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ACUTE UPPER GASTROINTESTINAL BLEEDING IN LIVER CIRRHOSIS PATIENTS –PROSPECTIVE OBSERVATIONAL STUDY.

Gastroenterology

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ABSTRACT

Objectives: This study focuses on the etiology of acute upper gastrointestinal (GIT) bleeding in liver cirrhosis patients.
Methods: A prospective examination of 1617 liver cirrhosis patients with acute upper GIT bleeding was done. All patients underwent endoscopic examination and in the case of multiple findings, definition of the source of bleeding was based on the endoscopic report.
Results: The most frequent causes of acute bleeding were: oesophageal varices (53.4%), peptic gastric and duodenal ulcers (32.36%), portal hypertensive gastropathy (5.8%), gastric varices (3.96%), Antral gastritis (3.46%), Mallory-Weiss syndrome (0.37%) and Duodenal varix(0.31%). The majority of cases showed multiple findings in the upper digestive tract, each of which was a potential cause of bleeding.
Conclusion: Portal hypertension lead to bleeding in 63.47% of patients, and 57.67% of patients suffered from purely varicose bleeding and 36.53% from non-varicose bleeding. Early, detailed endoscopic examination leading to appropriate diagnosis and treatment is of paramount importance.

KEYWORDS

liver cirrhosis, portal hypertension, acute bleeding, peptic ulcer, endoscopy

INTRODUCTION

Acute upper gastrointestinal bleeding is a serious medical problem in cirrhotic patients. The majority of published papers however, focus on varicose bleeding but quite a large number of cirrhotic patients bleed from other sources as well. Further, the dearth of information in the Czech medical literature over the past 20 years on this subject has meant that many physicians assume only varicose bleeding in liver cirrhosis patients. This has also been our own experience over the years and prompted us to submit this report.

METHODOLOGY

Patients included were all l diagnosed cirrhosis patients hospitalized in the Internal Medicine Department of GMC Jammu for acute upper gastrointestinal bleeding from April 2016 to August 2018. They were monitored prospectively. All underwent tests to establish the etiology of the liver cirrhosis and determine the level of liver disease advancement expressed by the Child-Pugh classification. The diagnosis of portal hypertension was based on indirect signs. All patients underwent endoscopy of the upper GIT.

The data were statistically analysed using the chi square test of independence. With frequencies ≤ 5, Fisher's exact test was used – a bilateral test, based on the use of interactions. However, both tests produced the same results at the 0.05 level ofsignificance.

RESULTS

Total of 1617 Cirrhotic patients were subjected to upper GI Endoscopy, which included 1326 (82%) males and 291(18%) females (Table 1). The age range was 1 to 80 years, with mean of 56.9. Maximum cases were seen in age group 41-50yrs (Table 2). As expected, the most common source of bleeding was varices, in particular oesophageal varices, represented in 53.4% (864 cases). Gastric varices were present much less frequently (64 cases; 3.96%).

On the other hand, these are more difficult from the point of view of endoscopic examination and treatment owing to technically difficult visualisation in subcardial area, often due to inversion when there is a lot of blood in the stomach, and hence unclear terrain. Overall, varicose bleeding represented a total of 933/1617 of all bleeding cases or 57.67%. Of the remaining 42.33% cases of bleeding, portal hypertension gastropathy was found in 5.8 %. Automatic assumption of bleeding from varices in cirrhotic patients could have serious consequences in about one third of patients because the therapeutic procedures vary – e.g. insertion of balloon probe in case of non-varicose source of bleeding could be ineffective. The second most frequent cause of bleeding was peptic gastric and duodenal ulcers with a share of 32.36% (523 patients). These occurred more frequently than for instance gastric varices or portal hypertension gastropathy. . 85% of ulcers bled "in the terrain" of portal hypertension. This meant that the endoscopist marked the ulcer as the bleeding source, instead of for example, the coinciding varices or portal hypertension gastropathy.

We can conclude that the risk of bleeding ulcers increases with incidence of portal hypertension and with degree of liver cirrhosis, although the trend is not statistically significant. The related thrombocytopenia and coagulopathy may have an influence.

