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Role of Beta Blockers and Band Ligation in upper gastrointestinal tract bleeding

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Abstract

Objective: To sort out the combine role of beta blockers and band ligation in upper gastrointestinal bleeding

Methodology: In this prospective observational study 563 patients were included, (mean age 47 ±6 years, males 69%) with liver cirrhosis and deterioration from Medical ward Mayo hospital Lahore. All the patients had cirrhosis and esophageal varices confirmed by endoscopy. In hospital cirrhotic patients with hypertension and liver cell deteriorations. All the record of betablocker use and band ligation was carefully recorded. Data regarding patient presentation and characteristics were keenly monitored and observe with treatment and improvement as major variables. Mortality was taken as major influential factor. Linear regression model was used.

Results: Overall, there were 426 patients getting pharmacological treatment and have band ligation treatment simultaneously. One Hundred and thirty-seven had gastrointestinal bleeding during study time. Standard deviation of patients who had no recurrence of bleeding from last two years was 67±4. Low level of serum albumin, presence of ascites, and treatment with betablockers were the only independent variables that directly influenced the bleeding. The percentage of patients who had only once bleeding during study period was 23±2 percent. The major effects by be ta blockers were preserving after band ligation of source of bleeding.

Conclusion: This study demonstrates that best treatment of bleeding in upper gastrointestinal tract is beta blockers, with the use of b and ligation where it is needed. Strict monitoring and guidelines should be under consideration before stop the beta blockers upper gastrointestinal bleeding patients.

Keywords: Beta blockers, Band Ligation, Upper Gastrointestinal Tract

Introduction:

One of the major complications in upper gastrointestinal tract bleeding in hypertension and structural heart diseases Portal hypertension is mainly define as hepatic venous pressure gradient above 5 mmHg[1]. Esophageal or gastric varices bleeding still challenging in morbidity and mortality risk increasing in population[2]. There is huge research and work has been performed in prevention of first episode of bleeding and management of acute bleeding without any delay in time[3]. This research gives a very concise steps and preventive measures in upper gastrointestinal bleeding and its management[4]. The use of beta blockers drugs induces a continue low portal pressure with upper gastrointestinal bleeding[5]. As a result, these drugs become quiet helpful to prevent gastrointestinal bleeding in majority of patients, a major and leading cause of deaths in patients with portal hypertension[6]. We make efforts to make a new concept in order to clarify all the old strategies including the prognostic factors, the effects of beta blockers drug therapy on the risk of bleeding and mortality rate and to identify different variables effects on the patients[7].

Risk factors for upper gastrointestinal tract bleeding are the diameter of varix, presence of red wale sign, and impaired gastrointestinal function[8]. The proper identification and pharmacological treatment of patients with upper gastrointestinal bleeding is main objective in order to decrease the mortality rate and proper prognosis[9]. Every patient with first time diagnosed with upper gastrointestinal tract bleeding should be screened for esophageal and gastric varices[10]. Effective and quick treatment with beta blockers reduces the risk of bleeding up to 45%.Beta blockers use at primary stage with band ligation is consider to be highly effective way of treatment in upper gastrointestinal bleeding[11].

Methodology:

The inclusion and exclusion criteria of patients in study have been mainly based on upper gastrointestinal bleeding. The data were collected from the questionnaires given to patient's physician, required information on 7 variables at the time of inclusion in study: se, age, cause of bleeding, presence of hepatic encephalopathy, serum albumin level, and presence of red sign on mucosa and treatment time. In this prospective observational study 563 patients were included, (mean age 47 ±6 years, males 69%) with liver cirrhosis and deterioration Medical ward Mayo hospital Lahore. All the patients had cirrhosis and esophageal varies confirmed by endoscopy. In hospital cirrhotic patients with hypertension and liver cell deteriorations. The use of beta blocker and band ligation was carefully recorded. Data regarding patient presentation and characteristics were keenly monitored and observe with treatment and improvement as major variables. Mortality was taken as major influential factor. Linear regression model was used.

