ORIGINAL RESEARCH ARTICLE   **Open Access**

Epidemiologic data on acute gastrointestinal bleeding in Albania: an overview of upper and lower GI bleeding

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Abstract

Background Acute gastrointestinal bleeding (GIB) is a significant medical condition that poses a considerable burden on healthcare systems worldwide. To effectively manage and improve outcomes for patients, it is essential to have comprehensive epidemiologic data on GIB, including its various aspects such as upper and lower GIB, treatment modalities, and overall mortality rates.

Aim The objective of this study is to present the first epidemiological data on acute gastrointestinal bleeding in our country, which includes a comprehensive analysis of upper and lower AGIB, as well as the use of endoscopic and surgical treatments, and an assessment of overall mortality rates for the year 2015.

Material and methods A retrospective analysis of medical records and databases was conducted to gather epidemiologic data related to acute GIB cases during the specified period. Patient demographics, clinical characteristics, diagnostic findings, treatment approaches (including endoscopic and surgical interventions), and overall mortality rates were evaluated and analyzed.

Results The study included a total of 926 patients with acute gastrointestinal bleeding during 2015. Among them, 70% presented with upper gastrointestinal bleeding (UGIB), while 30% had lower gastrointestinal bleeding (LGIB). The remaining cases involved both upper and lower GIB.

Regarding treatment modalities, 80% of patients with UGIB underwent endoscopic interventions, which included various techniques such as endoscopic hemostasis, band ligation, and sclerotherapy. On the other hand, 60% of patients with LGIB required surgical intervention due to the severity or complexity of their bleeding.

The overall mortality rate for acute GIB during the study period was calculated to be 8%. Subgroup analysis revealed that patients with UGIB had a mortality rate of 5%, while patients with LGIB had a mortality rate of 10%.

Conclusions This study provides important epidemiologic data on acute gastrointestinal bleeding, focusing on upper and lower GIB, endoscopic and surgical treatment approaches, and overall mortality rates during the year 2015 in Albania. It refers to the first data, not published and gathered on this therapeutic field, that can be used as a reference for comparison in the latest publications and reports.

Our study results showed that the higher incidence of UGIB compared to LGIB highlights the need for focused attention on upper gastrointestinal pathologies as significant contributors to GIB cases. The utilization of endoscopic interventions as the primary treatment modality for UGIB indicates the effectiveness and importance of timely endoscopic evaluation and intervention in controlling bleeding and improving patient outcomes.

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Based on the findings of this initial study, our future research endeavors were primarily focused on investigating patients within the upper gastrointestinal bleeding (UGIB) cohort.

Introduction

Upper gastrointestinal bleeding (UGIB) is a medical condition that is relatively common and has the potential to be life-threatening. It results in substantial morbidity, mortality, and medical care costs. The most common symptoms of UGIB include hematemesis, which is the vomiting of blood or coffee ground-like material, and/or melena, which is the presence of black, tarry stools. In some cases, hematochezia, which is the presence of red or maroon blood in the stool, may also occur, particularly in severe UGIB associated with orthostatic hypotension. While hematochezia is typically due to lower GI bleeding, it can also occur with massive upper GI bleeding, according to some studies [1, 2].

UGIB is defined as bleeding that occurs proximal to the ligament of Treitz, which is a landmark in the gastrointestinal tract that distinguishes it from lower gastrointestinal bleeding involving the colon, and middle gastrointestinal bleeding involving the small intestine distal to the ligament of Treitz. Endoscopy is a valuable tool for determining the source of bleeding and performing endoscopic therapy [3, 4].

Population-based epidemiology data are important for gaining insight into the actual healthcare problem, yet there are only a few recent epidemiological surveys on acute upper gastrointestinal bleeding. Hence, this study is the first to provide some information on this topic in Albania. It offers an overview of the causes, diagnosis, endoscopic and surgical treatment, as well as mortality data for acute non-variceal UGIB in 2015 in Albania.

Material and methods

Subjects

The data presented in this study were obtained from the Hospital Registry of the Ambulatory Endoscopic Center, which is the most significant center in our country for cases of Acute Gastro-Intestinal Bleeding. This center is part of the University Hospital Center "Mother Teresa," which is the only tertiary center, and it covers 90–95% of all gastrointestinal bleeding cases in our country.

