

# Incidence of Rebleeding after Treatment of Fundal Varices with Injection Cyanoacrylate at Allama Iqbal Memorial Teaching Hospital Sialkot

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## ABSTRACT

**Aim:** To see the incidence of early re-bleeding in the treatment of fundal varices of stomach after injection of Cyanoacrylate.

**Study Design:** Prospective study

**Duration & setting:** This study was done in the Department of Medicine Allama Iqbal Memorial Teaching Hospital affiliated to Khawaja Muhammad Safdar Medical College, Sialkot from 1<sup>st</sup> July 2017 to 30<sup>th</sup> November 2018.

**Methods:** All patients presenting and giving consent for treatment of varices at fundal area were included irrespective of age and gender. Patients had definite history of Malena and hematemesis. On upper gastrointestinal tract there was evidence of bleeding i.e. red sign active ooze from fundal varix. Patients with porto systemic encephalopathy, Hepatocellular carcinoma with portal vein thrombosis and who had jaundice confirmed by serum bilirubin more than 10mg/dl and those with Cardiac disease were excluded from the study. Patients having Severe chronic obstructive pulmonary disease (PO2 <60mmHg) on arterial blood gases were also not included in the study. The patients were monitored for bleeding in the early post treatment period.

**Results:** Mean age of the patients were 39.4± 9.8 years( Ranging from 17-62 years). In the distribution of patients by gender, 111 (72.34%) male and 44 (37.65%) female. In distribution of patients by frequency of early rebleed in patients with fundal varices, 13% (21) patients had early re-bleed and 86.45% pts did not have early rebleed.

**Conclusion:** The frequency of early re-bleed in patients with fundal varices treated with Injection Cyanoacrylate is low, at our center. So it is an offers a safe, acceptable and effective treatment option for esophageal varices.

**Keywords:** Portal hypertension, early rebleed, fundal varices, Injection Cyanoacrylate.

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## INTRODUCTION

High pressure in varices more than 12mmHg can lead to bleeding that can be torrential in gastric varices in cirrhotic patients. The injection Cyanoacrylate graded as short-term gauge that have been applied to halt active hemorrhage from varices. Re bleed occur even after injection of sclerosent agent and may require TIPPS (transjuglar intrahepatic portosystemic shunt) or liver transplant. Mortality is 10 to 20% associated with variceal hemorrhage. Hemorrhage is more devastated in gastric varices then in esophageal varices<sup>1,2,3</sup>.

Major factors which play their role technical, anatomical. Technically it is sometimes very difficult to differentiate between fundal varix and thick mucosal folds and sometime presence of GIST (Gastrointestinal stromal tumor) for proper diagnosis we must have endoscopic ultrasound. Anatomically, gastric varix in the submucosa deeper than esophageal varices (EV) and larger then esophageal varices. Gastric varix drains straight into big veins like gastro renal shunt) devoid of touching small veins and are bare to acid and pepsin<sup>4,5,6</sup>.

Chronic hepatitis and alcoholism and many other infiltrative and metabolic liver diseases cause scaring and fibrosis of liver called cirrhosis. Cirrhosis is a mother of

many complications like portal hypertension, ascites, portosystemic encephalopathy, spontaneous bacterial peritonitis. Normal port venous pressure is 2-5 mmHg. When it rose to more than 10 to 12 mm Hg this is called portal hypertension. Gastric varices are submucosal veins in the stomach which can be expanded due to increase pressure and if got ruptured may cause torrential bleed. Gastric varices found in over twenty percent patients with portal hypertension. Endoscopic injection of sclerosent or thrombin are valid treatment options for gastric varices. If gastric varix re -bleed within 120 hours (5 days) this is called re bleed. The re bleeding rate of gastric varix with injection Cyanoacrylate is variable ranges from 18.5 to 30% percent<sup>7,8,9,10</sup>.

A lot many studies have been conducted internationally on the issue of rebleed in early period after treatment with Injection Cyanoacrylate. No study has been carried out in our set up on the subject, so we conducted the study to analyse our results

## SUBJECTS AND METHODS

All patients presenting and giving consent for treatment of varices at fundal area were included irrespective of age and gender. This study was approved by the institutional Ethical Committee. Patients had definite history of Malena

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and hematemesis. On upper gastrointestinal tract there was evidence of bleeding i.e. red sign active ooze from fundal varix. Patients with portosystemic encephalopathy, Hepatocellular carcinoma with portal vein thrombosis and who had jaundice confirmed by serum bilirubin more than 10mg/dl and those with Cardiac disease were excluded from the study. Patients having severe chronic obstructive pulmonary disease (PO2 <60mmHg) on arterial blood gases were also not included in the study. Patients meeting the criteria enrolled for this study were 155. Injection Histoacryl® was injected and volume of injection did not exceed more than 2ml 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. The patients were monitored for bleeding in the early post treatment period. The data was collected, recorded and analysis made using SPSS v 22.0.

**RESULTS**

Mean age of the patients were 39.4±9.8 years (Ranging from 17-62 years). In the distribution of patients by gender, 111(72.34%) male and 44(37.65%) female. In distribution of patients by frequency of early rebleed in patients with fundal varices, 13% (21) patients had early re-bleed and 86.45% (134) patients did not have early rebleed.

Table 1: general data of patients in the study

Total patients	155	100%
Age	17-62	Average- 39.4±9.8
M:F	111:44	2.52:1
History of bleeding >1 times	28	18.06%
Diabetes	31	20%
Hepatitis C +ve	12	7.74%
Smokers	19	12.25%

Table 2: Gender =21 (100%)

Males	14	66.66%
Females	7	33.33%

Table 3: Early re bleed distribution of the patients (n=100)

Early rebleed	n	% age
Yes	21	13.54
No	134	86.45
Total	155	100.0

**DISCUSSION**

The mean age was 39.4± 9.8 years in study. There were 111(71.61%) male and 44(28.30%) female patients. 13% patients had early re-bleed with fundal varices treated with Injection Cyanoacrylate (Histoacryl®). We were 87 % successful in stopping active hemorrhage. The rebleeding rate of 13% for gastroesophageal varices were similar to those of earlier studies (18.5-31%).

On the above discussion, it is concluded that the frequency of early re-bleed in patients was low. It is suggested that more studies should be conducted on large sample size so that the exact frequency of early rebleed could be obtained.

**CONCLUSION**

The frequency of early re-bleed in patients with fundal varices treated with Injection Cyanoacrylate (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 re-bleed could be obtained.

**Conflict of interests:** No conflict of interests

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