An overview of individual sources and percentage of varicose and non varicose bleeding is provided in Table 3 below

TABLE 1 -SEX DISTRIBUTION OF PATIENTS

SEX	NUMBER OF PATIENTS(N)	PERCENTAGE (%)
MALE	1326	82
FEMALE	291	18

TABLE 2-DISTRIBUTION OF PATIENTS ACCORDING TO AGE

Age Group In Yrs	Number Of Patients(n)	Percentage (%)
1-10	39	2.4
11-20	146	9
21-30	182	11.3
31-40	390	24.1
41-50	430	26.6
51-60	410	25.4
61 and above	20	1.2
TOTAL	1617	100

TABLE 3- CAUSES OF ACUTE GASTROINTESTINAL BLEEDING IN PATIENTS WITH LIVER CIRRHOSIS

	Number Of Patients(n)	Percentage (%)
Esophageal Varices	864	53.4
Duodenal Ulcer	362	22.4
Gastric Ulcer	161	9.96
Portal Hypertensive Gastropathy	94	5.8
Gastric Varices	64	3.96
Antral Gastritis	56	3.46
Mallory Weiss Syndrome	6	0.37
Duodenal Varix	5	0.31
Normal	5	0.31
Total	1617	100

DISCUSSION

In the "general" population, the most common cause of bleeding is peptic lesions of the upper digestive tract (up to 3/4); varices comprise 8-10%. Other findings are less frequent. Upper gastrointestinal bleeding recedes spontaneously or following conservative treatment in 80% of cases. Despite our diagnostic efforts, in up to 10% of cases, the source remains unidentified (1). These are statistics characterizing the

general population. In the case of liver cirrhosis patients, mortality in the case of bleeding from oesophageal varices is unfortunately 30%, to 70% (2), and is related to the degree of liver cirrhosis (3, 4). The cause of death is often multifactorial and closely correlates with the severity of liver damage. Varicose bleeding can stop spontaneously in up to 60% of cases, but bleeding relapse without treatment is high – 60% of patients experience new bleeding within a week of the first attack.

Varices are not the only source of bleeding in cirrhoses. The share in all bleeding cases has been found to be 53.4% for oesophageal varices and 3.96 % for gastric varices, altogether 57.36 % of cases. Other studies have come to the same conclusions. For example, D'Amico in his study of 465 cirrhotic patients, found varices to be the bleeding source in 72% of cases (5). Odelowo et al. found bleeding varices in only 50% of cases, but his group was small (40 patients) (6). Fassio mentions 52.5%, and Gostout had an even smaller percentage of varicose bleeding – 47.3%, despite the fact that his 300 sample size (7, 8). On the other hand, Seo et al. reported the biggest percentage of varicose bleeding in 77.7% of cirrhotic patients (9). Despite the fact that these studies slightly vary, we may conclude that varices are the most common cause, but in 1/4 to 1/3 of cases these patients bleed from a non-varicose source. According to the literature, the percentage of portal hypertension gastropathy in bleeding ranges around 4% (10). In our group it was 5.8 %. The second most frequent cause of bleeding was peptic gastric and duodenal ulcers with a share of 32.36%. These occurred more frequently than for instance gastric varices or portal hypertension gastropathy. The share of gastric ulcers and duodenal ulcers was virtually the same. In another study in patients with liver cirrhosis as well as with gastric and duodenal ulcerative lesions, we found; bleeding from the lesion in 35.2% of cases and that the risk rises with coincidence of portal hypertension and with degree liver cirrhosis (10). In portal hypertension, there is splanchnic vasodilatation and arteriovenous shunts development in the submucosa which leads to increased blood flow in this area. This increases the risk of bleeding and at the same time decreases oxygenation of the mucosa with consequent risk of damage (11, 12). In our study mentioned above, ulcers comprised 8.5% of bleeding cases in cirrhotic patients. One complicating factor is that these patients very often have multiple findings in the upper gastrointestinal tract (13).

CONCLUSION

In patients with acute upper gastrointestinal bleeding and liver cirrhosis, the most common source of bleeding was varices, in particular oesophageal varices (53.4%), much less common was gastric varices (3.96%). Varicose bleeding represented a total of 57.67 % of all bleeding cases. Portal hypertension gastropathy was the cause in another 5.8 % of cases. Bleeding due to portal hypertension, from varices + portal hypertension gastropathy, comprised 63.47% of all bleeding cases. The second most frequent cause of bleeding was peptic gastric and duodenal ulcers with a share of 32.36%, with gastric ulcers of 9.96% and duodenal ulcers of 22.4%.

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