

Early Re-Bleed in Patients with Fundal Varices Treated with Injection Cynoacrylate (Histoacryl®)

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ABSTRACT

Objective: To determine the frequency of early re-bleed in patients with fundal varices treated with Injection Cynoacrylate (Histoacryl®).

Study Design: Descriptive case series study

Place and Duration of Study: This study was conducted at the Department of Gastroenterology-Hepatology, Shaikh Zayed Hospital, Lahore from April 2012 to October 2012.

Materials and Methods: 100 patients were recruited. Injection Histoacryl® was injected and volume of injection was not exceeded from more than 1ml at one site. Maximum number of injection did not exceed more than two per site. After the procedure patient was shifted to Gastroenterology Ward where he or she was observed for early re bleed and data was noted regularly for 5 consecutive days.

Results: Present study showed mean age of the patients was 48.4±10.8 years. Patient distribution by gender, there were 68 (68%) male and 32 (32%) female patients. Out of 100, 12% patient had early rebleed in patients with fundal varices.

Conclusion: The frequency of early re-bleed in patients with fundal varices treated with Injection Cynoacrylate (Histoacryl®) is low. It is suggested that more multi-center studies should be conducted on large sample size so that the exact frequency of early rebleed could be obtained.

Key Words: Portal hypertension, early rebleed, fundal varices, Injection Cynoacrylate.

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INTRODUCTION

Patients with portal hypertension having 20 % chance to get gastric varices¹. After esophageal varices (EV), Gastric varices (GV) are the most common cause of upper gastrointestinal (UGI) bleeding in patients with portal hypertension. Gastric varices (GV) are accountable for 10-30% of all variceal hemorrhage. Conversely, they tend to bleed more severely with higher mortality. Around 35-90% rebleed after spontaneous hemostasis. Approximately 50% of patients with cirrhosis of liver harbour gastroesophageal varices. Gastric varices are related with gastroesophageal (GOV1, GOV2) and isolated gastric varices (GV1, GV2)^{2,3}.

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Although, consequence of hemorrhage in variceal has improved over the past two decades, variceal hemorrhage is still the most serious complication of portal hypertension and chronic liver disease.^{4,5} Bleeding occurs less often from gastric varices than esophageal varices, it's about 70 to 90% for all variceal hemorrhage. Severe blood loss, high bleeding rate, and higher mortality rate leads to poor prognosis of gastric varices⁷. Due to poor prognosis, limited data is present for the best treatment for gastric variceal hemorrhage^{8,9}. Treatment done by endoscopic injection of sclerosants, endoscopic band ligation is an substitute for management of gastric varices.^{10,11}

Various studies conducted to know the best endoscopic treatment for gastric variceal hemorrhage. It is found that endoscopic injection of N-butyl-2-cynoacrylate found more effective than other sclerosants. In gastric variceal band ligation, episode of rebleeding did not occur past 1½ years in patient of gastric variceal obliteration. Although, most optimal endoscopic treatment of esophageal hemorrhage is endoscopic variceal ligation but its safety and efficacy is unclear. The re bleeding rate of gastric variceal obliteration with Injection Cynoacrylate (Histoacryl®) is variable and ranges from 10% to 42%.¹²

The rationale of this study is to find out the frequency of early rebleed in patients with fundal varices treated with Injection Cynoacrylate (Histoacryl®). In this regard there is evidence of data in western world, but

scanty evidence from our population. Present study reveal basic information about frequency of early rebleed in patients with fundal varices treated with Injection Cynocrylate (Histoacryl®).

MATERIALS AND METHODS

This Descriptive cases series was conducted from April 2012 to October 2012 at Shaikh Zayed Hospital, Lahore. Patient having age between 15- 65 years with portal hypertension presenting upper gastrointestinal bleed and evidence of bleed from fundal varices were selected. 100 patients were enrolled after taking informed consent in writing from Gastroenterology Unit of Shaikh Zayed Hospital Lahore. Endoscopy was done by researcher himself. Olympus upper gastrointestinal video endoscope GIF 160 was used in the procedure. Sengstaken Blackmore tube was made available in case of uncontrolled bleeding during the procedure. Two needle catheters 21 G were kept in hand. The endoscopist, assistant and the patient were using goggles for eye protection. The prepared injection Histoacryl® 2cc (Histoacryl® 1cc plus lipiodol 1cc, 1:1 dilution) were taken in 2.5cc syringe. Histoacryl® was injected through needle catheter of 21G (needle length 4mm and diameter 0.8 mm). Injection tube of endoscope was lubricated with lipiodol. Scope was introduced into the patient and positioned into body of stomach. Then injector catheter was advanced through the biopsy channel with the scope retroflexed to bring the gastric varix into view. The injector catheter tip was brought into contact with the base of varix, needle was introduced into varix and (Histoacryl®) was slowly injected, followed by distilled water flush, volume limited to dead space volume (1.5cc) of the injection catheter. The needle was promptly removed from varix to prevent needle impaction into varix. Precaution was observed that during and 20sec after injection no suction is applied. Volume of injection did not exceed more than 1ml at one site. Maximum number of injection did not exceed more than two per site. After the procedure patient was shifted to Gastroenterology ward where he or she was observed daily for early rebleed and data was noted regularly for 5 consecutive days. This data was collected through a proforma attached.

