

World Journal of *Clinical Cases*

World J Clin Cases 2024 September 26; 12(27): 6004-6131



EDITORIAL

- 6004** Predictors of prognosis in Alzheimer's disease: The role of cognitive dysfunction, immune abnormalities, and advanced neuroimaging
Raja HA, Nashwan AJ
- 6007** Trends in upper gastrointestinal bleeding management
Khayyat YM
- 6011** Obstructive sleep apnea-hypopnea syndrome immunological relationship
Ali M, Ramadan A, Surani S
- 6015** Interferon-gamma release assays as a tool for differential diagnosis of gastrointestinal tuberculosis
Velikova T, Aleksandrova A
- 6020** Clinical approach for pulmonary lymphatic disorders
Thamkittikun C, Tovichien P
- 6027** Deciphering the iron enigma: Navigating the complexities of iron metabolism in critical illness
Mishra A, Juneja D

OPINION REVIEW

- 6032** Vascular medicine in the 21st century: Embracing comprehensive vasculature evaluation and multidisciplinary treatment
Chaiter Y, Fink DL, Machluf Y

MINIREVIEWS

- 6045** Review of the potential value of serum interleukin levels as prognostic biomarkers of liver failure
Lin Y, Yan GJ, Liu MY, Cao Y, Zhang K, Wang N, Long FL, Mao DW

ORIGINAL ARTICLE**Retrospective Cohort Study**

- 6057** Prognostic factors of early recurrence after complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy
Chen CY, Huang TH, Lee LW, Lung J, Ou YC, Hung CH, Chuang HC, Chen MC, Wang TY

Retrospective Study

- 6070** Application effect of case management nursing based on patient safety in patients with prostate cancer
Zhou R, Xu CL

Observational Study

- 6077 Oral *candidiasis* and potential risk factors among disabled and non-disabled in Al-Baha region, Saudi Arabia
Alzahrani AAH, Bhat N, Kukreja P, Alhassan EM, Mudawi AIA, Alzahrani FA, Albanghali MA

Randomized Controlled Trial

- 6087 Effect of sequential nursing care combined with communication intervention on visual recovery and pain after cataract ultrasound emulsification
Wang JC, Zhang Q, Yu MR, Yang YX, Jiang HM

Clinical and Translational Research

- 6094 Network pharmacology combined with molecular docking revealed the potential targets of *Coridius chinensis* in prostate cancer treatment
Zhang M, Ma J, Zeng FY, Hou XH

CASE REPORT

- 6105 Successful endoscopic treatment of superficial esophageal cancer in a patient with esophageal variceal bleeding: A case report
Xu L, Chen SS, Yang C, Cao HJ
- 6111 HDR syndrome presented with nephrotic syndrome in a Chinese boy: A case report
Ma LJ, Yang W, Zhang HW
- 6117 Tuberculous peritonitis complicated by an intraperitoneal tuberculous abscess: A case report
Liu WP, Ma FZ, Zhao Z, Li ZR, Hu BG, Yang T

LETTER TO THE EDITOR

- 6124 When the vermiform appendix resembles a polyp: Be cautious of an intussuscepted appendix polypectomy
Pellegrino R, Gravina AG
- 6129 Insights into upper blepharoplasty: Conservative volume-preserving techniques
Gorgy A, Al Hashemi R, Efanov JI

ABOUT COVER

Peer Reviewer of *World Journal of Clinical Cases*, Pretty Sara Idiculla, MBBS, MD, Doctor, Internal Medicine, MountainView Regional Medical Center, Las Cruces, NM 88011, United States. sarahidiculla.psi@gmail.com

AIMS AND SCOPE

The primary aim of *World Journal of Clinical Cases* (*WJCC*, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

INDEXING/ABSTRACTING

The *WJCC* is now abstracted and indexed in PubMed, PubMed Central, *Reference Citation Analysis*, China Science and Technology Journal Database, and Superstar Journals Database. The 2024 Edition of Journal Citation Reports® cites the 2023 journal impact factor (JIF) for *WJCC* as 1.0; JIF without journal self cites: 0.9; 5-year JIF: 1.1; JIF Rank: 168/325 in medicine, general and internal; JIF Quartile: Q3; and 5-year JIF Quartile: Q3.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: *Si Zhao*; Production Department Director: *Xiang Li*; Cover Editor: *Jin-Li Wang*.

