shows the numbers of identified low-risk patients and outcomes for GBS thresholds 0 to  $\leq 5$ . Use of GBS  $\leq 2$  or  $\leq 3$  as thresholds for avoiding hospital admission in UGIB would lead to avoidance of admission and in-hospital endoscopy in 26%–32% of all UGIB patients. In patients classified as being at low risk, the risk of needing endoscopic therapy (3.3%–4.1%), needing surgery or embolization (0.5%), death within 30 days (0.8%–1.7%), and delayed identification of upper gastrointestinal cancer (0.65%–0.75%) would probably be acceptable in countries with a health care system facing significant strain or potential collapse from COVID-19. If such patients are admitted for other reasons, the very low risk of needing endoscopic therapy suggests endoscopy could be undertaken electively as an outpatient. Consistently with these suggested thresholds, re-analysis of data from a multicenter study of 1555 patients with UGIB found endoscopic therapy was required in 4.2%–4.4% patients with GBS 2 or 3, but rose to 9.4% for GBS 4 [6]. Combining extended GBS thresholds with exclusion of patients with major risk factors including systolic blood pressure  $< 100$  mmHg, syncope, or liver cirrhosis

was not superior to use of GBS  $\leq 2$ –3 alone. However, clinical judgment would still be required for specific patients.

In countries severely affected by COVID-19, we suggest that the low risk threshold for defining UGIB patients who require hospitalization and inpatient endoscopy could be raised to GBS  $\leq 2$  or even GBS  $\leq 3$ . These patients could be treated with high dose oral proton pump inhibitors and evaluated with endoscopy once the epidemic has peaked.

### Competing interests

I.M. Gralnek is a consultant for Motus GI, Boston Scientific, Symbionix, and GI View; he has a financial interest in and is a member of the Medical Advisory Board of MOTUS GI. A.J. Stanley and S.B. Laursen declare that they have no conflicts of interest.

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► **Table 1** Outcomes among patients (n = 3012 [5]) with upper gastrointestinal bleeding and low Glasgow-Blatchford Score (GBS), according to threshold used.

GBS threshold	Patients classified as low risk, n (%)	Outcomes, n (%)				
		Hemostatic intervention, and/ or Need for transfusion, and/ or, Death	Need for transfusion	Endoscopic therapy	Surgery/embolization	30-day mortality
0	254 (8.7)	5 (2.0)	0 (0)	3 (1.2)	1 (0.4)	1 (0.4)
$\leq 1$	564 (19)	19 (3.4)	10 (1.8)	8 (1.4)	2 (0.4)	2 (0.4)
$\leq 2$	770 (26)	45 (5.9)	20 (2.6)	25 (3.3)	4 (0.5)	6 (0.8)
$\leq 3$	934 (32)	72 (7.7)	28 (3.0)	38 (4.1)	5 (0.5)	16 (1.7)
$\leq 4$	1120 (38)	105 (9.4)	39 (3.5)	60 (5.4)	6 (0.5)	22 (2.0)
$\leq 5$	1299 (44)	159 (12)	61 (4.7)	80 (6.2)	7 (0.5)	41 (3.2)

Missing data: GBS, n = 80; need for transfusion, n = 23; endoscopic therapy, n = 20; surgery or embolization, n = 5; and mortality, n = 1.

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## References

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- [1] Endoscopy activity and COVID-19: BSG and JAG guidance. Updated on: 03 Apr 2020. Accessed: April 8 2020. Available at: <https://www.bsg.org.uk/covid-19-advice/endors-copy-activity-and-covid-19-bsg-and-jag-guidance>
- [2] Gralnek IM, Hassan C, Beilenhoff U et al. ESGE and ESGENA Position Statement on gastrointestinal endoscopy and the COVID-19 pandemic. Accessed: May 9 2020. Available at: <https://www.esge.com/esge-and-esgena-position-statement-on-gastrointestinal-endoscopy-and-the-covid-19-pandemic/>
- [3] Barkun AN, Almadi M, Kuipers EJ et al. Management of nonvariceal upper gastrointestinal bleeding: Guideline recommendations from the International Consensus Group. *Ann Intern Med* 2019; 171: 805–822. doi:10.7326/M19-1795
- [4] Gralnek IM, Dumonceau JM, Kuipers EJ et al. Diagnosis and management of nonvariceal upper gastrointestinal hemorrhage: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2015; 47: a1–a46
- [5] Stanley AJ, Laine L, Dalton HR et al. Comparison of risk scoring systems for patients presenting with upper gastrointestinal bleeding: international multicentre prospective study. *BMJ* 2017; 356: i6432. doi:10.1136/bmj.i6432
- [6] Stanley AJ, Dalton HR, Blatchford O et al. Multicentre comparison of the Glasgow Blatchford and Rockall scores in the prediction of clinical end-points after upper gastrointestinal haemorrhage. *Aliment Pharmacol Ther* 2011; 34: 470–475. doi:10.1111/j.1365-2036.2011.04747.x

## Bibliography

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