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ANALYSIS OF FREQUENCY OF RE-BLEEDING AFTER SUCCESSFUL ENDOSCOPIC MANAGEMENT OF ESOPHAGEAL VARICES IN CIRRHOTIC PATIENTS

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Abstract:

Introduction: *Portal hypertension (PH), defined as hepatic venous pressure gradient of more than 5 mmHg, is one of the major complications of the liver cirrhosis. Clinical complications of portal hypertension, including gastro esophageal varices, become evident once hepatic venous pressure gradient exceeds 10 mmHg.*

Objectives of the study: *The basic aim of the study is to analyze the frequency of re-bleeding after successful endoscopic management of esophageal varices in cirrhotic patients.*

Methodology of the study: *This retrospective observational study was conducted in Nishtar hospital, Multan during 2018 with the permission of ethical committee of hospital. The data were collected from 80 endoscopic band ligation. Both males and females were included who have evidence of cirrhosis on the basis of clinical history, examination, biochemical and radiological investigations, had first episode of upper gastrointestinal bleeding secondary to esophageal varices and had undergone band ligation.*

Results*: 80 cases with history of cirrhosis and previous band ligation were chosen for the study. Out of which 49 (61.3%) were male and 31 (38.8) were of female gender. Causes of liver cirrhosis were identified as 63(78.8%), 5(6.3%) and 12(15%) for hepatitis C, hepatitis B and Non B, Non C respectively. Out of 80, 13(16.2%) patients presented with rebleeding in 4 weeks post band ligation.*

Conclusion*: In this study, EVBL was found to be an effective modality in reducing the frequency of rebleeding in cirrhotic patients. Severity of liver disease and number of variceal columns were independent risk contributing to re-bleeding.*

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INTRODUCTION:

Portal hypertension (PH), defined as hepatic venous pressure gradient of more than 5 mmHg, is one of the major complications of the liver cirrhosis. Clinical complications of portal hypertension, including gastro esophageal varices, become evident once hepatic venous pressure gradient exceeds 10 mmHg. In nearly 50% of cirrhotic patient's gastro esophageal varices are present at the time of diagnosis [1]. Primary prophylaxis is recommended with either non selective beta blocker (NSBB) or endoscopic variceal band ligation (EVBL) one the basis of patient's preference/tolerance. Both of these modalities are superior to no-treatment in patient with evidence of medium and large size varices [2]. Each episode of esophageal bleeding is associated with 30-70% risk of mortality. The standard of care in these patients is combination of medical therapy and endoscopic band ligation to prevent rebleeding [3]. Secondary prophylaxis is recommended in the form of nonselective beta blockers (NSBB) and endoscopic variceal band ligation(EVBL) after initial episode of variceal hemorrhage [4]. Combination therapy with NSBB and EVBL is more effective than EVBL alone ((RR = 0.65, 95%CI: 0.45-0.93). There are many factors which predict bleeding in liver cirrhosis i.e. size of varices, red wale marks on endoscopy and decompensated cirrhosis (Child Pugh B/C) [5]. Among them, size of varices is the most significant predictor of first bleeding episode (15% per year). After EVBL, the time period between 24 hours and 14 days is crucial as the spontaneous band slippage during this period can be catastrophic, the greatest risk of rebleeding is within five days of admission in the hospital [6]. For effective treatment, early diagnosis should be made in these patients [7]. Studies have shown that in comparison to untreated group, patients treated with EVBL had a decreased risk of first bleeding episode by 64% and mortality by 45% [8].

Objectives of the study

The basic aim of the study is to analyze the frequency of re-bleeding after successful endoscopic management of esophageal varices in cirrhotic patients

METHODOLOGY OF THE STUDY:

This retrospective observational study was conducted in Nishtar hospital, Multan during 2018 with the permission of ethical committee of hospital. The data were collected from 80 endoscopic band ligation. Both males and females were included who have evidence of cirrhosis on the basis of clinical history, examination, biochemical and radiological investigations, had first episode of upper gastrointestinal bleeding secondary to esophageal varices and had undergone band ligation. Patients with other causes of upper GI bleeding, with two or more previous bleeding episodes and patients who undergone surgical procedures for varices or transjugular intrahepatic portosystemic shunt procedure were excluded from the study. Data collected for the gender and age of the patient, etiology of cirrhosis and size of esophageal varices.

Statistical analysis

Collected information of the patients was entered into SPSS version 21 and analyzed. Results were presented as mean ± standard deviation for quantitative variables and frequencies (percentages) for qualitative variables. P value $\leq$0.05 was taken as significant.

RESULTS:

80 cases with history of cirrhosis and previous band ligation were chosen for the study. Out of which 49 (61.3%) were male and 31 (38.8) were of female gender. Causes of liver cirrhosis were identified as 63(78.8%), 5(6.3%) and 12(15%) for hepatitis C, hepatitis B and Non B, Non C respectively. Out of 80, 13(16.2%) patients presented with rebleeding in 4 weeks post band ligation.

Table 1: Demographic characteristics of patients

Variables	Value
Age (years)	51.32±12.57
Gender (%) Male Female	 49 (61.3) 31 (38.8)
Etiology (%) HCV HBV Non B, Non C	 63 (78.8) 5 (6.3) 12 (15)
Child-Pugh Class, n (%) A B C	 6 (7.5) 12 (15.0) 62 (77.5)

Table 2: Analysis of data

Variable		Recurrent bleeding(n)		P value
		Yes	No	
Child pugh score	A	0	6	0.01
	B	1	11	
	C	12	50	
Number of variceal columns	1-2	1	29	0.02
	3-4	12	38	

DISCUSSION:

We observed in our study that re-bleeding following successful control of the initial bleeding episode with band ligation occurred in 13(16.2%) patients which is consistent with frequency as compared to study done by Abbasi A et al i.e., 19.1% [9]. In another local study the risk of rebleeding was found to be 6.4%(14 out of 220 patients had rebleeding), the frequency in that study is low as compared to our study and the difference in frequency could be because of the patients included in our study have more advanced liver disease as more than 75% patients had child pugh score C [10]. Other possible explanation of the high frequency could be the length of follow up as we included the patients presenting with rebleeding up to 4 weeks and in that study the follow up time was 3 weeks. Furthermore they excluded the patients with portal vein thrombosis and HCC [11]. Our observations were consistent with the frequency of bleeding seen in various international studies (ranging from 9% to 19%). The variation in frequencies in these studies is probably due to different study populations with different etiologies of cirrhosis and different severity of liver disease [12].

Total 13 patients developed rebleeding out which 12 (92.3%) patients had Child Pugh Class C. One patient (7.3 %) developed rebleeding among child class B patients while none of the patient re-bled with Child A cirrhosis. Another major factor contributing re-bleeding after successful EVBL was number of variceal columns. In our study, 12(92.3%) out of 13 patients who presented with rebleeding had more than 2 columns of esophageal varices. While in other group of patients with 2 or less than 2 columns, only one patient developed re-bleeding which comprises 7.3% of total patients presented with rebleeding [13].

CONCLUSION:

In this study, EVBL was found to be an effective modality in reducing the frequency of rebleeding in cirrhotic patients. Severity of liver disease and number of variceal columns were independent risk contributing to re-bleeding.

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