

# Major Causes of Gastrointestinal Bleeding Among Patients in Saudi Arabia: A Retrospective Observational Study

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## Abstract

A significant morbidity and mortality cost on healthcare systems is upper gastrointestinal hemorrhage. The current study set out to characterize the upper gastrointestinal bleeding patients' clinical symptoms. 56 participants were included in a retrospective research that was carried out between January 2018 and September 2022. The patients were divided into two categories based on the kind of GIT bleeding: upper and lower gastrointestinal bleeding. The results of the patient's laboratory tests, which included measurements of their blood creatinine, international normalized ratio, aspartate transaminase, alanine aminotransferase, and hemoglobin level, were documented. Results were analyzed using SPSS 23's descriptive statistics. Meleena accounted for half of the 56 patients' documented bleeding, but hematemesis was seen in 48.1% of the patients. The bleeding was primarily caused by peptic ulcers, esophageal varices.

The results of the laboratory tests showed that the afflicted patients had positive HCV and HBV tests, as well as high GPT and GOT levels, which indicated a high incidence of chronic liver disease. It was determined that melena and hematemesis, which are the main causes of bleeding in the current study, are the results of chronic liver disorders mostly caused by HBV.

**Keywords:** GIT bleeding, Hematemesis, Melena, Chronic liver diseases

## INTRODUCTION

Upper gastrointestinal bleeding is a common life-threatening emergency that carries significant mortality and morbidity and is a common source for admission to hospitals worldwide [1, 2]. It is characterized by hematemesis and coffee-ground emesis, with/or without melena that happens adjacent to the ligament of Treitz [3]. Esophagogastroduodenoscopy is the best method of determining the origin of bleeding and evaluating the bleeding site [4]. Interpreting the causes, and determining the management, if necessary, upper gastrointestinal bleeding is categorized as variceal bleeding or non-variceal bleeding because of various etiologies and management [5]. Causes of variceal bleeding include esophageal or gastric varices, whereas causes of non-variceal bleeding are mainly peptic ulcers and erosive gastroduodenitis, reflux esophagitis, tumor, and vascular ectasia [6].

Previous studies in the Kingdom of Saudi Arabia reported that the variceal cause of upper gastrointestinal bleeding is in the range of 38% to 45%, while there is a wide variation of other causes reported. These studies have spanned a few decades [2, 7, 8]. It was reported that the incidence of upper gastrointestinal bleeding in Saudi Arabia tended to be lower than that reported in Western countries [7]. However, there aren't enough recent national studies. Included were electronic endoscopic reports of patients who, between January 2006 and January 2015, had gastroscopy for

identifying upper gastrointestinal hemorrhage [7]. Two hundred fifty-nine patients with a mean age of 57.1 years were enrolled in the study; males made up 66.8% of the study sample. The authors discovered that 88.2% of patients had at least one comorbidity and that 20.7% had previously experienced upper gastrointestinal hemorrhage, 12.6% had experienced peptic ulcer disease, and 9.2% had esophageal varices. Eighty-one percent of the causes (75.4 to 85.3%) had a non-variceal source. 15.5% of patients were hospitalized in the intensive care unit; 8.9% of patients experienced rebleeding (5.7% to 12.2%); and 4.4% of patients died within the hospital (2.4% to 6.9%). Reports from Abha City, South Saudi Arabia, stated the incidence of hospitalization for acute upper gastrointestinal bleeding was 8.9% [9, 10].

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Precisely categorizing high-risk patients and recognizing low-risk patients can aid in selecting suitable subjects for prompt endoscopic intervention or vigilant monitoring in supervised care environments. To help medical practitioners anticipate mortality, rebleeding rates, and treatment options, several risk grading systems have been developed. The Glasgow Blatchford score is the one that is most frequently utilized. The AIMS65 score (AIMS65), which was recently defined, and the Rockall risk score [11]. Three categories were identified by these rating systems: endoscopic findings only, clinical manifestations exclusively, and combined endoscopic and clinical findings [2]. Ultimately, the goal of the current investigation was to identify the most frequent reasons for Taif's UGIT hemorrhage

## MATERIALS AND METHODS

This retrospective cohort study was conducted at King Abdulaziz Hospital, Taif. A total number of 52 patients were enrolled in the current study including 40 males and 12 females. admitted to the gastrointestinal unit at Taif, Saudi Arabia, from January 2018 – December 2022 (last 5 years). The inclusion criteria included an age of more than 18 years and a diagnosis of Upper gastrointestinal bleeding, while the exclusion criteria included pregnancy, and bleeding outside the upper gastrointestinal system:-

### Diagnosis of Bleeding

The diagnosis of bleeding was determined by endoscopy in 35 cases and 1.

### Statistical Analysis

Data were descriptive statistics analyzed by SPSS 23.

