Open Access

Original Article

Endoscopic Findings in Non-Variceal Upper Gastrointestinal Bleed Patients with High AIMS 65 Score

Dheeraj Kumar, Hamid Ali Kalwar*, Muhammad Tanveer Khalid, Ghulam Mujtaba***, Shahid Karim, Shahid Majid*****

Department of Gastroenterology, Liaquat National Hospital Karachi Pakistan, *Department of Gastroenterology, Indus Hospital Karachi Pakistan
**Department of Gastroenterology, Sir Syed Medical College & Hospital Karachi Pakistan,
***Department of Gastroenterology, Lyari General Hospital Karachi

ABSTRACT

Objective: To determine the frequency of endoscopic findings in non-variceal upper gastrointestinal bleed patients with high AIMS 65 score at a tertiary care hospital in Karachi.
***Study Design*:** Cross-Sectional study.
Place and Duration of Study: Department of Gastroenterology, Liaquat National Hospital and Medical College, Karachi Pakistan, from Jan to Dec 2020.
Methodology: All 112 patients with history of melena, hematemesis and with high AIMS 65 Score >2 who fulfilled the inclusion criteria were enrolled in this study. Gastroscopy was carried out, and findings and their frequency were noted, along with Forrest classes and esophagitis grading.
Results: This study included 112 patients with hematemesis and melena. The patients mean age was 43.5±12.11 years, mean duration of hematemesis was 7.12±3.10 hours. Among endoscopic findings the duodenal ulcers were the most common (46.4%) followed by gastric ulcers (42%), Camron ulcers (6.1%), esophagitis (10.7%), Mallory Weise tears (13.4%) and Dieulafoy's lesions (5.4 %) Among the duodenal and gastric ulcers, Forrest class IIC was most common i.e. (38.5%) and (46.8%) respectively. LA Grading of esophagitis showing LA Grade A (28.6 %) and Grade B (28.6 %).
Conclusion: This study demonstrates that patients with high AIMS 65 scores have duodenal ulcers as most common endoscopic finding, followed by gastric ulcers. Among duodenal and gastric ulcers, Forrest class IIC was the most common finding.

Keywords: Duodenal Ulcer, Gastric Ulcer, Gastroscopy, Hematemesis, Melena.

How to Cite This Article: *Kumar D, Kalwar HA, Khalid MT, Mujtaba G, Karim S, Majid S. Endoscopic findings in Non-Variceal Upper Gastrointestinal Bleed Patients with High AIMS 65 Score. Pak Armed Forces Med J 2024; 74(4): 1102-1105. DOI: https://doi.org/10.51253/pafmj.v74i4.8725*

INTRODUCTION

One of the most common and significant illnesses treated by gastroenterologists is acute upper gastrointestinal (GI) bleeding.[1,2] Endoscopic therapy and acid-suppressing medications (Proton Pump Inhibitors) have helped to minimize disease-related mortality and morbidity, However, upper GI bleeding is still linked to a high fatality rate and a high treatment cost.[3]

In order to develop therapeutic approaches for acute Upper GI Bleeding (UGIB), it's critical to do a thorough risk assessment.[4] The AIMS65 score was just introduced. Age, serum albumin level, systolic blood pressure, prothrombin time (International Normalized Ratio [INR]), and mental condition make up this score system. In some studies, the AIMS65 scale has been proven to predict in-hospital mortality, length of hospitalization, and treatment cost in patients with acute upper GI bleeding.[5,6] As a cut-off value for mortality risk, an AIMS65 score of 2 has been suggested.[7,8]

The causes of UGIB were gastric/duodenal ulcers in 168 patients (58.7%), esophageal/gastric varices in 64(22.4%), Mallory-Weiss tear in 32(11.2%), and unknown in 14(4.9%).[9]

The purpose of this study is to determine the incidence of endoscopic findings in non-variceal upper gastrointestinal bleed patients with a high AIMS 65 score in our population, as no local study has been published in this area in the last 5 years. Because a substantial percentage of Pakistan's population lives in rural areas and has a low socioeconomic status, most patients report late due to a lack of medical services and financial restraints, as compared to other industrialized countries. As a result, it is critical to look into the current state of it in our country, so that such people may be treated in a timely manner and a proper diagnosis can be established to avoid consequences.

