

## ANALYTIC STUDY OF ENDOSCOPIC FINDINGS IN PATIENTS WITH UPPER GASTROINTESTINAL BLEEDING AT TISHREEN UNIVERSITY HOSPITAL IN 2022 – 2023

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### ABSTRACT

**Introduction:** Upper gastrointestinal bleeding (UGIB) remains a life-threatening medical problem that is common worldwide. It is an emergency medical condition, which may require hospital admission. UGIB also increases the risk of morbidity, and mortality, so it warrants early evaluation. Upper gastrointestinal endoscopy is the main diagnostic and therapeutic procedure for upper gastrointestinal bleeding. **Objective:** To determine the endoscopic findings in patients presenting with UGIB and their frequency among these patients according to sex and age at Tishreen University Hospital in 2022 - 2023. **Materials and Methods:** The study was carried out in the Department of Gastroenterology at Tishreen University Hospital in 2022 - 2023. The record of patients admitted with upper GI bleed through indoor/outdoor was retrieved from the Department of Gastroenterology. 408 Patients fulfilling inclusion criteria were selected in the study. The relevant data and endoscopic findings were documented on Performa. The data was prospective, descriptive, cross-sectional study. **Results:** A total of 408 patients had endoscopy for UGIB which consisted of 229 (56.13%) males and 179 (43.87%) females, and ages range was from 15 to 93 years (mean 55.52±18.29 years). The commonest cause of UGIB was duodenal ulcer in 112 patients consisting of (27.5%), followed by gastric ulcer in 89 patients (21.9%), gastritis in 48 patients (11.9%) and esophageal and gastric varices were in 25 patients (6.3%). Malignant conditions (cancers) contributed to (6%), which included esophageal cancer in two patients (0.5%), gastric cancer in 21 patients (4.3%), and duodenal cancer in 5 patients (1.2%). Esophagitis was in 24 patients (5.9%). Other less frequent causes of UGIB were Mallory-Weiss tear in 9 patients (2.3%), gastroduodenitis in 8 patients (2%), duodenitis in 8 patients (2%), gastric angiodysplasia in 6 patients (1.6%), esophageal ulcer in 4 patients (1%), angiodysplasia of duodenum in two patients (0.5%), gastric polyps in one patient (0.3%). Normal endoscopic findings were in 44 patients (10.8%) in patients who had UGIB. **Conclusion:** Peptic ulcer disease which included duodenal and gastric ulcers was the commonest cause of UGIB in our population followed by gastritis, while gastric polyps were the rarest cause.

**KEYWORDS:** Endoscopy, upper gastrointestinal bleeding (UGIB), Peptic ulcer disease.

### 1. INTRODUCTION

The annual incidence of hospitalization for upper gastrointestinal bleeding is estimated as 1 per 1,000 people in the USA (2). The mortality rate is estimated at (7 to 10%) (3).

Mortality has decreased slightly over the past 30 years after detection of endoscopic therapy that reduced the incidence of rebleeding (3).

About 45% of patients that admitted to hospitals for upper gastrointestinal bleeding were over 60 years (4).

Endoscopic therapy reduced the need of blood transfusion and surgery in patients with upper gastrointestinal bleeding (1).

Patients who bleed after admission to hospital have a significantly higher mortality rate for upper gastrointestinal bleeding than those admitted to hospital with a complaint about upper gastrointestinal bleeding (6)(5)(1).

**2. PATIENTS AND METHODS**

This is a prospective, descriptive, cross-sectional study of a group of patients attending Department of Gastroenterology at Tishreen University Hospital in Lattakia-Syria during one year' period (2022 - 2023).

The inclusion criteria were: Patients that are over than 13 years that admitted to the Department of Gastroenterology with upper gastrointestinal bleeding, and patients that admitted to the other departments who had upper gastrointestinal bleeding were also included.

The exclusion criteria were

- 1- Age that is less than 13 years.
- 2- Patients who are unable to express consent.
- 3- Patients who did not fulfill the inclusion criteria.
- 4- Patients with traumatic gastrointestinal bleeding.

The following workup included

A detailed clinical history was taken with the medical anamnesis, an upper gastrointestinal endoscopy was performed for the patients and the endoscopic findings were recorded with taking biopsies from the suspected lesions. Then the patients were distributed according to.

