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Causes of upper gastrointestinal bleeding in patients admitted to Erbil hospitals

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Abstract

Background and objectives: This study aimed to Find the causes of upper gastrointestinal bleeding in Erbil hospitals and to study these causes for the purpose of reducing their mortality.

Methods: One hundred cases of upper gastrointestinal bleeding have been collected. All the cases have been admitted to Erbil hospitals from March 2019 to March 2021. Demographic data, blood investigation, ultrasound, and endoscopy with rapid urease test for Helicobacter pylori infection have been done for all patients to find the cause of upper gastrointestinal bleeding. Data analysis has been done by using a statistical package for Social Sciences -22.

Results: A total number of fifty seven males and fourty three females, with upper gastrointestinal bleeding were included, eighty of them had positive rapid urease test by endoscopy, seventy five patients had duodenal ulcer, six cases had gastroesophageal varices, tumors found in five patients after histopathological investigation of the endoscopic biopsies, gastric erosions found in twelve patients. Ninty five of patients had first time bleeding, low hemoglobin found in fifty nine patients, that thiry of them presented in shock state, from these patients twenty two cases received more than five units of blood.

Conclusion: Upper gastrointestinal bleeding mainly has been the cause duodenal ulcer bleeding which itself has been caused by infection with Helicobacter pylori. Secondly, drugs, which had been used, have been regarded as the main causes of bleeding.

Key words: Duodenal ulce; Endoscopic finding; Helicobacter pylori infection; Upper Gastrointestinal bleeding.

Introduction

Helicobacter pylori infection is the commonest cause of upper gastrointestinal (UGIT) bleeding, accounting for 30%–70% which precipitates duodenal ulcer condition .[1–3] upper gastrointestinal bleeding caused by duodenal ulcer is four times commoner than gastric ulcer. So this duodenal ulcer mostly posterior surface of the duodenum leads to erosion in a branch of the gastroduodenal artery.[4] Chronic gastrointestinal bleeding is slower bleeding that can last for a long time or may come and go. However, it can still lead to significant health complications, such as anemia.[5] People with anemia typically feel lightheaded, tired, or short of breath while exercising. They may also look paler than usual. Anyone who suspects that they may have a chronic gastrointestinal bleeding or anemia should investigate as soon as possible so that they can get a diagnosis and treatment.[6] Major bleeding occurs in 10% to 15% of all duodenal ulcer patients[7], and endoscopic procedures required in up to 20% of these patients. Peptic ulcers are sores that develop on the lining of the stomach and the upper portion of the small intestine. They typically result from a Helicobacter pylori infection or irritation from nonsteroidal anti-inflammatory drugs, such as aspirin or ibuprofen.[2] Many people with ulcers experience no symptoms.[4] If symptoms do occur, they

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may include: pain, often in the upper abdomen, nausea or vomiting, feeling full or bloated. Increasing age will cause atherosclerosis of all vessels in the body, so these vessels bleed more because the least vasoconstriction happens during injury or puncture, and endoscopic procedures may be required in majority of elderly patients.[8] Meta-analysis confirms that hematemesis and melaena are the features of UGIT bleeding, necessitates admission nearly 30%-60% of them caused by duodenal ulcer disease.[9-10]