NAME OF JOURNAL

World Journal of Clinical Cases

ISSN

ISSN 2307-8960 (online)

LAUNCH DATE

April 16, 2013

FREQUENCY

Thrice Monthly

EDITORS-IN-CHIEF

Bao-Gan Peng, Salim Surani, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati

EDITORIAL BOARD MEMBERS

<https://www.wjgnet.com/2307-8960/editorialboard.htm>

PUBLICATION DATE

September 26, 2024

COPYRIGHT

© 2024 Baishideng Publishing Group Inc

INSTRUCTIONS TO AUTHORS

<https://www.wjgnet.com/bpg/gerinfo/204>

GUIDELINES FOR ETHICS DOCUMENTS

<https://www.wjgnet.com/bpg/gerinfo/287>

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH

<https://www.wjgnet.com/bpg/gerinfo/240>

PUBLICATION ETHICS

<https://www.wjgnet.com/bpg/gerinfo/288>

PUBLICATION MISCONDUCT

<https://www.wjgnet.com/bpg/gerinfo/208>

ARTICLE PROCESSING CHARGE

<https://www.wjgnet.com/bpg/gerinfo/242>

STEPS FOR SUBMITTING MANUSCRIPTS

<https://www.wjgnet.com/bpg/gerinfo/239>

ONLINE SUBMISSION

<https://www.f6publishing.com>

Trends in upper gastrointestinal bleeding management

Yasir M Khayyat

Specialty type: Medicine, research and experimental

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification

Scientific Quality: Grade C

Novelty: Grade B

Creativity or Innovation: Grade B

Scientific Significance: Grade B

P-Reviewer: Liu C

Received: March 6, 2024

Revised: June 15, 2024

Accepted: June 26, 2024

Published online: September 26, 2024

Processing time: 138 Days and 11.4 Hours



Yasir M Khayyat, Department of Medicine, Faculty of Medicine, Umm AL-Qura University, Makkah 8156-24381, Saudi Arabia

Corresponding author: Yasir M Khayyat, FACP, FRCP (C), Professor, Department of Medicine, Faculty of Medicine, Umm AL-Qura University, AlAwali District, Makkah 8156-24381, Saudi Arabia. ymkhayyat@uqu.edu.sa

Abstract

Upper gastrointestinal bleeding (UGIB) can be attributed to either non-variceal or variceal causes. The latter is more aggressive with hemodynamic instability secondary to decompensated cirrhosis and portal hypertension. Non-variceal UGIB (NVUGIB) occurs due to impaired gastroprotective mechanisms attributed to several drugs such as anticoagulants and nonsteroidal anti-inflammatory drugs. *Helicobacter pylori* infection contributes to the development of peptic ulcer bleeding as well. NVUGIB presentation can be either hemodynamically stable or unstable. During the initial assessment a scoring system including patient-related factors (current cardiac, renal, and liver diseases and hemodynamic and laboratory parameters) is used to determine the patient's prognosis. The Glasgow Blatchford score has been shown to be the most useful and precise. Those with high-risk NVUGIB require urgent assessment and upper endoscopy to achieve better short-term and long-term outcomes such as less hospitalization, blood transfusion, and surgery.

Key Words: Gastric; Peptic; Non-steroidal anti-inflammatory drugs; Anticoagulants; Melena

©The Author(s) 2024. Published by Baishideng Publishing Group Inc. All rights reserved.

Core Tip: Non-variceal upper gastrointestinal bleeding (NVUGIB) is a medical emergency that requires assessment of patient factors, hemodynamic parameters, and laboratory work to determine the patient's prognosis and treatment. Patients with low-risk NVUGIB are typically discharged quickly, while patients with high-risk NVUGIB may require administration of volume replacement, blood transfusion, and high-dose intravenous proton pump inhibitors. These high-risk patients also require urgent upper endoscopy. Evaluation of the need for anticoagulant and analgesics after discharge is also needed.

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) can occur during hospitalization or from widespread use of nonsteroidal anti-inflammatory drugs (NSAIDs) or direct oral anticoagulants (DOACs)[1]. This editorial is in response to the observational study by Wang *et al*[2], titled "Clinical characteristics of acute non-variceal upper gastrointestinal bleeding and the effect of endoscopic hemostasis".