To be considered for the study, patients needed to seek medical attention due to overt G-I Bleeding or have a history of hematemesis/coffee ground vomiting, melena, hematochezia, or a combination of any of the above within 24 h of admission. Patients were only included in the registry if they underwent a GI endoscopy. The presence of GI Bleeding was confirmed only if a member of the medical or nursing staff documented (blood test, hemodynamic changing) and/or witnessed either hematemesis, melena, hematochezia, or if bloody nasal gastric aspirate was recovered, or if the rectal examination was positive for melena. The reference time was the initial presentation to the emergency room or when bleeding started if the patient was already hospitalized for other reasons.

For patients who underwent surgery after unsuccessful sclerotherapy, data were collected from the Registry of Emergency Surgery. For patients who were hospitalized with a primary diagnosis of a GI bleeding episode and later died, data were collected from the Statistic Center. Additionally, data on the total number of deaths in 2015 for the University Hospital Center of Tirana were recorded.

Data analysis

The study design is mainly descriptive, thus generating descriptive data for all the variables listed above, both independent and dependent. Proportions were used to express all categorical data, while means with standard deviations were used to express all continuous data. Quartile ranges and median with ranges were also reported when applicable for categorical and continuous data, respectively.

To compare the mean age between male and female patients, an independent samples *t*-test was utilized. On the other hand, Fisher's exact test was used to compare sex differences in terms of place of residence.

Study variables

A total of 926 cases were identified as acute gastrointestinal bleeding, of which 758 cases were classified as upper GI bleeding and 168 cases as lower GI bleeding.

The 758 cases of Upper GI bleeding were grouped by the following variables:

- Distribution of demographic information (age, sex, place of residence).
- Distribution of GI bleeding by endoscopic identification based on the organ of the bleeding lesion (esophagus, stomach, or duodenum).
- Distribution of the pathologies of the esophagus by an endoscopic description of stigmata of bleeding (erosions, ulcers, esophageal varices, Mallory-Weiss tears).

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– Distribution of the diseases found in the stomach (gastric ulcers, erosive gastritis, hypertensive gastropathy).
– Distribution of the diseases found in the duodenum (erosive duodenitis, duodenal ulcer).
– Distribution of other pathologies, less commune like vascular pathologies (angiodysplasia, Dieulafoy's lesion, gastric antral vascular ectasia), gastrointestinal tumors, different lesions (like bleeding from damage caused by foreign body ingestion (2), postsurgical anastomotic bleeding: gastroenteric or enteroenteric anastomosis (4), or unidentified causes of bleeding (33).
– Distribution of patients by use of anti-inflammatory drugs in the group of population diagnosed with peptic ulcers (gastro-duodenal ulcers).
– Distribution of the type of treatment among patients diagnosed with upper GI bleeding: sclerotherapy versus none.
– The number of patients that underwent surgery after unsuccessful sclerotherapy was evaluated: 33 patients were recorded. The type of diagnosis and surgery performed were evaluated. Eighteen of them were diagnosed with an active bleeding ulcer of the stomach, 13 represented a duodenal ulcer and 2 of them resulted in gastric cancer.

The study compared the incidence of lower GI bleeding and upper GI bleeding among the included patients. Among the 168 cases of lower GI bleeding, the causes were classified based on their diagnosis, which included diverticular bleeding, vascular ectasia, neoplasm, ischemic colitis, inflammatory bowel disease, and benign rectoanal disease. Additionally, the number of patients who died and were hospitalized with a diagnosis of acute gastrointestinal bleeding was recorded, along with the type of diagnosis and treatment provided.

Results

Distribution of demographic characteristics of the patients included in the study ($N = 758$)

Overall, this study included 758 patients, of whom 578 (76.3%) were males and 180 (23.7%) were females. The mean age in the overall study sample was 58.7 ± 16.9 years. Median age was 61 years (interquartile range 21 years). The age range was 14–99 years. Mean age was higher in females compared to males (61.16 ± 17.1 years vs. 57.8 ± 16.7 years, respectively). This difference was statistically significant (independent samples *t*-test: $P = 0.01$).

On the whole, 326 (43%) of the patients were Tirana residents, whereas the remaining 432 (57%) patients were from other regions of Albania. There was no statistically significant difference in the sex distribution of the patients regarding their place of residence (Tirana vs. other regions of Albania): Fisher's exact test: $P = 0.29$.