- I. Sex
- II. Age
- III. Clinical manifestation(s) of upper gastrointestinal bleeding (melena, hematemesis, hematochezia, and coffee ground emesis).

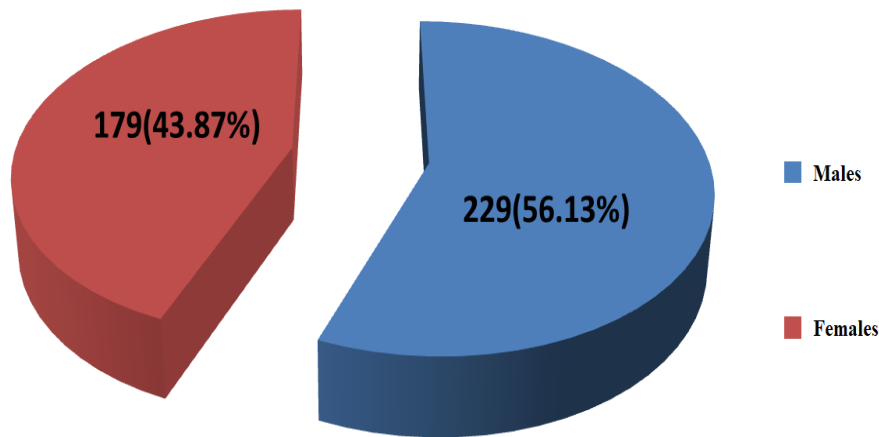
**3. Statistical analysis**

Statistical analysis was performed by using IBM SPSS version20. Basic Descriptive statistics included means, standard deviations(SD), median, Frequency and percentages. To examine the relationships and comparisons between the two group, Fisher exact test was used. All the tests were considered significant at a 5% type I error rate( $p < 0.05$ ),  $\beta$ :20%, and power of the study:80%.

**4. RESULTS**

The study included 408 patients, including 229 males (56.13%) and 179 females (43.87%).

**Figure (1): Distribution of the study population according to sex**



Ages range was from 15 to 93 years (mean 55.52±18.29 years).

**Table 1: Distribution of the study population according to the age groups.**

Age	Number of patients	Percentage
13-29 years	45	11.03%
fourth decade	34	8.33%
fifth decade	54	13.23%
sixth decade	91	22.31%
seventh decade	79	19.36%
eighth decade	65	15.93%
ninth decade	33	8.09%
tenth decade	7	1.72%

## Distribution of the study population according to clinical manifestation(s)

Table 2: Distribution of the study population according to clinical manifestation(s).

Clinical manifestation(s)	Number of patients	Percentage
melena	235	57.6%
hematochezia	8	2%
hematemesis	67	16.4%
coffee ground emesis	56	13.7%
melena+ hematemesis	7	1.7%
melena+ coffee ground emesis	28	6.9%
hematemesis+ hematochezia	1	0.2%
hematemesis+ coffee ground emesis	1	0.2%
melena+ hematochezia	5	1.3%

We performed upper gastrointestinal endoscopy for the study population, and the results were as follows.

Table 3: Distribution of the study population according to endoscopic findings.

Endoscopic Findings	Number Of Patients	Percentage
Esophagitis	24	5.9%
Esophageal Ulcer	4	1%
Esophageal Cancer	2	0.5%
Esophageal And Gastric Varices	25	6.3%
Mallory-Weiss Tear	9	2.3%
Gastritis	48	11.9%
Gastric Ulcer	89	21.9%
Gastric Cancer	21	4.3%
Gastric Angiodysplasia	6	1.6%
Gastric Polyps	1	0.3%
Gastroduodenitis	8	2%
Duodenitis	8	2%
Duodenal Ulcer	112	27.5%
Duodenal Cancer	5	1.2%
Angiodysplasia Of Duodenum	2	0.5%
Normal Endoscopic Findings	44	10.8%

We noticed that the most common endoscopic findings in the study population were duodenal ulcer in 112 patients consisting of (27.5%), followed by gastric ulcer in 89 patients (21.9%), gastritis in 48 patients (11.9%) and esophageal and gastric varices were in 25 patients (6.3%). Malignant conditions (cancers) contributed to (6%), which included esophageal cancer in two patients (0.5%), gastric cancer in 21 patients (4.3%), and duodenal cancer in 5 patients (1.2%). Esophagitis was in

24 patients (5.9%). Other less frequent causes of UGIB were Mallory-Weiss tear in 9 patients (2.3%), gastroduodenitis in 8 patients (2%), duodenitis in 8 patients (2%), gastric angiodysplasia in 6 patients (1.6%), esophageal ulcer in 4 patients (1%), angiodysplasia of duodenum in two patients (0.5%), gastric polyps in one patient (0.3%). Normal endoscopic findings were in 44 patients (10.8%) in patients who had UGIB.