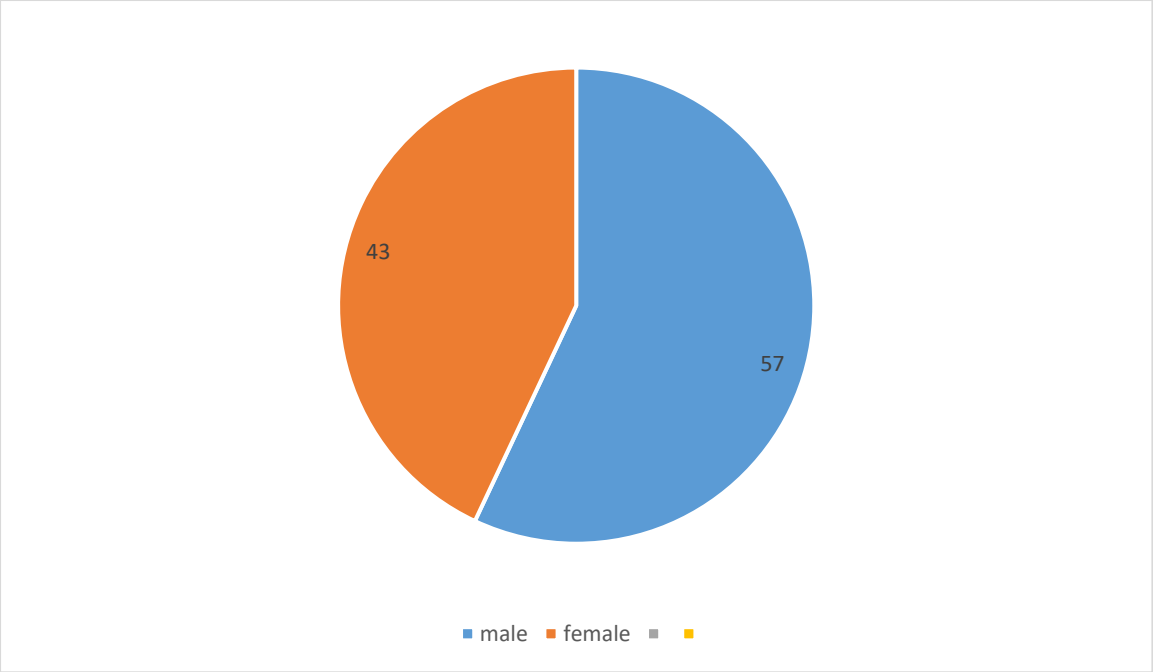
Upper gastrointestinal bleeding is a significant cause of death in hospital, and the mortality is nearly 5%–7% 10. So early admission to the hospital is necessary to reduce the mortality.[11] The aim of this study is to find the causes, medical treatment, endoscopic finding and final result of patients with upper gastrointestinal bleeding admitted to Erbil City hospitals from the Emergency Department from March-2019 till March 2021.

Patients and methods

One hundred patients with upper gastrointestinal bleeding have been admitted to (Rozhhalat Emergency Hospital and Rizgary Teaching Hospital) from March-2019 till March 2021. Data collected from patients admitted because of upper gastrointestinal bleeding, using a questionnaire which has been filled by the researcher, which involved demographic data, clinical symptoms, blood and imaging tests, endoscopic finding, management provided, outcome and follow up have been recorded. The patients have been admitted to the emergency hospital, then resuscitation and support patients state, endoscopy has been performed within twenty four hours of admission. Any patient with shock state or hemoglobin <10 g/dl, blood transfusion has been performed, using restrictive transfusion strategy; i,e keeping hemoglobin between 7-9 g/dl if patient did not have ischemic heart disease, and hemoglobin 9-11 g/dl if patient had ischemic heart disease. Endoscopy has been used to diagnose the underlying pathology and samples have been taken from gastric mucosa in all the cases to detect Helicobacter pylori by rapid urease test, and antral biopsies have been taken. A combination of amoxicillin one gram twice daily and tinidazole five hundred milligram twice daily or levofloxacin five hundred milligram once daily for fourteen days has been given to all patients positive rapid urease test for Helicobacter pylori infection as mentioned by guide line protocol. After stabilization of patients, bleeding has clearly stopped, for more than twenty four hours, oral intake has started gradually. General and systemic examination has been done by the researcher (consultant physician). Laboratory investigations have been done to detect slow oozing blood. Vital signs including blood pressure has been measured by mercury sphygmomanometer, on lying down and standing (if patient can stand) to detect postural hypotension, Pulse rate has been examined every one-two hours chart has been used. Statistical Packages for Social Sciences (SPSS V22) has been used for data analysis. Student's t-test has been used to compare between means. Paired t test has been used to compare between readings before Ramadan, during and after Ramadan. Chi square test of association (or McNamara test) has been used to compare between proportions. A p value of ≤ 0.05 was considered as statistically significant. Ethical approval has been taken from ethical committee from Kurdistan Higher council for Medical Specialties. Verbal consent has been taken from all patients.