Correspondence: Dr Hamid Ali Kalwar, Department of Gastroenterology, Indus Hospital, Karachi Pakistan
Received: 16 May 2022; revision received: 01 Jul 2022; accepted: 06 Jul 2022

The dearth of similar studies in our setup forms the rationale for our research.

METHODOLOGY

The cross-sectional study was done at Gastroenterology Department of Liaquat National Hospital, Karachi, from January to December 2020, after receiving approval from the Institutional Ethical Committee (Letter no. 151-2020-LNH-ERC). Sample size was calculated using WHO sample size calculator taking reported prevalence of gastric/duodenal ulcers in 58.7% patients, esophageal/gastric varices in 22.4%, Mallory-Weiss tear in 11.2%, and unknown in 4.9%.[10]

Inclusion Criteria: Patients aged 18 years to 60 years, to either gender with history of hematemesis and/or melena for > 2 hours, assessed by history, clinically (NG shows blood or coffee ground aspirate DRE shows blood or melena labelled as high AIMS 65 score (score of 2 or more than 2) were included.

Exclusion Criteria: Pregnant women, patients with gastric carcinoma, those with Chronic Liver Disease and splenomegaly were excluded.

Demographic characteristics and clinical history were recorded by the principal investigator on a predesigned proforma, and informed written consent was taken before enrolment.

For data analysis, Statistical Package for Social Sciences (SPSS) version 22 was utilized. For categorical variables such as gender, risk factors such as alcoholism, smoking (yes/no), co-morbidities (HTN/IHD), and endoscopic findings, frequencies and percentages were used. For continuous variables like age, values were reported as mean standard deviation. Chi-square test was performed to compare the results. The significance level was set at $p \leq 0.05$.

RESULTS

This study included 112 patients with hematemesis and melena. The patients' mean age was 43.5±12.11 years, mean duration of hematemesis was 7.12±3.10 hours. Out of 113 cases, 73(65.2%) were male and 39(34.8%) were female. Among risk factors, 15 patients were alcoholic and 14 were smokers. Hypertension was observed in 37(33%), and Ischemic Heart Disease in 27(24.1%) cases. Among endoscopic findings, duodenal ulcers were the most common (46.4%) followed by gastric ulcers (42%), Camron ulcers (6.1%), esophagitis (10.7%), Mallory Weise tears (13.4%) and Dieulafoy's lesions (5.4 %). Among duodenal ulcers, Forrest class IIC was most common (38.5%) followed by FC III (34.6%), FC IIB (19.2%) and FC IIA (7.7 %). Among gastric ulcers Forrest class IIC was most common (46.8%) followed by FC III (27.6%), FC IIB (23.4%) and FC IIA (2.1 %). LA Grading of esophagitis showing LA Grade A (28.6 %), Grade B (28.6 %), Grade C (14.3%) and Grade D (7.1%) as shown in Table-I. Analysis was also performed to control the effect of age, gender, alcohol, smoking, hypertension and IHD for esophagitis showing significant difference with advancing age (> 35 years), which is shown in Table-II. Among gastric ulcers, gender (p=0.02), hypertension (p=0.003) and IHD (p=0.002) were found to be significant risk factors. These were not statistically significant for duodenal ulcers.

Table–I: Descriptive Statistics of Patients (n=112)

Variables	**Mean±SD**			
Age (years)	43.51+12.11			
Duration of Hematemesis (hours)	7.12+3.10			
Gender	n		%	
Male	73		65.2%	
Female	39		34.8%	
Risk factors	Yes		No	Total
Alcohol	16(14.3%)		96(85.7%)	112(100%)
Smoking	15(13.4%)		97(86.6%)	112(100%)
Co-morbidities	Yes		No	Total
Hypertension	37(33%)		75(67%)	112(100%)
Ischemic Heart Disease	27(24.1%)		85(75.9%)	112(100%)
Endoscopic Findings	Yes		No	Total
Esophagitis	12(10.7%)		100(89.3%)	112(100%)
Camron Ulcer	18(16.1%)		94(83.9%)	112(100%)
Mallory Weiss Tear	15(13.4%)		97(86.6%)	112(100%)
Gastric Ulcer	47(42%)		65(58%)	112(100%)
Duodenal Ulcer	52(46.4%)		60(53.6%)	112(100%)
Dieulafoy's Lesion	6(5.4%)		106(94.6%)	112(100%)
LA Grade in Esophagitis	A	B	C	D
	4(28.6%)	4(28.6%)	2(14.3%)	1(7.1%)
Forest Class in Gastric Ulcers	IIA	IIB	IIC	III
	1(2.1%)	11(23.4%)	22(46.8%)	13(27.6%)
Forest Class in Duodenal Ulcers	4(7.7%)	10(19.2%)	20(38.5%)	18(34.6%)