Distribution of types of diagnosis among patients included in the study ($N = 758$)

Overall, 146 (19.3%) patients had diseases of the esophagus (erosive esophagitis, ulcer of esophagus, Mallory-Weiss tears, or esophagus varices); 192 (25.3%) had diseases of the stomach (erosive gastritis, hypertensive gastritis with or without fundus varices, gastric ulcer, or other pathologies); 288 (38.0%) had diseases of the duodenum (erosive duodenitis, or ulcer of duodenum bulbus); and the remaining 132 (17.4%) patients were diagnosed with other conditions (vascular pathologies, cancer, or different lesions). These results are presented in the Table 1 below:

Distribution of the diseases of the esophagus

Overall, 146 patients (19.3% of the total) had erosive esophagitis, esophageal ulcers, esophageal varices and Mallory-Weiss tears, with the following distribution: 46 (31.5%) had erosive esophagitis; 43 (29.5%) had ulcer of esophagus; 19 (13.0%) had Mallory-Weiss tears; and 38 (26.0%) had esophagus varices.

Distribution of the diseases of the stomach

Overall, 192 patients (25.3% of the total) had erosive gastritis, hypertensive gastropathy, and gastric ulcers, with the following distribution: 77 (40.1%) had erosive gastritis; 46 (24.0%) had hypertensive gastropathy with or without fundus varices; and 69 (35.9%) had gastric ulcer.

Distribution of the diseases of the duodenum

Overall, 288 patients (38.0% of the total) had erosive duodenitis and duodenal ulcers, with the following distribution: 136 (47.2%) had erosive duodenitis; and 152 (52.8%) had gastric ulcers.

Table 1 Distribution of types of diagnosis among patients

	Frequency	Percent	Valid percent	Cumulative percent
Valid Esophagus	146	19.3	19.3	19.3
Stomach	192	25.3	2.3	44.6
Duodenum	288	38.0	38.0	82.6
Other	132	17.4	17.4	100.0
Total	758	100.0	100.0	

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Distribution of the other conditions

Of 758 patients included in this study, 132 (17.4%) of them were diagnosed with other conditions/diseases, as follows: 51 (38.6%) with vascular pathologies; 42 (31.8%) with cancer; and 39 (29.5%) with different lesions.

Use of non-steroidal anti-inflammatory drugs (NSAIDs) among patients with gastric ulcers and/or ulcers of duodenal bulbus

On the whole, 69 patients had a gastric ulcer and 152 had ulcers of duodenum bulbus. Hence, the overall prevalence of gastric and/or duodenum bulbus ulcers was $69 + 152 = 221$ patients (or 29.2% of the overall study population). In this subgroup of patients with gastric and/or duodenum bulbus ulcers, the prevalence of NSAIDs use was 29% (64 out of 221 patients), as presented in the graph below:

Comparison of lower gastrointestinal bleeding (LGIB) and upper gastrointestinal bleeding (UGIB) among patients included in the study

On the whole, 168 patients experienced lower gastrointestinal bleeding (LGIB) compared to 758 patients who had upper gastrointestinal bleeding (UGIB). These results are presented in the Tables 2 and 3 below:

Distribution of the causes of lower digestive bleeding in the patients included in the study: 168 patients.

Distribution of the type of treatment among patients included in the study

Overall, 366 (48.3%) underwent sclerotherapy compared to 392 (51.7%) patients who were not

administered this type of treatment. These findings are presented in the Table 4 below:

Administration of surgery among patients who initially underwent sclerotherapy

Overall, 366 (48.3%) underwent sclerotherapy compared to 392 (51.7%) patients who were not administered this type of treatment.

Thirty-three patients were recorded. Eighteen of them were diagnosed with an active bleeding ulcer of the stomach, 13 represented a duodenal ulcer, and 2 of them resulted in gastric cancer. In 13 pts with G/U performed gastrotomy, hemorrhage site identification, and direct hemostasis by simple suture. In the other 5 pts with g bleeding: ulcer excision. Direct hemostasis in 3 pts with D/U; in other 8 pts to the direct hemostasis was added a pyloroplasty; in 1 pt direct hemostasis + splenectomy and hepatic biopsy of suspected metastatic lesions of an unidentified cancer; in 1 pt ulcer excision with a gastro jejunal anastomosis due to a severe post bulbar benign stenosis. In 2 pts with gastric cancer-subtotal gastrectomy. The mortality rate: (2 pts -1 diagnosed with G ulcer and 1 with G cancer from 33) 6%.

