ORIGINAL ARTICLE

Efficacy of Intravenous Octreotide in Early Variceal Rebleeding Following Sclerotherapy

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ABSTRACT

Background: Cirrhosis is becoming a very common disease in our country due to hepatitis B and C infection. Almost 33% of patients with cirrhosis and portal hypertension develop esophageal varices. About 30% of patients develop variceal bleeding, which is associated with 50% mortality rate. Re-current bleeding is expected in 65-70% of patients who survive the first acute episode.
Objective: The objective of the study was to evaluate the efficacy of intravenous octreotide following sclerotherapy in prevention of early variceal rebleeding.
Methods: Sixty (60) consecutive patients with a mean age of 47.48 ± 9.60 years (26-65 years) presenting with acute variceal bleeding were included in the study. Forty-two (70%) were males and eighteen (30%) were females. They were randomized into two equal groups. In the study group (group I), octreotide infusion (25 μg/hr) was continued for 24 hours after sclerotherapy while control group received normal saline at approximately the same rate. Both groups were monitored for the evidence of early variceal rebleed for five days after sclerotherapy.
Results: Rebleeding occurred in 23.3% patients in group I and in 33.3% patients in group II ($p>0.05$). The number of patients requiring blood transfusion in both groups was similar ($p>0.05$). According to an overall impression made at the end of the study, in group I, 10% patients became unstable while in group II, 36.7% patients became unstable
($p =0.02$).
Conclusions: No significant effect was noted regarding the prevention of early variceal rebleeding with post-sclerotherapy octreotide infusion for 24 hours. However, an overall impression, based on the haemodynamic status at the end of the study, suggested that patients were clinically more stable if they were given octreotide infusion following injection sclerotherapy.
Key words: Sclerotherapy, Variceal rebleeding

INTRODUCTION

Cirrhosis is becoming a very common disease in our country due to hepatitis B and C infection. Almost 33% of patients with cirrhosis and portal hypertension develop esophageal varices. About 30% of patients develop variceal bleeding, which is associated with 50% mortality rate. Re-current bleeding is expected in 65-70% of patients who survive the first acute episode.

MATERIALS & METHODS

Study design: This was a comparative/ inter-ventional study to find out the effect of intravenous octreotide on early variceal rebleeding following sclerotherapy.

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Received: October 2007; accepted December 2008

Inclusion criteria: All patients (between 20-60 years of age) who presented with acute upper gastrointestinal bleed due to oesophageal varices in emergency department, Mayo Hospital, Lahore, were included in the study.
Exclusion criteria: Patients presenting with upper gastrointestinal bleed due to peptic ulcers, gastritis, Mallory Weiss syndrome or bleeding diathesis, patients unfit for sclerotherapy and patients with continuous bleeding after sclerotherapy were excluded from the study.
Data collection procedure: Sixty patients who presented with acute upper gastrointestinal bleeding due to varices on medical floor, Mayo Hospital, Lahore, were entered in the study. All patients were infused octreotide (50-100μg bolus, followed by continuous intravenous infusion at 25-50μg/hour) and followed by sclerotherapy 6-12 hours later. After sclerotherapy, these 60 cases were randomized into 2 groups; study group and control group .The randomization was done according to Random number tables.

The study group was continued with intravenous octreotide while the control group did not receive any active drug. They were given normal saline infusion at approximately the same rate. Both groups were observed for the evidence of early re-bleed (for five days) i.e. history of hematemesis or malena, need for transfusion or plasma expanders, vital signs, hemoglobin and endoscopy after five days. End point of the study was re-bleed.

All patients were started on intravenous octreotide (50-100μg bolus, followed by continuous infusion at 25-50μg/hour) and followed by sclerotherapy 6-12 hours later. After Sclerotherapy, patients were divided into two equal groups:

- Study group
- Control group

Study group was continued on intravenous octreotide after sclerotherapy while control group did not receive any intervention. Both groups were monitored for 5 days for evidence of early re-bleed both subjectively and objectively with the help of biochemistry and gastroscopy.

