

THE ETIOLOGY OF UPPER GASTROINTESTINAL BLEEDING IN CIRRHOTIC PATIENTS

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Abstract

Aims. To investigate the etiology of upper digestive hemorrhage in cirrhotic patients.

Patients and methods. From November 2004 to December 2006, we performed a prospective study at the Regional Institute of Gastroenterology and Hepatology “O. Fodor” Cluj-Napoca. The study was performed on 1,284 patients with esophageal varices from the endoscopy records, diagnosed with liver cirrhosis based on clinical, biochemical and endoscopic information, documented from the observation sheet. During the periodical examinations, we observed and monitored the patients' variceal and non-variceal bleedings.

Results. Out of the 1,284 patients included in this study, there were 297 cases of upper digestive hemorrhage, the dominant etiology being the variceal bleeding (217 cases - 73%), and 80 (27%) cases of upper non-variceal digestive hemorrhage. Duodenal ulcer was the main cause for upper non-variceal digestive hemorrhage in case of cirrhotic patients considered for this study (33.75%), followed by gastric ulcer (21.25%), portal hypertensive gastropathy (17.5%), acute erosive gastritis (11.25%), Mallory-Weiss syndrome (6.25%), esophageal ulcer (5%), antral vascular ectasia (1.25%), duodenal polyps (1.25%) and exulcerated gastric tumor (1.25%). We also observed the cases of hemorrhagic relapse in the group of patients with variceal hemorrhages. Variceal bleedings are predominant in each Child-Pugh clinical category, but one must mention that the risk of variceal rupture increases with the severity of the hepatic disease. There were 8 deaths, all caused by esophageal variceal hemorrhages.

Conclusions. In our study, almost 27% of cirrhotic patients with upper gastrointestinal hemorrhage had bleeding from a non-variceal source, the most common etiology being peptic ulcer. Variceal bleeding is more severe and bears a higher mortality rate than non-variceal bleeding.

Keywords: cirrhosis, variceal bleeding, non-variceal upper gastrointestinal hemorrhage.

Introduction

Upper gastrointestinal bleeding is a major public health problem, its prevalence being 100-170:100,000 population [1,2,3].

Mortality due to upper gastrointestinal bleeding remained unchanged over the past 30 years, in spite of the modern methods of diagnosis and treatment and it is about 10% [1,2,4,5].

In cirrhotic patients, variceal bleeding is 60-65% of the bleeding episodes in these patients [6].

Bleeding from esophageal varices is only 5-11% of all gastrointestinal hemorrhage cases. In the U.S. about 30% of the patients with compensated cirrhosis have esophageal varices when first diagnosed [6].

Upper gastrointestinal bleeding in cirrhotic patients occurs mainly from esophageal and gastric varices. However, there are numerous cases of non-variceal bleeding in cirrhotic patients. For this reason, the present paper aims to analyze the etiology of non-variceal bleeding in patients with cirrhosis.

Material and methods

This prospective study was conducted in the period 11.2004-12.2006 in the Regional Institute of

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Gastroenterology and Hepatology of Cluj-Napoca. It included 2,446 patients with liver cirrhosis who were selected from the endoscopy records based on their having esophageal varices.

The study included:

- patients who met the clinical, biochemical, endoscopic and ultrasound criteria of liver cirrhosis, as shown in the patient's observation chart.
- in the follow-up period the variceal and non-variceal bleeding in these patients were monitored.
- the etiology of bleeding, bleeding relapses, the relationship with the gravity of cirrhosis and of the esophageal varices staging were also kept under observation; the number and cause of deaths of cirrhotic patients with upper gastrointestinal bleeding were also observed.
- 1,284 patients met the selection and inclusion criteria
- the results of the study were processed using the Excel program
- the quantitative data were expressed as median±ds.
- the study was approved by the local ethics board of the "Prof. Dr. O. Fodor" Regional Institute of Gastroenterology and Hepatology.

Results

The average age of patients was 56.76 years, the youngest and the oldest being 16 years and 86 years respectively (Figure I).

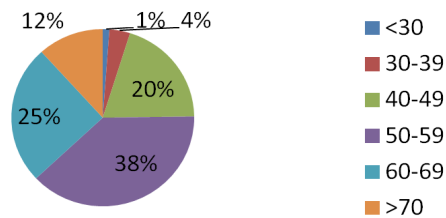


Figure 1. Representation on age groups using a structure chart.

In terms of gender distribution of patients, 795 were male patients (61.91%) and 489 were female patients (38.09%).

Out of the 1,284 patients included in the study, 297 had upper gastrointestinal bleeding. The dominant etiology was variceal hemorrhage which was present in 217 cases (73%), while 80 patients had non-variceal upper gastrointestinal bleeding (27%).