Table: 1 Patients free of Bleeding after Two Years Follow up

Stratum of Patients	Total number of patients	Pts with Bleeding	Pts without Bleeding	P-values
No Ascites	123	68	55	0.002
Ascites	163	103	60	0.002
Good body Health	149	92	57	0.001
Good Liver Function	128	88	40	0.001

The main focus on those variables is given during treatment phase, reoccurrence of bleeding, lack of permanent reduction of the blood pressure and noncompliance with study protocol. Noncompliance was defined as the failure to take the three days, as reported by patient's family and patient. There were no any randomized trials to compare the other pharmacological treatment, available for the therapy of bleeding. Band ligation can be used for temporary stop of bleeding.

Results:

We select some points after follow-up: the total number of patients who have no bleeding after band ligation, number of patients who had reoccurrence of bleeding, number of patients who have reoccurrence of bleeding after discharge from hospital. Thirteen patients during the treatment had fatal bleeding. The percentage of patients who had not fatal bleeding was 97 ±7 percent. On the whole, there were 426 patients getting pharmacological treatment and also have band ligation treatment simultaneously. One Hundred and thirty-seven had gastrointestinal bleeding during study time. Standard deviation of patients who had no recurrence of bleeding from last two years was 67±4. Low level of serum albumin, presence of ascites, and treatment with beta blockers were the only independent variables that directly influenced the bleeding. The percentage of patients who had only once bleeding during study period was 23±2 percent. The major effects by beta blockers were preserving after band ligation of source of bleeding. The combine effects of beta blockers and band ligation have better prognosis in upper gastrointestinal bleeding.

Discussion:

This research is classic view of best role of beta blockers and band ligation in upper gastrointestinal bleeding[12]. This study defines the efficacy of beta adrenergic-antagonist major role in compensate the repeating episodes of bleeding and reducing the mortality rate linked with bleeding[13]. It is also help to recognize the prognostic factors of upper gastrointestinal bleeding and death ratio in population with high portal pressure. At last, it defines the benefits of combined treatment of beta blockers and band ligation to decrease the mortality rate[14].

The findings elaborate the efficacy of beta blockers in avoids upper gastrointestinal bleeding in patients of esophageal vary with cirrhosis[15]. This efficacy was good in those patients who did not have any other complication and mostly in young age[16]. Idea et al concluded that efficacy was shown only by those patients in which physical fitness was excellent. And proper treatment with beta blockers was only in those patients, which do not have much ascites[17]. From 563 patients in this study, the effects of beta blockers drug treatment on survival were undersize. The little effects of treatment on mortality rate after two years of follow be due to the small number of deaths due to bleeding[18]. The results also suggest that during hemorrhage, beta blockers have no harmful effects. After treatment of two years with beta blockers, the more dangerous and uncontrolled bleeding was reduced from 21 percent age of such type of patients who survived without any bleeding in future life[20].

We also find many independent variables linked with uncontrolled bleeding leading to death. Ascites and cirrhosis were directly linked with bleeding, uncontrolled bleeding and ultimately leading to death[21]. Ascites was a high-risk factor for bleeding independently besides many variable s. Such as low serum albumin level, extended prothrombin time and high hepatic pressure[22]. Lower efficacy of beta blockers treatment directly associated with pharmacological treatment for the prevention of bleeding. In the presence of red signs on varices was also an important risk factor for bleeding in patients under treatment. Age , sex and cirrhosis factors were not directly linked with the risk of bleeding[23].

Burroughs AK et al, give recommendations for test to prevent an early episode of bleeding and we took most of their recommendations into this study. We use their three to four variables in order to give characteristics to patients conditions[24]. Although we do not have data on every patient, the researcher give statement that every patient after bleeding give same treatment in hospital. Our study is too much time consuming, but this study has many advantages over other meta-analysis that combines only findings related to patient's symptoms[25]. The most important data required on questionnaire were analyzed on standard defined parameters. Since this study has described the effects of beta blockers in upper gastrointestinal bleeding, which can be led to dangerous level even cause death.

Conclusion:

This study demonstrates that best treatment of bleeding in upper gastrointestinal tract is beta blockers, with the use of band ligation where it is needed. Varices bleeding is more common and may lead to life threatening complication of portal hypertension. Strict monitoring and guidelines should be under consideration before stop the beta blockers upper gastrointestinal bleeding patients.

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