



### Prevalence of Upper Gastrointestinal Bleeding in the Medical Ward of Ali Abad Teaching Hospital

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#### ABSTRACT

**Background:** Upper gastrointestinal bleeding (UGIB) is a common emergency medical condition that may require hospitalization, resuscitation and results in high patient morbidity. Upper gastrointestinal bleeding is approximately four times as common as bleeding from the lower gastrointestinal tract. Well-known causes of UGIB include duodenal ulcers (DU), Gastric ulcers (GU), erosive mucosal disease (EMD), esophageal varices due to portal hypertension, and Mallory Weiss syndrome. Upper GI bleeding usually presents with hematemesis and melena.

**Objective:** This study aims to find the prevalence of upper gastrointestinal bleeding.

**Method and Materials:** This is a descriptive cross-sectional study. The data collected from the Ali Abad Teaching Hospital archive included 921 patients' documents admitted to the medical ward from 21/3/2021 till 20/3/2022. We did the data entry and analysis through SPSS software.

**Results:** This study found that the prevalence of upper gastrointestinal bleeding is 3.9%, with the mean age of cases being 36 years. In addition, the prevalence of upper gastrointestinal bleeding in male patients was 47.2%, and in female patients, it was 52.8%.

**Conclusion:** In our study, the prevalence of upper gastrointestinal bleeding was 3.9%, with most cases being female patients.

**Keywords:** UGIB, PUD, Prevalence, Melena, Hematemesis

#### Introduction

Upper gastrointestinal bleeding (UGIB) refers to the bleeding originating from sites in the esophagus, stomach, or duodenum. It is a common affliction worldwide and is one of the most common patient presentations in gastroenterology. GI bleeding is the most common GI diagnosis necessitating hospitalization in the United States, accounting for over half a million admissions annually. Nearly 80% of patients visiting emergency departments for UGIB are admitted to the hospital (Iain, 2021).

Common causes of UGIB include duodenal ulcers (DU), gastric ulcers (GU), erosive mucosal disease (EMD), esophageal varices due to portal hypertension (PHTN), and Mallory –Weiss syndrome (MWS). Hematemesis and melena are the most common presenting symptoms of upper gastrointestinal hemorrhage. However, patients presenting with acute UGIB and a substantial loss of intravascular volume may have signs and symptoms of shock. (Serge Kahatwa Kiringa, 2020)

#### Objective

This study aims to find the prevalence of upper gastrointestinal bleeding. Moreover, we would like to differentiate cases based on patient age, sex, and etiology.

#### Background

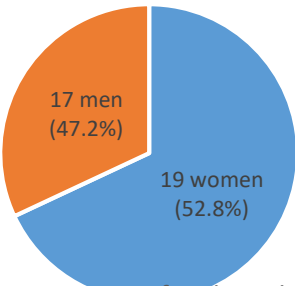
Upper gastrointestinal bleeding is a common emergency medical condition that may require hospitalization, resuscitation and results in high patient morbidity and mortality. The annual incidence of UGIB is approximately 100 cases per 100,000 populations. Upper gastrointestinal bleeding is four times as common as bleeding from the lower gastrointestinal tract, causing mortality rates of 6-10% overall (ON Alema, 2012).

Upper gastrointestinal bleeding is a common affliction worldwide and is one of the most common patient presentations in gastroenterology. Known causes of UGIB include duodenal ulcers (DU), gastric ulcers (GU), erosive mucosal disease (EMD), esophageal varices due to portal hypertension (PHTN), and Mallory – Weiss syndrome (MWS). Hematemesis and melena are the most common presenting symptoms of upper gastrointestinal hemorrhage. However, patients presenting with acute UGIB and a substantial loss of intravascular volume may have signs and symptoms of shock. (Serge Kahatwa Kiringa, 2020)

Aspirin is widely used for preventing vascular events but is associated with a sustained increase in the risk of significant bleeding. (Suzanne E Mahady, 2020)

Upper gastrointestinal bleeding, the most common complication of liver cirrhosis, is often caused by esophageal and gastric varices. The main clinical symptoms include hematemesis, melena which can lead to circulatory failure. According to recent studies, the mortality rate of liver cirrhosis complicated with upper gastrointestinal bleeding is more than 40% (Mengjun Zhang, 201)

The prevalence of upper GI bleeding throughout the world shows a wide range of diversity. In research conducted by ON Alema, DO Martin, and TR Okello from January 2006 to December 2010 in a labor hospital in Uganda, the prevalence of UGIB was 6.67%.



**Figure 1-1.** Percentage of male and female UGIB patients

In a study conducted by Serge Kahatwa and his colleagues from December 2013 to April 2014 at the national hospital of Mulago, Uganda, the prevalence of UGIB was 20.3%. In another study conducted by Suzanne E Mahady and his colleagues from March 2010 to December 2014, the prevalence of UGIB patients presenting with UGIB was 36 years. (Table 1-1) In addition, the prevalence of upper gastrointestinal bleeding is 47.2% in males and 52.8% in females. (Figure 1-1)

Minimum age	18year
Maximum age	75year
Average age	36 year

**Table 1-1.** Prevalence of bleeding according to age

In this study, the prevalence of upper gastrointestinal bleeding based on the cause of bleeding was as follow: 50% of a case with peptic ulcers, 19.44% with gastritis, 13.9% with liver cirrhosis, 5.55% with acid ingestion, and the remaining 11.11% with miscellaneous causes.

