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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 ≤ 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 ≤ 5. Use of GBS ≤ 2 or ≤ 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 ≤ 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 ≤ 2 or even GBS ≤ 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)
≤ 1	564 (19)	19 (3.4)	10 (1.8)	8 (1.4)	2 (0.4)	2 (0.4)
≤ 2	770 (26)	45 (5.9)	20 (2.6)	25 (3.3)	4 (0.5)	6 (0.8)
≤ 3	934 (32)	72 (7.7)	28 (3.0)	38 (4.1)	5 (0.5)	16 (1.7)
≤ 4	1120 (38)	105 (9.4)	39 (3.5)	60 (5.4)	6 (0.5)	22 (2.0)
≤ 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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