UGIB symptoms include bloody vomitus, coffee ground emesis, and/or melena. Bloody emesis is not associated with high mortality nor severe bleeding, but it is associated with a modestly high rate of rebleeding and the need for hemostatic intervention. A worse outcome is associated with the occurrence of both bloody emesis and melena. A common source of non-variceal UGIB (NVUGIB) is a bleeding gastric ulcer[3]. Interestingly, Wang *et al*[2] reported no statistically significant difference in the incidence of gastroduodenal bleeding ulcers in the middle-aged patients and elderly patients.

ETIOLOGY

NSAIDs

NSAIDs are historically associated with acute and chronic UGIB. Furthermore, extended use of antithrombotic medications (*e.g.*, aspirin) for prophylaxis and management of cardiovascular disorders contributes to the incidence of lower GIB and UGIB[4]. NSAIDs commonly induce gastroduodenal ulcers[5].

DOACs

DOACs are widely used among the elderly population for management of cerebrovascular ischemia. However, their use is associated with severe acute gastrointestinal bleeding due to peptic gastroduodenal ulcers. There is also a high risk of mortality (11.8% at 30 d). Anemia and low hemoglobin levels are predictive of life-threatening bleeding and death[6]. Physiological stress that may be caused by hospitalization in the intensive care unit is associated with altered hemodynamics and stress gastropathy. UGIB due to a gastroduodenal site bleed was recently reported in several patients with coronavirus disease 2019[7].

Helicobacter pylori

Helicobacter pylori (*H. pylori*) infection is involved in the pathogenesis and development of atrophic gastritis and development of gastric dysplasia. Notably, Popa *et al*[8] showed that *H. pylori* infection is common in actively bleeding gastroduodenal lesions. However, *H. pylori* was not found to be involved in the pathogenesis of perforated peptic ulcers [9].

Wang *et al*[2] analyzed the etiological causes in their cohort but did not reference *H. pylori*-related peptic ulcer bleeding. It is important to understand the impact of *H. pylori* infection in UGIB. There are unique virulence strains of *H. pylori* that have been reported geographically which impact disease behavior in peptic ulcers and gastric cancer, including Cytotoxin-associated gene A (Cag A) and vacuolating cytotoxin A (Vac A)[10], duodenal ulcer promoting gene A in duodenal ulcers[11], Vac A and helicobacter outer membrane B in gastric cancer[12-14], and Cag A, east Asian Cag A-specific and western Cag A-specific phosphorylation sites[15]. Wang *et al*[2] described etiological causes such as patient diet, emotional excitement, and fatigue. These factors were not quantified in their assessment, and they are not considered risk factors of UGIB in the published literature of peptic ulcer disease. Cold ambient weather, an external factor, does not cause NVUGIB but is correlated with variceal GIB[16]. Eight patients (1.5%) in the study by Wang *et al*[2] had a UGIB etiology of iatrogenic/post-endoscopic intervention. The bleeding in that group of patients behaved differently from the other NVUGIB patients with impaired gastric mucosal protection, and the management and outcome were different in each group.

UGIB risk assessment

Pre-endoscopy assessment is a crucial step upon initial evaluation in the emergency room. This assessment is helpful for the early triage of low-risk UGIB patients to guide them towards safe outpatient management. Of the several available risk scores, the Glasgow Blatchford score is considered of high yield. It is able to discriminate between cases requiring urgent endoscopic intervention (within less than 6 hours) *vs* those who require early endoscopy (between 6-24 hours)[17-19]. Parameters used to calculate the Glasgow Blatchford score are readily available and include age of the patient, comorbid illnesses (cardiac, renal, and liver diseases), symptoms (syncope, melena), vital signs, and basic blood work parameters (complete blood count, renal profile).

High-risk factors include advanced age and comorbid diseases such as cardiac and renal diseases. These factors are significant predictors of hemorrhagic peptic ulcer lesions[20]. In the elderly population, the clinical risk score includes five variables to accurately assess UGIB risk. They include: Charlson comorbidity Index > 2; Systolic blood pressure < 100

mmHg; Hemoglobin < 100 g/L; Blood urea nitrogen \geq 6.5 mmol/L; and Albumin < 30 g/L. The optimal cutoff value was \geq 1, with a sensitivity of 97.37% and specificity was 19.21% for predicting the inability to safely discharge the patient. The area under the receiver operating characteristic curve was 0.806[21].