**Table 1-2.** Prevalence of bleeding according to cause

Cause	Percentage
Peptic ulcer	50%
Gastritis	19.44%
Liver cirrhosis	13.9%
Acid ingestion	5.55%
Mallory – Weiss syndrome	2.8%

was 0.71%. Meanwhile, in another study conducted by Mengjun Zhang and his colleagues from July 2018 to July 2019, the prevalence of UGIB was 38.79%. On the other hand, in a study conducted by Johann P. Hreinsson and his colleagues from January 2009 to December 2010, the prevalence of UGIB

was 9.01%. In another study conducted by Vikas Pandey and his colleagues from Oct 2015 to Oct 2017, the prevalence of UGIB was 18.9%. A research conducted by Pareen Vora and his colleagues from Feb 2019 to January 2020, the prevalence of UGIB was 1.3%. However, in a study conducted by Subash Bhattarai and his colleagues from January 2018 to December 2019, the prevalence of UGIB was 25%. In another study conducted by Binod Karki and

his colleagues from April 2020 to Aug2021, the prevalence of UGIB was 2.52%.

**Method and work materials**

This research was conducted using the descriptive cross-sectional study carried out over 921 patients admitted to the internal service of the Aliabad teaching hospital from 21/3/2021 till 20/3/2022. The collected information, which included variables such as age, sex, cause of bleeding, and other variables have been entered into SPSS software and presented in the form of tables and diagrams.

**Results**

his research conducted with the participation of 921 patients in the internal service of the Aliabad teaching hospital, including 423 males and 498 females, shows the UGIB prevalence to be 3.9%.Meanwhile, the average age of the

Malignancy	2.8%
Covid-19	2.8%
Congo fever	2.8%

## Discussion

In this study, carried out with the participation of 921 patients, the prevalence of upper gastrointestinal bleeding was 3.9%, while the prevalence of upper gastrointestinal bleeding in international research was 0.7%, 1.3%, 2.25%, 6.67%, 9.01%, 18.9%, 20.3%, 25% (Suzanne E Mahady and his colleagues,2020; Pareen vora and his colleagues,2020; Binod Karki and his colleagues,2022; Subash Bhattarai and his colleagues,2020; Serge Kahatwa and his colleagues,2020; Vikas Pandey and his colleagues,2019; Johann P . Hreinsson and his colleagues, 2012; ON Alema, DO Martin and TR Okello, 2012). Our findings show a difference from international research, probably due to the decrease in our sample size and the difference in the use of NSAIDs and the treatment of H.pylori infection.

In a research conducted by Pareen Vora and his colleagues in Finland, the prevalence of upper gastrointestinal bleeding was 1.3 %, in which the total number of patients was 39054, and the number of patients with upper gastrointestinal bleeding was 494. While in our research, the total number of patients was 921, and the number of patients with upper gastrointestinal bleeding was 36.

In research conducted by Binod Karki and his colleagues from September 2020 to August 2021, the prevalence of UGIB was 2.52%, the total number of patients was 3375, and the number of UGIB patients was 85. The probable reason for the decrease in prevalence in this research is that the information collection was during the corona pandemic, and the patients were reluctant to come to the hospital.

In this research, we found that advanced age increased the prevalence of upper gastrointestinal. In addition, the international literature has also shown an increase in the prevalence of UGIB with the increasing age of patients (Subash Bhattarai and his colleagues, 2020). This similarity is due to old age being one of the risk factors for the prevalence of upper gastrointestinal bleeding.

In our research, the prevalence of upper gastrointestinal tract bleeding was 47.2% in males and 52.8% in females. At the same time, in an international article, the prevalence of upper gastrointestinal tract bleeding in females was 41.8% and 58.2% in males (Subash Bhattarai and his colleagues, 2020). As is evident, there is a difference between our research and international research. It means that the prevalence of upper GI bleeding in international articles is high in males, whereas the prevalence of upper GI bleeding in our research is high in females. This difference is possibly due to the excessive use of NSAIDs

by females, their emotional stress, and their low level of knowledge in our society.

In our research, the most common cause of upper gastrointestinal bleeding is peptic ulcer disease. Meanwhile, in international articles, the most common cause of upper gastrointestinal bleeding is peptic ulcer disease as well (Binod Karki and his colleagues, 2022). As is evident, this finding of our research is consistent with that of international research.

## Conclusion

In this research, the prevalence of upper gastrointestinal bleeding is 3.9%. Most of the cases were elderly, female. However, the most common cause of upper GI bleeding was peptic ulcer disease. These findings suggest the role of mentioned factors in increasing cases of upper gastrointestinal bleeding.

## Suggestions

To decrease cases of upper GI bleeding, the following comments should be considered. We should increase public awareness about the risk factors of peptic ulcer through the media and social pages. People should be motivated to come to the hospital as soon as possible in case of any discomfort in the epigastric area, especially in the senile and females.

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