The data of all 60 patients was entered on a proforma. The data analysis was computer-based. SPSS version 10 was used for analysis.

The frequency of re-bleed was calculated as percentage and intergroup comparison was made by using chi-Square test.

RESULTS

Sixty patients were entered in the study with a mean (± SD) age of 47.48 ± 9.60 years (26-65 years) while it was 47.13 ± 9.96 years (26-65 years) in the study group and 47.83 ± 9.38 years (32-65 years) in control group.

Among sixty patients, forty two (70%) were males while eighteen (30%) were females. In study group, 23 patients (76.7%) were males and 7 patients (23.3%) were females while in the control group 19 patients (63.3%) were males and 11 patients (36.7%) were females.

Regarding presenting complaints, 21 patients (35%) presented with hematemesis alone, 8 patients (13.3%) presented with malena alone and 31 patients (51.7%) presented with both hematemesis and malena.

Mean pulse rate was 100±12.37/min (70-124/min), mean systolic blood pressure 94.33±8.99 mmHg (80-110 mmHg) and mean diastolic blood pressure was 64.83±10.77mmHg (40-90 mmHg). Other parameters assessed during the study are summarized in Table 1

Endoscopy was performed initially in all 60 patients and among them, 15 patients (25%) had grade II varices, 22 patients (36.7%) had grade III varices and 23 patients (38.3%) had grade IV varices. (Graph 1)

Graph 1

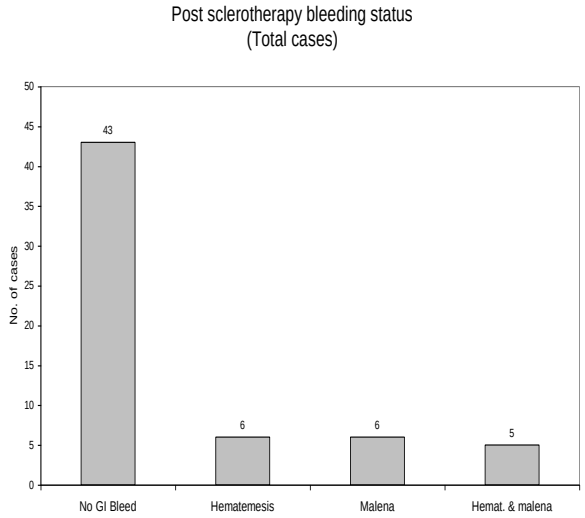
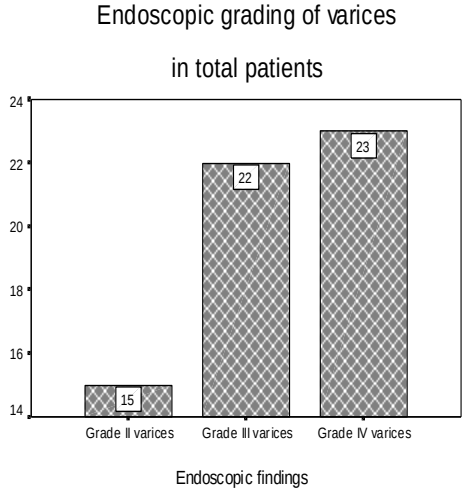


Table 1: Parameters assessed during study

Parameters	Max.	Mini.	Mean	SD
Hb (gm/dl)	13	4.3	8.68	1.83
Na (meq/l)	146	128	136.23	4.09
Urea (mg/dl)	251	20	61.33	8.61
Cr (mg/dl)	6	0.5	1.58	0.96
S/bilirubin (mg/dl)	4.20	0.4	1.53	0.95
AST (iu/l)	150	15	42.13	20.81
S/Albumin (gm/dl)	4.30	2.20	3.30	0.52
PT (sec)	42	12	20.26	6.03



Graph 2

After sclerotherapy, when both groups were monitored for the efficacy of octreotide in prevention of early variceal re-bleed, it was noted that in the study group (group I), 23 patients (76.6%) did not complain of hematemesis and malena at all, 4

patients (13.3%) presented with hematemesis only, 2 patients (6.6%) presented with malena alone while only 1 patient (3.3%) had both hematemesis and malena. In the control group (group II), 20 patients (66.6%) remained free of hematemesis and malena, 2 patients (6.6%) presented with hematemesis, 4 patients (13.3%) presented with malena and 4 patients (13.3%) presented with both hematemesis and malena and as a whole 17 patients had a rebleed and 43 patients had no bleeding at all. (Graph. 2)

Mean pulse rate in study group was 93.73±13. 7/min and 93.26 ± 10.13/min in control group.