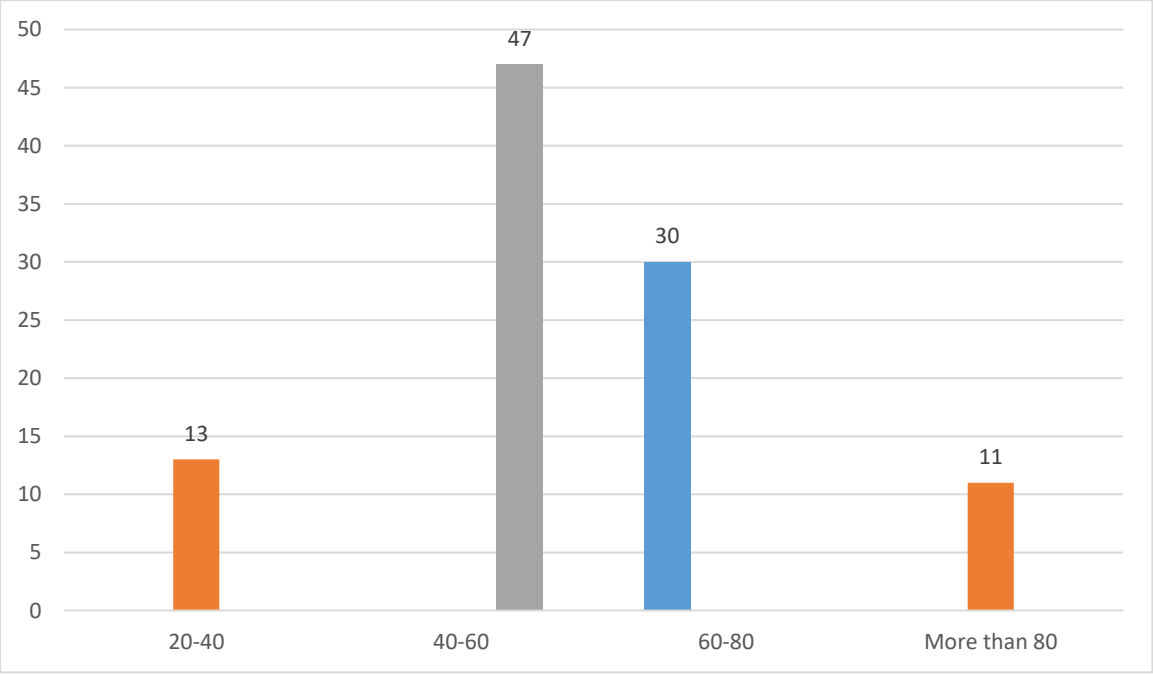
Results

A total number of hundred patients; fifty seven males and fourty three females. presented to the (Rozhhalat Emergency Hospital and Rizgary Teaching Hospital) from March-2019 till March 2021,



Figure(1): Gender distribution .

Mean age is fourty nine years old with the standard deviation (SD) eleven years.



Figure(2):Age of the patients.

Table (1) shows the underlying causes of bleeding in the patients presenting to the hospitals. Bleeding duodenal ulcer has been the commonest diagnosis, seventy five patients.

Table (1): Causes of upper gastrointestinal bleeding.

Endoscopic Diagnosis	Number of patients	p value
Duodenal ulcer	75	
Gastro esophageal varices	6	
Angioma	1	
Mallory-Weis tear	1	
Tumors (mass)	5	
Erosions (and gastric ulcers)	12	0.05

Table (2) shows the frequency of admission of the upper gastrointestinal bleeding patients, majority of patients ninty five have the first admission, only five of them have previous admission. During admission, seven patients has developed rebleeding inside the hospital, that the bleeding totally stoped then restarted again.two patients have had past history of bleeding without admission.

Table (2): Patient`s history of admission and bleeding.

Patient`s state	Number of patients
First admission	95
Re- admission	5
Re-bleeding inside the hospital	7
History of past bleeding	2

Table (3): Shows, from the handred patients with upper gastrointestinal bleeding, on admission, therty patients have been in shock with severe hypotension, and fifty nine have had a hemoglobin of < 10 g/dL. Blood transfusion of more than five units of packed RBCs was done for twenty two patients. Endoscopy has been done for ninty eight patients, rapid urease test ahs been done directly from endoscopic gastric aspiration to detect Helicobacter Pylori infection which has been positive in eighty cases. Suspected cases antral biopsies have been received and sent to histopathological examination five patients had tumors. There have been two deaths over the study period that unfortunately couldn't undergo endoscopy.