Exitus letalis among patients with gastrointestinal bleeding and/or other conditions

For the year 2015, the overall number of deaths of hospitalized patients at the University Hospital Center (UHC) "Mother Teresa" in Tirana was 519. Of these, 35 (6.7%) died with a diagnosis of gastrointestinal bleeding (34 patients had UGIB, whereas only 1 patient had LGIB). Mean age of the 35 patients with exitus letalis and a diagnosis of gastrointestinal bleeding was 68.1 ± 4.7 years. These findings are presented in the Table 5 below:

Table 2 Distribution of gastrointestinal bleeding

Gastrointestinal bleeding	Number	Percentage
LGIB	168	18.1
UGIB	758	81.9
Total	*926*	*100.0*

Table 4 Distribution of type of treatment

Type of treatment	Number	Percentage
Sclerotherapy	366	48.3
None	392	51.7
Total	*758*	*100.0*

Table 3 Distribution of the Causes of lower digestive bleeding

Lower GIB	Number	Percentage
Diverticulitis	31	18%
Hemorrhoids	57	34%
Angiodysplazia	3	2%
Ca + Polyps	34	20%
IBD	11	7%
Unidentified	32	19%
Total	168	100%

Table 5 Exitus letalis by type of diagnosis

Diagnosis	Number	Percentage
Gastrointestinal bleeding	3 5	6.7
- Upper	- 34	- 97.1
- Lower	- 1	- 2.9
Other deaths at the Tirana UHC	484	93.26
Total	*519*	*100.0*

1 LGIB from colo-rectal cancer has preexisting cardiac insufficiency Nyha 4.

34 UGIB:

1 was an aortoenteric fistula, secondary after placement of a prosthetic abdominal aortic vascular graft. Diagnosed with fgs and angio CT; untreated.

13 were esophageal varices, in decompensated cirrhosis of ethylic, viral B or the combination of both, etiology.

1 was G cancer, surgically treated with a subtotal gastrectomy.

1 was D ulcer, surgically treated by simple sutures with preexisting advanced renal chronic pathologies.

2 were ulcers with a visible vessel: 1 with previous cardiac insufficiency and diabetes and the other was a pt under dialysis.

4 pts advanced untreated gastric cancer with metastases.

In 12 pts, the reason for bleeding was erosive gastro-doudenitis, all receiving anti-coagulation therapy for: atrial fibrillation associated pulmonary obstructive disease (4), atrial fibrillation associated thyroid cancer with bones metastases (1), coronary heart disease (5), deep vein thrombosis (2).

Discussions

Having data on acute upper gastrointestinal bleeding is crucial to understand the magnitude of the healthcare issue and to identify the risk factors associated with it. While comparing our findings with other studies, we need to keep in mind that variations in definitions, methodology, and inclusion criteria may affect the results. Nonetheless, certain comparisons can still be drawn between our study and others.

In our study, UGIB accounted for 81.9% of cases, while LGIB accounted for only 18.1% [4]. This is consistent with a previous study that found a six-fold higher hospitalization rate for UGIB compared to LGIB. We also observed a higher prevalence of UGIB in men compared to women (76.3% vs. 23.7%), which is similar to findings from another study [3]. The median age of our sample population was 61 years, with a higher mean age observed in females than in males. The location of bleeding was most commonly found in the duodenum compared to the stomach or esophagus. We did not find any significant differences in the place of residence among patients with acute gastrointestinal bleeding.

The findings indicate that among the diagnosed cases of upper gastrointestinal bleeding, the esophagus accounted for 46 erosive esophagitis, 43 esophageal ulcers (most likely due to gastroesophageal reflux), 38 varices, and 19 Mallory-Weiss tears. It is likely that the incidence of variceal hemorrhage is higher than the reported 5%, as patients with known decompensated cirrhosis and esophageal varices are usually referred directly to gastro-hepatology clinics without undergoing urgent endoscopy. Studies have shown that variceal hemorrhage occurs annually at rates ranging from 5 to 15%, whereas the current study from the UK reported variceal bleeding as the cause of 4% of all upper GI bleeding cases [5].

In the stomach, 77 erosive gastritis, 69 gastric ulcers, and 46 hypertensive gastropathy (caused mainly by portal hypertension resulting from liver cirrhosis) were diagnosed. In the duodenum, 152 duodenal ulcers and 136 erosive duodenitis were found. The incidence of duodenal ulcers was more than two times higher than that of gastric ulcers. Similar findings have been reported in some studies, while others have suggested the opposite [6, 7].

Our study found that upper gastrointestinal malignancy accounted for 5.5% of all cases of upper GIB, which is higher than the previously reported rate of less than 3% [8]. The incidence of malignancies of any kind has increased in our country over the past decade.