DISCUSSION

Risk stratification in patients with UGIB is a core item in its management.[10] A more vigilant treatment strategy is required for those who have raised threat of

mortality.[11] Use of AIMS65 ranking is a good predictor of impending mortality in these patients.[12]

Current literature shows that Proton Pump Inhibitors are the pharmacological drug of choice upon diagnosis.[13] However, surgical intervention has been proven to be far more effective than medicines alone, for patients with more dynamic bleeding.[14-16]

Table–II: Endoscopic Findings according to Demographics and Comorbidities (n=112)

Variables	Esophagitis		*p*-value
Age	Yes	No	
≤ 35Years	0(0%)	30(100%)	0.48
>35 Years	12(14.6%)	70 (85.4%)	
Gender	Yes	No	
Male	6(8.2%)	67 (91.8%)	0.24
Female	6(15.4%)	33 (84.6%)	
Alcohol	Yes	No	
Yes	1(6.25%)	15(93.75%)	0.53
No	11(11.45%)	85(88.55%)	
Smoking	Yes	No	
Yes	4(8.9%)	41(91.1%)	0.03
No	8(8.2%)	97(93.8%)	
Hypertension	Yes	No	
Yes	12(32.4%)	25(67.6%)	<0.001
No	0(%0)	75(100%)	
Ischemic Heart disease	Yes	No	
Yes	7(25.9%)	20(74.1%)	0.003
No	5(5.9%)	85(94.1%)	
Camron ulcer			*p*-value
Age	Yes	No	
≤ 35Years	4(13.4%)	26 (86.6%)	0.16
>35 Years	14(17.1%)	68 (82.9%)	
Gender	Yes	No	
Male	12(16.4%)	61 (83.6%)	0.88
Female	6(15.4%)	33 (84.6%)	
Alcohol	Yes	No	
Yes	0(0%)	16(100%)	0.059
No	18(18.7%)	78(81.3%)	
Smoking	Yes	No	
Yes	1(6.6%)	14(93.4%)	0.28
No	17(17.5%)	80(82.5%)	
Hypertension	Yes	No	
Yes	0(0%)	37(100%)	0.001
No	18(24%)	57(76%)	
Ischemic Heart disease	Yes	No	
Yes	1(3.7%)	26(96.3%)	0.045
No	17(20%)	68(80%)	

The AIMS65 is a reliable tool to check for signs of mortality in admitted patients. A recent study by Kim et al. showed AIMS 65 scoring as being comparable to the Rockall score (RS) and Glasgow Blatchford score (GBS) and much easier to predict and use at clinical settings than these.[17]

Our study showed that patients with high AIMS 65 scores have higher risk of bleeding if they are older, have HTN or IHD. One study by Stainly *et al*. showed non-variceal upper GI bleeding is more common in elderly.[18] We reported duodenal ulcers as the most common endoscopic finding, followed by gastric ulcers which is also consistent with results of western population.[19]

CONCLUSION

This study demonstrates that patients with high AIMS 65 scores have duodenal ulcers as the most common endoscopic finding, followed by gastric ulcers. Among duodenal and gastric ulcers, Forrest class IIC was the most common finding.

Conflict of Interest: None.

Authors Contribution

Following authors have made substantial contributions to the manuscript as under:

DK & HAK: Data acquisition, data analysis, critical review, approval of the final version to be published.

MTK & GM: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

SK & SM: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

REFERENCES

1. Nelms DW, Pelaez CA. The acute upper gastrointestinal bleed. Surg Clin 2018; 98(5): 1047-1057. https://doi.org/10.1016/j.suc.2018.05.004
2. Antunes C, Tian C, Copelin II EL. Upper Gastrointestinal Bleeding. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2024.
3. Cho SH, Lee YS, Kim YJ, Sohn CH, Ahn S, Seo DW, et al. Outcomes and role of urgent endoscopy in high-risk patients with acute nonvariceal gastrointestinal bleeding. Clin Gastroenterol Hepatol 2018; 16(3): 370-377. https://doi.org/10.1016/j.cgh.2017.06.029
4. Moledina SM, Komba E. Risk factors for mortality among patients admitted with upper gastrointestinal bleeding at a tertiary hospital: a prospective cohort study. BMC Gastroenterol 2017; 17(1): 1. https://doi.org/10.1186/s12876-017-0712-8
5. Saltzman JR, Tabak YP, Hyett BH, Sun X, Travis AC, Johannes RS. A simple risk score accurately predicts in-hospital mortality, length of stay, and cost in acute upper GI bleeding. Gastrointest Endosc 2011; 74: 1215–1224. https://doi.org/10.1016/j.gie.2011.06.024
6. Park SM, Yeum SC, Kim BW, Kim JS, Kim JH, Sim EH, et al. Comparison of AIMS65 score and other scoring systems for