Table (3): Data of upper gastrointestinal bleeding cases.

Patient data	Frequency
Hemoglobin <10g/dl on admission	59
Shock state	30
Received > 5 units of blood	22
Deaths	2
Underwent endoscopy	98
Rapid urease test positive H Pylori	80

During endoscopy some patients had duodenal ulcer with another lesion, two patients have had acute gastric erosions, but the bleeding has been from duodenal ulcers, one has had small varices, one has had chronic benign gastric ulcer, one has had esophagitis, two has had hiatus hernia as accidental finding and one patient has

had a prepyloric ulcer. The endoscopic diagnostic have been done for ninty eight patients, except those two cases who has died before reaching endoscopy because of massive heavy bleeding, shock state and multiple co morbidities. Table (4): Shows clinical criteria for cases and comorbidities. Some patients have had more than one risk factor for upper gastrointestinal bleeding. Like taking aspirin or other NSAID or steroid, warfarin and heparin. two cases had corona viral infection positive test, and one case of them already had had hepatitis virus positive. These two cases has died before undergoing endoscopy.

Table (4): Clinical criteria for cases and comorbidities.

Clinical state and comorbidities	Number 0f patients
Smokers	42
Alcohol consumption	3
Chronic liver disease	2
Received aspirin	13
Received NSAID	15
Corona virus infection	2
Received steroid	3
Received warfarin	1
Received heparin	2
Hepatitis B infection	1

Management of these patients include proton pump inhibitor infusion intravenously in order to reduce gastric acidity. This is to prevent further bleeding. Endoscopic miner surgical interference done for some of these patients. The elderly patients, who have been presented with hematemesis, have been actively bleeding at the time of endoscopy, or whose admission hemoglobin was < 8 g/dL with the shock state that had a higher risk of re-bleeding. Recurrence of re-bleeding has occurred within two days after the time that first episode of bleeding had been stopped.

Discussion

Upper gastrointestinal bleeding is an emergency condition that requires admission to the intensive care unit, urgent action must be done to support the patient's life; otherwise the patients might end with death. Duodenal ulcer disease is the commonest cause of severe upper gastrointestinal bleeding, accounting for 30%–75% of total cases[12]. The mortality rate is high due mainly to shock recurrent or persistent bleeding, systemic complications, or other comorbid conditions .[13] Nearly 20% of patients with duodenal ulcer experience a bleeding episode, and this bleeding is responsible for about 40% of deaths from peptic ulcer .[14,15] In this study, the overall mortality is / has been 2%. Elderly patients, and those with hemoglobin <8g/dl , were most likely to have a poor outcome. The poor outcome can be reduced by early endoscopy and an active medical approach. Early admission, particularly in elderly patients, is supported by the experience of other studies which noted a significant relationship between mortality and further hemorrhage in hospital in elderly patients or with comorbid conditions .[16,17] Admission to a specialist unit again is important. Treating Helicobacter pylori infection, treat duodenal ulcers and gastric erosions so it reduce the recurrent upper gastrointestinal bleeding and prevent recurrent peptic ulcer disease. This study shows that /taking aspirin and other NSAID s causes gastrointestinal bleeding

in range of 13% and 15% consecutively. This is in agreement with (Baron et al and de Groot et al) .[18,19] Alcohol and chronic liver disease that cause variceal bleeding have been found in 2% and 3% consecutively. This is supported by others .[20,21] During study period (two thousand twenty), there are plenty of cases of corona viral infection that received steroid and heparin which might cause bleeding,. During this study, two cases found to be positive for corona virus test, both of them received steroid and heparin, develop hematemesis and melena unfortunately both of them died at emergency hospital because of massive bleeding, many recent studies support this .[22]

Conclusion

Upper gastrointestinal bleeding it is an emergency state that requires admission to intensive care unit, and endoscopic diagnose. Duodenal ulcer bleeding, Helicobacter pylori infection, drugs like NSAIDs, are the commonest causes for UGIT bleeding.

Conflicts of interest

The author reports no conflicts of interest.

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