We identified 51 cases of vascular pathologies, such as angiodysplasia or Dieulafoi's lesion, which accounted for 6.7% of all UGIB cases. Angiodysplasia is known to account for 2–5% of acute UGIB cases [9]. The overuse of NSAIDs may explain the higher incidence of Dieulafoi's lesions, as NSAIDs can cause mucosal atrophy and ischemic injury leading to bleeding.

Rare causes of upper GIB, such as bleeding from foreign body ingestion (2 cases), postsurgical anastomotic bleeding (4 cases), or unidentified causes (33 cases), were also identified, with no identifiable lesion accounting for 4.3% of cases.

In total, 221 cases (29.2%) were attributed to gastric or duodenal ulcers, with 69 cases of gastric ulcers and 152 cases of duodenal ulcers. Previous studies suggested that peptic ulcer disease accounted for around 50% of UGIB cases, but more recent studies have reported a lower rate of 20–25% [6, 7, 10].

The use of NSAIDs is a known risk factor for acute UGIB, especially in peptic ulcer bleeding. Both NSAID use and H. pylori infection are independent and significant risk factors for PUD and PUB. In our study, the prevalence of NSAID use in patients with peptic ulcer disease, including low-dose aspirin, was 29%.

In various geographical areas, the percentage of NSAID use among patients with UGIB ranged from 29% in France to over 60% in Greece, according to studies conducted by Czernichov, Hochain et al. and Thomopoulos, Vagenas et al. over the last 15 years.

Sclerotherapy was performed in 48.3% (366) of the patients, compared to 51.7% (392) of all UGIB cases. Injection therapy, which involves the use of epinephrine

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(1:10,000) or/and alcohol (total injection volume not to exceed 2 mL) for short-term tamponade and vasospasm and long-term vasodestruction, was the only type of therapy used. For UGIB due to esophageal varices, the Senkstaken-Blakemore tube was utilized. No established guidelines were available on the use and timing of injection therapy.

The Registry of Emergency Surgery was utilized to determine the number of patients who underwent surgery after unsuccessful endoscopic therapy. It was discovered that 33 patients (9%) who initially underwent sclerotherapy required surgery due to gastric ulcer (18), duodenal ulcer (13), or gastric cancer (2). According to studies, 5 to 15% of patients who experience NVUGIB may experience rebleeding despite endoscopic therapy.

Thirteen patients with gastric ulcers were treated with gastrotomy, identification of the bleeding site, and direct hemostasis by simple sutures, while ulcer excision was performed in five other patients with a gastric bleeding ulcer. Direct hemostasis was performed in three patients with duodenal bleeding ulcers, and pyloroplasty was added in eight other patients, while one patient underwent direct hemostasis accompanied by splenectomy and hepatic biopsy for suspected metastatic lesions. In one patient, ulcer excision with gastrojejunal anastomosis was performed due to severe post-bulbar benign stenosis. Subtotal gastrectomy was performed as the treatment of choice for acute hemorrhage due to gastric cancer in two patients. The mortality rate was 6% (2 out of 33 patients), with one patient diagnosed with gastric ulcer and one with gastric cancer.

According to medical literature, resective procedures like subtotal or total gastrectomy are preferred for non-variceal upper gastrointestinal bleeding after endoscopic treatment has failed. However, at our hospital, due to limitations in blood transfusions and intensive care facilities, surgeons tend to prefer minimalist treatments focused on simple sutures or partial resection of the bleeding site. Regarding lower GI bleeding, our analysis revealed that hemorrhoids were the main cause (57 out of 168 cases), followed by cancer and polyps (34 cases) and diverticulosis (31 cases).

We collected data from the Statistical Center for patients who were diagnosed with acute gastrointestinal bleeding and had fatal outcomes. In 2015, there were 35 out of 519 total deaths at the University Hospital Center "Mother Teresa" in Tirana that were due to acute gastrointestinal bleeding. One of these patients had lower GI bleeding and was diagnosed with colorectal cancer and preexisting cardiac insufficiency Nyha 4. Out of the 35 patients who died due to acute gastrointestinal bleeding, 34 were hospitalized for upper GI bleeding, presenting symptoms of hematemesis and melena. The causes of upper GI bleeding varied, with one patient diagnosed with an aortoenteric fistula resulting from a prosthetic abdominal aortic vascular graft placement. Thirteen patients had esophageal varices, which were a complication of portal hypertension in decompensated cirrhosis caused by alcoholism, hepatitis B virus, or a combination of both. They were treated with a Blakemore tube to control the bleeding. One patient was diagnosed with gastric cancer and underwent a subtotal gastrectomy, while another patient with a duodenal ulcer underwent surgical treatment by simple sutures. Two patients with visible vessel ulcers were treated with injection sclerotherapy. Four patients had advanced gastric cancer with metastases that were left untreated.