predicting clinical outcomes in Koreans with nonvariceal upper gastrointestinal bleeding. Gut Liver 2016; 10(4): 526. https://doi.org/10.5009/gnl15153
7. Nakamura S, Matsumoto T, Sugimori H, Esaki M, Kitazono T, Hashizume M. Emergency endoscopy for acute gastrointestinal bleeding: prognostic value of endoscopic hemostasis and the AIMS65 score in Japanese patients. Dig Endosc 2014; 26: 369–376. https://doi.org/10.1111/den.12187
8. Gaduputi V, Abdulsamad M, Tariq H. Prognostic value of AIMS65 score in cirrhotic patients with upper gastrointestinal bleeding. Gastroenterol Res Pract 2014; 2014: 787256. https://doi.org/10.1155/2014/787256
9. Choe JW, Kim SY, Hyun JJ, Jung SW, Jung YK, Koo JS, et al. Is the AIMS 65 score useful in predicting clinical outcomes in Korean patients with variceal and nonvariceal upper gastrointestinal bleeding? Gut Liver 2017; 11(6): 813. https://doi.org/10.5009/gnl16607
10. Robertson M, Ng J, Abu Shawish W, Swaine A, Skardoon G, Huynh A, et al. Risk stratification in acute variceal bleeding: comparison of the AIMS65 score to established upper gastrointestinal bleeding and liver disease severity risk stratification scoring systems in predicting mortality and rebleeding. Dig Endosc 2020; 32(5): 761-768. https://doi.org/10.1111/den.13577
11. Oakland K. Risk stratification in upper and upper and lower GI bleeding: Which scores should we use? Best Pract Res Clin Gastroenterol 2019; 42: 101613. https://doi.org/10.1016/j.bpg.2019.04.006
12. Dib J. Utility of AIMS65 score in predicting mortality in patients presenting with upper gastrointestinal bleeding. BMJ 2017;357. https://doi.org/10.1136/bmj.j3019
13. Stanley AJ, Laine L. Management of acute upper gastrointestinal bleeding. BMJ 2019; 364. https://doi.org/10.1136/bmj.l536
14. Mullady DK, Wang AY, Waschke KA. AGA clinical practice update on endoscopic therapies for non-variceal upper gastrointestinal bleeding: expert review. Gastroenterol 2020; 159(3): 1120-1128. https://doi.org/10.1053/j.gastro.2020.05.095
15. Cañamares-Orbís P, Chan FK. Endoscopic management of nonvariceal upper gastrointestinal bleeding. Best Pract Res Clin Gastroenterol 2019; 42: 101608. https://doi.org/10.1016/j.bpg.2019.04.001
16. Naseer M, Lambert K, Hamed A, Ali E. Endoscopic advances in the management of non-variceal upper gastrointestinal bleeding: A review. World J Gastrointest Endosc 2020; 12(1): 1. https://doi.org/10.4253/wjge.v12.i1.1
17. 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; 19(1): 1-8. https://doi.org/10.1186/s12876-019-1051-8
18. Stanley AJ, Laine L, Dalton HR, Ngu JH, Schultz M, Abazi R, et al. Comparison of risk scoring systems for patients presenting with upper gastrointestinal bleeding: international multicentre prospective study. BMJ 2017; 356. https://doi.org/10.1136/bmj.i6432
19. Gu L, Xu F, Yuan J. Comparison of AIMS65, Glasgow–Blatchford and Rockall scoring approaches in predicting the risk of in-hospital death among emergency hospitalized patients with upper gastrointestinal bleeding: a retrospective observational study in Nanjing, China. BMC Gastroenterol 2018; 18(1): 98. https://doi.org/10.1186/s12876-018-0828-5