MANAGEMENT OF UGIB

Role of endoscopy in UGIB

After the UGIB patient is initially stabilized with volume resuscitation to manage hemodynamic instability and/or blood transfusion for low hemoglobin levels (7-8 g/L), lower doses of intravenous proton pump inhibitors are started[19,22]. Low doses of proton pump inhibitors are efficacious in the improvement of short-term and long-term outcomes compared to high doses of proton pump inhibitors[23,24]. Then, upper endoscopy is performed to classify (*via* Forrest score) and treat the bleeding source[25]. The bleeding source can be identified following the use of a prokinetic such as erythromycin[19,26]. Robust evidence showed that the use of bipolar electrocoagulation and/or ethanol injection can achieve better hemostasis. Performing endoscopy between 6-24 hours is safe and not associated with decreased 30-d mortality[26,27].

PROGNOSIS

Rebleeding risk in UGIB

Severe presentation with hemodynamic shock is a risk factor for recurrent bleeding. Therefore, increased follow-up with another endoscopy procedure is needed[28]. Ito *et al*[29] reported that there are four independent rebleeding risk factors for patients with gastroduodenal ulcer bleeding, including blood transfusion, albumin < 2.5 g/dL, duodenal ulcer, and diameter of the exposed vessel \geq 2 mm. The presence of three or four factors are associated with rebleeding rates of 44% and 54%, respectively[29].

FUTURE RESEARCH

A more robust scoring system to predict the outcome of bleeding should be developed. It should be able to outperform the shortfalls of the current predictive scoring models that require blood test measurements which could be subject to variabilities relating to the timing of blood extraction as well as intravenous fluid administration and to the patient's recall of clinical comorbidity. Furthermore, incorporation of parameters to provide better prediction and knowledge of the patient's biologic hemostasis (a crucial step in bleeding ulcer control) will benefit future scoring models.

CONCLUSION

NVUGIB is a common medical condition that many medical specialties face due to the common use of several medications, such as NSAIDs and DOACs, which induce peptic ulcer-related bleeding. Initial assessment of UGIB will guide physicians and triage patients toward a better outcome. Early resuscitation, possible blood transfusion, proton pump inhibitor treatment, and endoscopy contribute to successful short-term and long-term outcomes.

FOOTNOTES

Author contributions: Khayyat YM contributed to conceptualization, drafting, and revision of the editorial manuscript.

Conflict-of-interest statement: The authors declare that they have no conflict of interest.

Open-Access: This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <https://creativecommons.org/licenses/by-nc/4.0/>

Country of origin: Saudi Arabia

ORCID number: Yasir M Khayyat 0000-0002-8344-2028.