RESULTS

Table No.1: Percentage of patient according to age groups (n=100)

Age (Years)	No. of patients	Percentage
20-30	7	7.0
31-40	20	20.0
41-50	30	30.0
51-60	34	34.0
61-65	9	9.0
Mean±SD	48.4±10.8	

Total duration of this stud was six months and during that time, 100 patients were recruited. Out of 100, mean age of patient was 48.4±10.8 years, 7 (7.0%) patients underline 20-30 years age group, 20 (20%) were 31-40 years, 30 (30.0%) were 41-50 years, 34 (34.0%) were 51-60 years and 9 (9.0%) were 61-65 years (Table 1). Out of 100, there were 68 (68.0%) male and 32 (32.0%) female patients (Table 2).

Table No.2: Percentage of patients according to gender (n=100)

Gender	No. of patients	Percentage
Male	68	68.0
Female	32	32.0
Total	100	100.0

Out of 100, 12% patients were frequency of early rebleed and 88% patients were not early rebleed (Table 3).

Table No.3: Percentage of patients according to their early rebleed (n=100)

Early rebleed	No. of patients	Percentage
Yes	12	12.0
No	88	88.0
Total	100	100.0

In the stratification of age with early rebleed, out of 100 only 1 (1%) patient of early rebleed was in 20-30 years and 31-40 years age group respectively, 2 (2%) patients was in 41-50 years, 5 (5%) patients in 51-60 years and 3 (3%) patients in 61-65 years (Table 4).

Table No.4: Stratification of age with early rebleed (n=100)

Age (Years)	Early rebleed			
	Yes		No	
	Number	%age	Number	%age
20-30	1	1.0	6	6.0
31-40	1	1.0	19	19.0
41-50	2	2.0	28	28.0
51-60	5	5.0	29	29.0
61-65	3	3.0	6	6.0
Total	12	12.0	88	88.0

In the stratification of gender with early rebleed, there were 8 (6%) male and 4 (4%) female patients in which early rebleed occurred (Table 5).

Table No.5: Stratification of gender with early rebleed (n=100)

Gender	Early rebleed			
	Yes		No	
	Number	%age	Number	%age
Male	8	8.0	60	60.0
Female	4	4.0	28	28.0
Total	12	12.0	68	68.0

DISCUSSION

Portal hypertension is related with the most serious complexities of cirrhosis, including ascites, hepatic encephalopathy, and leaking from gastro-esophageal varices. In spite of the advancement accomplished throughout the most recent decades, the 6-week mortality related with variceal draining is still in the request of 10–20%¹³.

Gastric varices eruption has the attributes of more serious blood misfortune and higher mortality and speaks to a harder issue than hemorrhage in esophageal variceal.^{14,15} The contributing fundamentals of GV are anatomical and specialized. Anatomically, gastro-esophageal varices (GV) lie further inside the submucosa than esophageal varices (EV), by and large are bigger than EV, deplete straightforwardly into wide veins, (for example, the gastrosplenic shunt) without interceding smaller veins (which empty the insurances out of EV), and are presented to corrosive and pepsin.¹⁶ Theoretically, analysis of GVH is more problematic as the gastric mucosal bends, blood put together in the fundus, and high posterior wall are unclear.

While infusion sclerotherapy has been connected to treat dynamic leaking from GV, its utilization in GVH is related with a high rebleeding rate and a nonstop need to fall back on careful mediation and in this way is viewed as just a transitory hemostatic measure.¹⁷ The achievement rate to control GVH by endoscopic infusion of N-butyl-2-cyanoacrylate seemed higher than different sclerosants as per past non-randomized trials.^{18,19} The upside of endoscopic variceal ligation for EVH has been reported and has been recommended as the treatment of decision for EVH.²⁰ The hemostatic impact of endoscopic gastrointestinal variceal ligation (GVL) for GVH seemed promising, yet proof is as yet restricted.²¹

Present study showed that mean age of the patients was 48.4±10.8 years, 68% male and 32% female patients. As similar with the study of Tan et al²² the mean age of the patients was 61.4±14.6 years, male were in higher than female patients.

In our study, 18% patients had early re-bleed with fundal varices treated with Injection Cynoacrylate (Histoacryl®). As similar with the study of Tan et al²² 22.4% patients had early rebleed treated with injection cynoacrylate.

In our study the achievement rate in regulatory active bleeding was 82%. As similar with the study of Tan et al²² the achievement rate of GVO in regulatory active bleeding was 93.3%. Attainment such a huge population of active bleeding is not easy. To establish a conclusion of equivalent efficacy in regulatory active bleeding, a huge case numbers trial founded on active bleeding is necessary. The achievement rate of GVL was also similar to that of preceding studies^{22,23} but higher than the rate in Lo et al.'s study. Due to different

technical application, there is difference in achievement rate of bleeding^{24,25}.

CONCLUSION

Frequency of early re-bleed in patients with fundal varices treated with Injection Cynoacrylate (Histoacryl®) was low. It is suggested that more multi-center studies should be conducted on large sample size so that the exact frequency of early rebleed could be obtained.

Author's Contribution:

Concept & Design of Study: Asif. R. Zaidi
 Drafting: Muhammad Zubair
 Data Analysis: Ali Hyder
 Revisiting Critically: Asif. R. Zaidi, Muhammad Zubair
 Final Approval of version: Asif. R. Zaidi

Conflict of Interest: The study has no conflict of interest to declare by any author.

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