## RESULTS AND DISCUSSION

This single hospital-based retrospective study showed that there were 12,582 patients admitted to the ward between January 2018 to September 2022. The total number of patients admitted to the ward due to gastrointestinal bleeding was 52. The analysis showed that the majority (76.9%) were Saudi citizens, 40 (76.9%) were males, and 26 (50%) belonged to the age group above 55 years (**Table 1**). When we assessed the associated comorbidities, 21 (40.4%) were suffering from both Diabetes Mellitus and Hypertension. About 9.6% and 5.8% had a history of ischemic heart disease and cerebral vascular accidents, respectively. It was found that 5.8% had both Gastroesophageal reflux disease and Hepatitis C. More than half of the patients (55.8%) had multiple commodities, whereas 18 (34.6%) didn't have any comorbidities. The previous attack of Upper gastrointestinal bleeding was reported in 5 (9.6%) patients, and the same number (9,6%) had undergone surgery previously. Only 4 (7.7%) had reported smoking (**Table 1**).

The most commonly reported clinical symptom was melena (50%), followed by Hematemesis (48.1%), abdominal pain (44.2%), vomiting (13.5%), and diarrhea (3.8%). The most

commonly diagnosed cause was Gastritis/duodenitis (17.3%), followed by Esophageal varices (11.5%). and peptic ulcer (7.7%). About 12 (23.1%) required blood products, and 10 (19.2%) were admitted to the Intensive care unit (**Table 1**).

**Table 1. Clinical presentations and causes**

		N	%
Symptoms reported	Abdominal pain	23	44.2
	Fever	2	3.8
	Melena (Dark stool)	26	50
	Epigastric pain	2	3.8
	Hematemesis	25	48.1
	Vomiting	7	13.5
	Diarrhea	2	3.8
	Dizziness	4	7.7
	Dyspepsia	3	5.77
	Causes diagnosed	Esophageal varices	14
Gastritis/duodenitis		22	42.3
Peptic ulcer		10	19.23
Unknown		3	
Needed for blood product	No	40	76.9
	Yes	12	23.1
Admitted to Intensive care unit	No	42	80.8
	Yes	10	19.2

The lab investigation report is given in **Table 2**. It was found Hemoglobin levels were low in more than half of the patients (51.9%), and 11 (21.2%) had high INR values. The total bilirubin level was high in 5 (9.6%) patients, whereas 2 (3.8%) showed low levels. The AST was found to be high in 7 (13.5%) patients, whereas only one patient had a high ALP level. High serum Creatinine was observed in 13 (25%) patients, and the same was found to be low in 4 (7.7%) patients.

**Table 2. Lab investigation report (n=52)**

	Normal	Low	High
Hemoglobin level	24 (46.2%)	27 (51.9%)	1 (1.9%)
INR value	38 (73.1%)	3 (5.8%)	11 (21.2%)
Total bilirubin	45 (86.5%)	2 (3.8%)	5 (9.6%)
AST	44 (84.6%)	1 (1.9%)	7 (13.5%)
ALT	51 (98.1%)	0(0%)	1(1.9%)
ALP	51 (98.1%)	0(0%)	1(1.9%)
Serum Creatinine	35 (67.3%)	4 (7.7%)	13 (25%)

Between January 2018 and September 2022, 12,582 new patients were admitted to the unit. Due to gastrointestinal bleeding, 52 patients were admitted to the hospital; the majority were Saudi citizens, 40 of whom were men, and 26 of whom were over the age of 55. Our findings showed that gastro-duodenitis was the most often identified etiology, followed by esophageal varices. This is in line with research

that found gastric erosions, oesophageal varices, and duodenal ulcer disease to be prevalent causes of Acute Upper Gastrointestinal Bleeding [12]. 55.8% of the patients had multiple diseases, and 21 of the 52 patients had both diabetes mellitus and hypertension. 5.8% of the patients had both Gastroesophageal reflux disease and hepatitis C. It's in contrast to Acute Upper Gastrointestinal Bleeding was shown in the literature to have a significant prevalence of chronic liver hepatitis B and C [7]. Melanosis (50%) was the most frequently reported clinical symptom, followed by hematemesis (48.1%), abdominal discomfort (44.2%), and vomiting (13.5%). More than half of the patients (51.9%) had low hemoglobin levels, while 11 patients (21.2%) had high INR values. 10 (19.2%) were admitted to the intensive care unit, and around 12 (23.1%) needed blood products. Contrary to published data, which indicated that 8.9% of patients experienced rebleeding, 15.5% of patients required admission to the intensive care unit [7].

Altogether, from January 2018 to September 2022, 12,582 patients were admitted to the facility. 52 patients were hospitalized in the ward owing to gastrointestinal bleeding, the majority of them were Saudi citizens, 40 of whom were men, and 26 of whom were older than 55. Through a retrospective cross-sectional record-based observational analysis, we discovered that patients with gastrointestinal bleeding also had high blood pressure, low hemoglobin levels, and several other medical conditions.

### Limitations

The number of patients was low to determine the real causes of gastrointestinal bleeding in Taif.

### CONCLUSION

There is no link between gastrointestinal bleeding and patients who are admitted to the medical ward at King Abdel-Aziz Hospital in Taif, Saudi Arabia. For evaluation and accuracy of results, this study requires additional participants, and results may vary depending on assessment and environmental factors.

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Written informed consent was obtained from all individual participants included in the study.

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