S-Editor: Fan M

L-Editor: A

P-Editor: Zhang XD

REFERENCES

- 1 **Alruzug IM**, Aldarsouny TA, Semaan T, Aldaher MK, AlMustafa A, Azzam N, Aljebreen A, Almadi MA. Time trends of causes of upper gastrointestinal bleeding and endoscopic findings. *Saudi J Gastroenterol* 2021; **27**: 28-34 [PMID: 33078720 DOI: 10.4103/sjg.SJG_378_20]
- 2 **Wang XJ**, Shi YP, Wang L, Li YN, Xu LJ, Zhang Y, Han S. Clinical characteristics of acute non-varicose upper gastrointestinal bleeding and the effect of endoscopic hemostasis. *World J Clin Cases* 2024; **12**: 1597-1605 [PMID: 38576734 DOI: 10.12998/wjcc.v12.i9.1597]
- 3 **Lakshmi AV**, Md Dm, Murthy R, Babu S. A Study of Upper GI Endoscopic Findings in Patients Presented with Upper GI Bleed. *J Assoc Physicians India* 2023; **71**: 1 [PMID: 37116036]
- 4 **Bouget J**, Viglino D, Yvetot Q, Oger E. Major gastrointestinal bleeding and antithrombotics: Characteristics and management. *World J Gastroenterol* 2020; **26**: 5463-5473 [PMID: 33024397 DOI: 10.3748/wjg.v26.i36.5463]
- 5 **Traoré O**, Diarra AS, Kassogué O, Abu T, Maïga A, Kanté M. The clinical and endoscopic aspects of peptic ulcers secondary to the use of nonsteroidal anti-inflammatory drugs of various origins. *Pan Afr Med J* 2021; **38**: 170 [PMID: 33995777 DOI: 10.11604/pamj.2021.38.170.17325]
- 6 **Deutsch D**, Romegoux P, Boustière C, Sabaté JM, Benamouzig R, Albaladejo P. Clinical and endoscopic features of severe acute gastrointestinal bleeding in elderly patients treated with direct oral anticoagulants: a multicentre study. *Therap Adv Gastroenterol* 2019; **12**: 1756284819851677 [PMID: 31244894 DOI: 10.1177/1756284819851677]
- 7 **Ion D**, Padurarur D, Bolocan A, Musat F, Andronic O, Palcău CA. Gastro-Intestinal Bleeding in COVID-19 Patients - Is There Any Causal Relation? *Chirurgia (Bucur)* 2021; **116**: S69-S76 [PMID: 35274613]
- 8 **Popa DG**, Obleagă CV, Socea B, Serban D, Ciurea ME, Diaconescu M, Vilcea ID, Meșină C, Mirea C, Florescu DN, Baleanu VD, Comandasu M, Tudose MS, Tribus LC, Niculescu B. Role of Helicobacter pylori in the triggering and evolution of hemorrhagic gastro-duodenal lesions. *Exp Ther Med* 2021; **22**: 1147 [PMID: 34504592 DOI: 10.3892/etm.2021.10582]
- 9 **Thirupathaihal K**, Jayapal L, Amaranathan A, Vijayakumar C, Goneppanavar M, Nelamangala Ramakrishnaiah VP. The Association Between Helicobacter Pylori and Perforated Gastroduodenal Ulcer. *Cureus* 2020; **12**: e7406 [PMID: 32337132 DOI: 10.7759/cureus.7406]
- 10 **Matos JI**, de Sousa HA, Marcos-Pinto R, Dinis-Ribeiro M. Helicobacter pylori CagA and VacA genotypes and gastric phenotype: a meta-analysis. *Eur J Gastroenterol Hepatol* 2013; **25**: 1431-1441 [PMID: 23929249 DOI: 10.1097/MEG.0b013e328364b53e]
- 11 **Hussein NR**. The association of dupA and Helicobacter pylori-related gastroduodenal diseases. *Eur J Clin Microbiol Infect Dis* 2010; **29**: 817-821 [PMID: 20419465 DOI: 10.1007/s10096-010-0933-z]
- 12 **Keikha M**, Ali-Hassanzadeh M, Karbalaei M. Association of Helicobacter pylori vacA genotypes and peptic ulcer in Iranian population: a systematic review and meta-analysis. *BMC Gastroenterol* 2020; **20**: 266 [PMID: 32795257 DOI: 10.1186/s12876-020-01406-9]
- 13 **Keikha M**, Karbalaei M. Correlation between the geographical origin of Helicobacter pylori homB-positive strains and their clinical outcomes: a systematic review and meta-analysis. *BMC Gastroenterol* 2021; **21**: 181 [PMID: 33879080 DOI: 10.1186/s12876-021-01764-y]
- 14 **Li Q**, Liu J, Gong Y, Yuan Y. Serum VacA antibody is associated with risks of peptic ulcer and gastric cancer: A meta-analysis. *Microb Pathog* 2016; **99**: 220-228 [PMID: 27568203 DOI: 10.1016/j.micpath.2016.08.030]