Of the cases with variceal bleeding 199 (91.7%) were from esophageal varices while 18 (8.3%) were from gastric varices.

Duodenal ulcer was the main cause of non-variceal upper gastrointestinal bleeding in the patients included in the study (33.75%), followed by gastric ulcer (21.25%), portal hypertensive gastric disease (17.5%), acute erosive gastritis (11.25%), Mallory-Weiss syndrome (6.25%), esophageal ulcer (5%), antral vascular ectasia (1.25%),

duodenal polyps (1.25%) and exulcerated gastric tumor (1.25%) (Figure II).

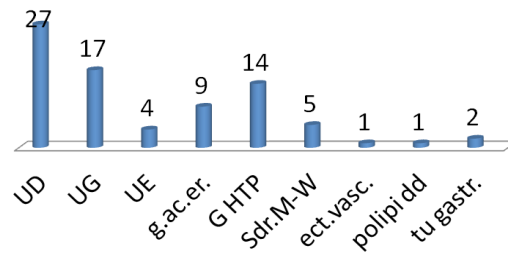


Figure 2. Incidence of endoscopic lesions at cirrhotic patients.

The predominant clinical form of the upper gastrointestinal hemorrhage admission was the hematemesis and melena (84.17%), melena (14.81%) and hematochesia (1.01%).

Bleeding relapses represented 45.16% of all variceal upper gastrointestinal bleeding. Fourteen cases of recurrence of bleeding within 7 days from the first episode of bleeding were found, 24 cases in the first month, 28 cases after 6 months and 32 cases after the first year.

Twenty-three post-sclerotherapy relapses and 34 post-ligature relapses were found in our study. Mention must be made that most patients with variceal gastrointestinal bleeding in this situation were treated by ligation.

The rupture of esophageal varices depends on the grade of the varices and it is more commonly found in patients with grade II and III varices. Thus our study reported 10 patients with bleeding from esophageal varices grade I (8%), 98 (45%) patients with bleeding from esophageal varices grade II and 93 (42%) of grade III varices. Also gastric varices bleeding was found in 18 patients (5%) (Figure III).

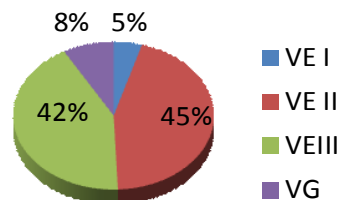


Figure 3. Repartition of variceal bleedings according to esophageal varices degree.

The variceal rupture risk increases with the increase in severity of the liver disease.

This study also recorded 8 deaths which occurred in the group of patients with variceal bleeding.

Out of these cases, death occurred in one patient with Child class A cirrhosis, in 3 patients with Child class B and in 4 patients with Child class C. Consequently, this shows that the mortality of patients with variceal hemorrhage is closely related to the severity of the liver disease.

Discussion

• The results of our study show that out of the 1284 studied patients, a proportion of 23.13% (297) had upper gastrointestinal bleeding. The most frequent etiology was that of variceal bleeding (73%), the results being similar and keeping in with those reported in literature [7,8,9].

• Peptic ulcer (gastric and duodenal ulcer) is dominant (55%) in the etiology of non-variceal upper gastrointestinal bleeding and its frequency rate is about the same as that found in the speciality literature [10,11].

• Bleeding relapses in the group of patients with variceal upper gastrointestinal hemorrhage were frequent (45.16%) and brought up special problems related to the type of treatment (sclerotherapy or ligation), the eradication treatment for esophageal varices, the use of adjuvant therapy for portal hypertension (beta-blockers) or the invasive methods of treating portal hypertension (TIPS) or liver cirrhosis (liver transplantation).

• Given the significant number of non-variceal upper gastrointestinal hemorrhage in cirrhotic patients, prevention of upper gastrointestinal bleeding in these patients becomes of great importance including: avoidance of NSAIDs, treatment with proton pump inhibitors in patients with known ulcer or in those who have ulcer symptoms, and complete endoscopic exploration of patients with liver cirrhosis.

• The risk for variceal hemorrhage increases with the severity of the liver disease [12,13,14].

• Mortality because of upper gastrointestinal bleeding was of 2.69% in the study group, all the deaths having occurred following variceal bleeding.

Conclusions

Our study showed that in about 27% of the cirrhotic patients with upper gastrointestinal hemorrhage the bleeding occurred from non-variceal sources, of which the most frequent one was ulcer.

The hemorrhage with variceal etiology is more severe and has higher mortality than the non-variceal one.

The large number of non-variceal bleeding in cirrhotic patients shows the importance of upper gastrointestinal endoscopy for specifying the etiology of upper gastrointestinal bleeding and for establishing the appropriate therapy.

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