## Distribution of the endoscopic findings in the study population according to sex.

Table 4: Distribution of the endoscopic findings in the study population according to sex.

Endoscopic Findings	Males (N=229)	Females (N=179)	P-Value
Esophagitis	17(7.43%)	7(3.9%)	0.1
Esophageal Ulcer	3(1.3%)	1(0.5%)	0.3
Esophageal Cancer	1(0.4%)	1(0.5%)	0.93
Esophageal And Gastric Varices	16(6.96%)	9(5.1%)	0.12
Mallory-Weiss Tear	3(1.3%)	6(3.3%)	0.56
Gastritis	25(10.9%)	23(12.8%)	0.91
Gastric Ulcer	41(17.9%)	48(26.8%)	0.99
Gastric Cancer	12(5.3%)	9(5.1%)	0.5
Gastric Angiodysplasia	3(1.3%)	3(1.7%)	0.94
Gastric Polyps	1(0.4%)	0(0%)	0.24
Gastroduodenitis	7(3.06%)	1(0.5%)	0.02

<b>Duodenitis</b>	3(1.3%)	5(2.9%)	0.67
<b>Duodenal Ulcer</b>	71(31.1%)	41(22.9%)	0.001
<b>Duodenal Cancer</b>	2(0.9%)	3(1.7%)	0.88
<b>Angiodysplasia Of Duodenum</b>	1(0.4%)	1(0.5%)	0.93
<b>Normal Endoscopic Findings</b>	23(10.05%)	21(11.8%)	0.13

We noticed that there was a statistically significant difference between males and females in the study population in two endoscopic findings: gastroduodenitis and duodenal ulcer. in gastroduodenitis, males (3.06%) were statistically significantly more common than females (0.5%), P-value = 0.02.

• Duodenal ulcer was also more common in males (31.1%) than females (22.9%), there was a statistically significant difference, P-value = 0.001.

#### Distribution of the study population according to the age groups.

Table 5: Distribution of the study population according to the age groups.

Endoscopic Findings	13-29 Years (N=45)	Fourth Decade (N=34)	Fifth Decade (N=54)	Sixth Decade (N=91)	Seventh Decade (N=79)	Eighth Decade (N=65)	Ninth Decade (N=33)	Tenth Decade (N=7)	P-Value
<b>Esophagitis</b>	2(4.4%)	1(2.9%)	4(7.4%)	1(1.1%)	5(6.3%)	8(12.4%)	3(9.2%)	0(0%)	0.036
<b>Esophageal Ulcer</b>	0(0%)	0(0%)	1(1.8%)	0(0%)	0(0%)	3(4.6%)	0(0%)	0(0%)	0.15
<b>Esophageal Cancer</b>	0(0%)	0(0%)	1(1.8%)	1(1.1%)	0(0%)	0(0%)	0(0%)	0(0%)	0.7
<b>Esophageal And Gastric Varices</b>	2(4.4%)	1(2.9%)	3(5.5%)	9(9.8%)	7(8.8%)	3(4.6%)	0(0%)	0(0%)	0.072
<b>Mallory-Weiss Tear</b>	3(6.8%)	3(8.9%)	2(3.7%)	0(0%)	1(1.2%)	0(0%)	0(0%)	0(0%)	0.02
<b>Gastritis</b>	1(2.2%)	6(17.7%)	8(14.9%)	13(14.3%)	7(8.9%)	7(10.8%)	5(15.1%)	1(14.3%)	0.405
<b>Gastric Cancer</b>	0(0%)	2(5.9%)	4(7.4%)	5(5.5%)	3(3.8%)	6(9.3%)	1(3%)	0(0%)	0.51
<b>Gastric Ulcer</b>	5(11.2%)	4(11.7%)	11(20.5%)	21(23.2%)	18(22.8%)	19(29.2%)	9(27.3%)	2(28.6%)	0.324
<b>Gastric Polyps</b>	0(0%)	0(0%)	0(0%)	1(1.1%)	0(0%)	0(0%)	0(0%)	0(0%)	0.88
<b>Gastroduodenitis</b>	1(2.2%)	1(2.9%)	3(5.5%)	0(0%)	0(0%)	3(4.6%)	0(0%)	0(0%)	0.2
<b>Gastric Angiodysplasia</b>	0(0%)	2(5.9%)	1(1.8%)	0(0%)	3(3.8%)	0(0%)	0(0%)	0(0%)	0.1
<b>Duodenitis</b>	2(4.4%)	0(0%)	2(3.7%)	1(1.1%)	1(1.2%)	1(1.5%)	1(3%)	0(0%)	0.57
<b>Duodenal Ulcer</b>	18(40%)	11(32.4%)	9(16.8%)	28(30.7%)	25(31.7%)	10(15.4%)	7(21.2%)	4(57.1%)	0.047
<b>Duodenal Cancer</b>	0(0%)	2(5.9%)	1(1.8%)	1(1.1%)	0(0%)	1(1.5%)	0(0%)	0(0%)	0.3
<b>Angiodysplasia Of Duodenum</b>	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	2(6.1%)	0(0%)	0.013
<b>Normal Endoscopic Findings</b>	11(24.4%)	1(2.9%)	4(7.4%)	10(11%)	9(11.5%)	4(6.1%)	5(15.1%)	0(0%)	0.043