- 15 **Li Q**, Liu J, Gong Y, Yuan Y. Association of CagA EPIYA-D or EPIYA-C phosphorylation sites with peptic ulcer and gastric cancer risks: A meta-analysis. *Medicine (Baltimore)* 2017; **96**: e6620 [PMID: 28445260 DOI: 10.1097/MD.00000000000006620]
- 16 **Prechter F**, Bürger M, Lehmann T, Stallmach A, Schmidt C. A study on the correlation of gastrointestinal bleeding and meteorological factors - is there a weather condition for GI bleeding? *Z Gastroenterol* 2019; **57**: 1476-1480 [PMID: 31826278 DOI: 10.1055/a-1008-9863]
- 17 **Sengupta N**. Integrating Gastrointestinal Bleeding Risk Scores into Clinical Practice. *Am J Gastroenterol* 2019; **114**: 1699-1703 [PMID: 31592783 DOI: 10.14309/ajg.0000000000000417]
- 18 **Laine L**, Jensen DM. Management of patients with ulcer bleeding. *Am J Gastroenterol* 2012; **107**: 345-60; quiz 361 [PMID: 22310222 DOI: 10.1038/ajg.2011.480]
- 19 **Laine L**, Barkun AN, Saltzman JR, Martel M, Leontiadis GI. ACG Clinical Guideline: Upper Gastrointestinal and Ulcer Bleeding. *Am J Gastroenterol* 2021; **116**: 899-917 [PMID: 33929377 DOI: 10.14309/ajg.0000000000001245]
- 20 **Arai J**, Kato J, Toda N, Kurokawa K, Shibata C, Kurosaki S, Funato K, Kondo M, Takagi K, Kojima K, Ohki T, Seki M, Tagawa K. Risk factors of poor prognosis and impairment of activities of daily living in patients with hemorrhagic gastroduodenal ulcers. *BMC Gastroenterol* 2021; **21**: 16 [PMID: 33407172 DOI: 10.1186/s12876-020-01580-w]
- 21 **Li Y**, Lu Q, Song M, Wu K, Ou X. Novel risk score for acute upper gastrointestinal bleeding in elderly patients: a single-centre retrospective study. *BMJ Open* 2023; **13**: e072602 [PMID: 37286320 DOI: 10.1136/bmjopen-2023-072602]
- 22 **Stanley AJ**, Laine L. Management of acute upper gastrointestinal bleeding. *BMJ* 2019; **364**: i536 [PMID: 30910853 DOI: 10.1136/bmj.i536]
- 23 **Wang CH**, Ma MH, Chou HC, Yen ZS, Yang CW, Fang CC, Chen SC. High-dose vs non-high-dose proton pump inhibitors after endoscopic treatment in patients with bleeding peptic ulcer: a systematic review and meta-analysis of randomized controlled trials. *Arch Intern Med* 2010; **170**: 751-758 [PMID: 20458081 DOI: 10.1001/archinternmed.2010.100]
- 24 **Sgourakis G**, Chatzidakis G, Poulou A, Malliou P, Argyropoulos T, Ravanis G, Vagia A, Kpogho I, Briki A, Tsuruhara H, Stankovičová T. High-dose vs. Low-dose Proton Pump Inhibitors post-endoscopic hemostasis in patients with bleeding peptic ulcer. A meta-analysis and meta-regression analysis. *Turk J Gastroenterol* 2018; **29**: 22-31 [PMID: 29391304 DOI: 10.5152/tjg.2018.17143]
- 25 **Forrest JA**, Finlayson ND, Shearman DJ. Endoscopy in gastrointestinal bleeding. *Lancet* 1974; **2**: 394-397 [PMID: 4136718 DOI: 10.1016/s0140-6736(74)91770-x]
- 26 **Lau JYW**, Yu Y, Chan FKL. Timing of Endoscopy for Acute Upper Gastrointestinal Bleeding. Reply. *N Engl J Med* 2020; **383**: e19 [PMID: 32706541 DOI: 10.1056/NEJMc2014572]
- 27 **Siau K**, Ishaq S. Timing of Endoscopy for Acute Upper Gastrointestinal Bleeding. *N Engl J Med* 2020; **383**: e19 [PMID: 32706540]
- 28 **Samoilenko GE**, Zharikov SO, Klimanskyi RP. The causes of adverse treatment results and the ways of their elimination in bleeding from chronic gastroduodenal ulcers. *Wiad Lek* 2020; **73**: 1957-1961 [PMID: 33148840]
- 29 **Ito N**, Funasaka K, Fujiyoshi T, Nishida K, Satta Y, Furukawa K, Kakushima N, Furune S, Ishikawa E, Mizutani Y, Sawada T, Maeda K, Ishikawa T, Yamamura T, Ohno E, Nakamura M, Miyahara R, Sasaki Y, Haruta JI, Fujishiro M, Kawashima H. Risk factors for rebleeding in gastroduodenal ulcers. *Ir J Med Sci* 2024; **193**: 173-179 [PMID: 37432526 DOI: 10.1007/s11845-023-03450-2]



Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA

Telephone: +1-925-3991568

E-mail: office@baishideng.com

Help Desk: <https://www.f6publishing.com/helpdesk>

<https://www.wjgnet.com>