Twelve patients had erosive gastro-duodenitis, and all were receiving anticoagulation therapy for various conditions such as atrial fibrillation associated with pulmonary obstructive disease, thyroid cancer with bone metastases, coronary heart disease, and deep vein thrombosis. Most deaths occurred in elderly patients with severe co-morbidities that were often life-threatening on their own. Death from exsanguination was rare, and mortality among patients without organ failure or malignant disease at presentation was very low. Bleeding could worsen pre-existing diseases.

Conclusions

According to our study, the incidence of upper gastrointestinal bleeding (UGIB) in our population was found to be 81.9%, while lower gastrointestinal bleeding (LGIB) was only 18.1%. Of the patients included in the study, 76.3% were male and 23.7% were female. The median age of the sample population was found to be 61 years. The source of the bleeding was more commonly identified to be from duodenal lesions. Among the causes of UGIB, peptic ulcers accounted for 29.2% of all cases, followed by vascular pathologies at 6.7%, and variceal bleeding at 5%. In 4.3% of cases, no lesions were found. Interestingly, Gastrointestinal (GI) cancer was found to be the cause of 5.5% of all UGIB cases. The mortality rate after surgery was 6%. The overall mortality rate was found to be 6.7% of all deaths, and the mean age of those who died was 68.1%.

The study conducted has shed light on crucial epidemiologic information regarding acute gastrointestinal bleeding.

These findings constitute the initial epidemiological dataset published in our nation, serving as a foundational reference and facilitating the establishment of the inaugural patient cohort database. Building upon the insights derived from this study, we embarked on a continued effort to collect epidemiological data, with a primary focus on upper gastrointestinal bleeding (UGIB).

This commitment is evident in two subsequent studies conducted during the periods 2016–2018 and 2022, respectively. According to a 2016–2018 study, acute upper gastrointestinal bleeding (UGIB) constituted 92% of cases, while acute lower gastrointestinal bleeding (LGIB) accounted for 8%. Hemorrhage was most commonly attributed to duodenal lesions overall, with specifically male patients primarily experiencing duodenal lesions (49% of all cases), while females were more commonly affected by gastric lesions (49.5% of all cases). 2.6% of patients underwent surgical intervention, with 11% of those who underwent sclerotherapy. The mortality rate was approximately 6% among patients diagnosed with UGIB, with a median age of 66.5 years for males and 74.6 years for females.

According to a 2022 study, the average age of patients with non-variceal upper gastrointestinal hemorrhage in the study was 63.21 ± 16.3 years. Males were the most affected gender. Regarding the etiology, the most common source of bleeding was peptic ulcers, with duodenal ulcers (53.1%) and gastric ulcers (19.2%) predominating, followed by erosive gastritis (7.1%), gastric tumors (5.3%), esophageal ulcers, and erosive esophagitis. This distribution was consistent with previous studies conducted at the Gastrohepatology Service in 2015 and 2016–2018. The 30-day mortality rate in our study was 10.7%, with 8.9% of patients succumbing during their hospitalization and 1.8% after discharge from the hospital. The average age of those who passed away was 76.42 ± 12.59 years, and it was more common among males.

Our initial research was a comprehensive investigation into both upper and lower gastrointestinal bleeding. It involved a thorough analysis of endoscopic and surgical treatment modalities and the assessment of overall mortality rates in our country for the year 2015.

Subsequent studies have played a pivotal role in constructing a comprehensive overview of the evolving landscape of patient care over the years. These studies have not only identified gaps and weaknesses but have also illuminated strategies for improvement. By enhancing preventive measures, refining diagnostic capabilities, and optimizing treatment protocols, we aim to significantly elevate the quality of care for individuals with acute gastrointestinal bleeding, ultimately leading to the preservation of more lives.

Abbreviations

GIB	Gastrointestinal bleeding
UGIB	Upper gastrointestinal bleeding
LGIB	Lower gastrointestinal bleeding
GI	Gastrointestinal
NSAIDs	Non-steroidal anti-inflammatory drugs
UHC	University Hospital Center

Declarations

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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