We noticed that esophagitis was more common in the eighth decade of age than the other age groups, there was a statistically significant difference, P-value = 0.036.

- We also noticed that angiodysplasia of duodenum was seen only in the ninth decade of age, there was a statistically significant difference, P-value = 0.013.
- Mallory-Weiss tear was more common in the fourth decade of age than the other age groups, there was a statistically significant difference, P-value = 0.02.
- Duodenal ulcer was more common in the tenth decade of age than the other age groups, there was a statistically significant difference, P-value = 0.047.
- The endoscopic findings were normal in the age between 13 and 29 years, there was a statistically significant difference, P-value = 0.043.

#### DISCUSSION

- The study included 408 patients admitted to the Gastroenterology Department at Tishreen University

Hospital with a complaint about upper gastrointestinal bleeding. in addition, the patients that admitted to other departments who had upper gastrointestinal bleeding.

- Males (56.13%) and females (43.87%) of the study population, Ages range was from 15 to 93 years (mean 55.52±18.29 years).
- We performed an upper gastrointestinal endoscopy for all patients, and the most common endoscopic finding was duodenal ulcer in 112 patients (27.5%), followed by gastric ulcer in 89 patients (21.9%), while gastric polyps were the rarest endoscopic finding, as they were seen in only one patient (0.3%).
- Normal endoscopic findings were in 44 patients (10.8%) of patients who had upper gastrointestinal bleeding.
- We didn't notice a statistically significant difference between males and females in the study population, except in two endoscopic findings: duodenal ulcer and gastroduodenitis, males were more common than

females, there was a statistically significant difference, P-value = 0.001 (P-value = 0.02, respectively).

- When we distributed the study population according to the age groups, we noticed that esophagitis was more common in the eighth decade of age, there was a statistically significant difference, P-value = 0.036.
- Angiodysplasia of duodenum was seen in only two patients who were in the ninth decade of age, there was a statistically significant difference, P-value = 0.013.
- Mallory-Weiss tear was more common in the fourth decade of age than the other age groups, there was a statistically significant difference, P-value = 0.02.
- The duodenal ulcer was the most common endoscopic finding in the tenth decade of age, there was a statistically significant difference, P-value = 0.047.
- Endoscopic findings were normal in the second and third decades of age (13-29 years), there was a statistically significant difference, P-value = 0.043.
- By comparison with the reference studies, the most common endoscopic finding in this study was duodenal ulcer, which was seen in 112 patients (27.5%), and this is consistent with the results of the Iranian study, while esophageal varices were the most common endoscopic finding in the Nepalese, Pakistani and Ugandan studies.
- Gastric ulcer was the second most common endoscopic finding in this study, which was seen in 89 patients (21.9%), while duodenal ulcer was the second most common endoscopic finding in the Nepalese study, gastritis was the second most common endoscopic finding in the Pakistani study, esophagitis was the second most common endoscopic finding in the Ugandan study, and esophageal varices were the second most common endoscopic finding in the Iranian study.

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