Mean blood pressure (systolic) in study group was 115.33±14.19mmHg and 115.16±15.34mmHg in control group. Mean blood pressure (diastolic) in study group was 76.83±9.23mmHg and 74.16±9.19mmHg in control group. Regarding blood transfusion, 14 patients (46.7%) needed transfusion in study group. Similar results were found in control group.

Regarding overall impression, in study group (group 1), 3 patients (10%) became unstable while in control group, 11 patients (36.7%) became unstable.

Regarding the efficacy of octreotide in prevention of re-bleed in terms of clinical parameters i.e. hematemesis and malena, it was not found to be statistically significant ($p > 0.05$) in our study.

Regarding efficacy of octreotide in terms of need of blood transfusion after sclerotherapy, the results were statistically insignificant ($p > 0.05$) as number of patients requiring transfusion and those not requiring transfusion were similar.

However, as far as a subjective overall impression (based on the presence of portosystemic encephalopathy and mortality) was made at the end of study, the results were found to be statistically significant ($p= 0.02$).

DISCUSSION

Sixty patients were entered in this study with a mean age of 47.48±9.60 years, minimum age 26 years and maximum 65 years. Farooqi JI et al[1] reported a mean age of 52.4±5.4 years (37-67 years). Zuberi BF et al[2] reported a mean age of 38.4±8.6 years, which were comparable to our mean age. In our study, in the study group (group 1), mean age was 47.13±9.96 (26-65 years) while in the control group mean age was 47.83±9.38 years (32-65 years). After proper randomization, we can appreciate that mean age in both study and control groups was similar. This comparison suggests that acute variceal bleeding is more common in this age group.

Among 60 patients, 42 patients (70%) were male while 18 patients (30%) were female. Umer M et al[3] followed 40 cases of acute variceal bleeding secondary to cirrhosis of liver, out of which 25 (62.5%) were males. Similar results were reported by Farooqi JI et al[1] (males 76.52%). Zuberi BF et al[2] also reported similar results (males 80%), which are comparable to our figures. In study group, 23 patients (76.7%) were male and 7 patients (23.3%) were female while in the control group 19 patients (63.3%) were males and 11 patients (36.7%) were females.

This comparison suggests that acute variceal bleeding secondary to cirrhosis of liver is more common in males. Sclerotherapy was performed initially in all patients and then both control and study groups were compared for the evidence of early variceal rebleed.

After sclerotherapy, when both groups were monitored for the efficacy of octreotide in prevention of early variceal re-bleed, it was noted that in the study group 23 patients (76.6%) did not complain of hematemesis and malena at all, 4 patients (13.3%) presented with hematemesis only, 2 patients (6.6%) presented with malena alone while only 1 patient (3.3%) had both hematemesis and malena. So the overall rebleed rate was 23.3% in the study group while in control group, rebleed rate was 33.3%, which were not statistically significant ($p>0.05$). Mohammad SR et al [(4)] found an overall 10% rebleed, in their study group, the figure, which was much smaller, compared to our study. Farooqi JI et al[5] noted in another study that overall rebleed rate was 2.8% in patients receiving sclerotherapy and octreotide for 48 hours post-sclerotherapy. Jenksin et al[6] reported rebleed rate was 10% followed by an infusion of octreotide 48 hours after sclerotherapy. Zuberi BF et al[2] reported rebleeding rate in their study to be 5.7% following octreotide infusion for 5 days post-sclerotherapy. The results of these studies were different from our study as octreotide was administered in these studies at higher doses (50µg/hour) as compared to our study (25 µg /hr). The results of these studies differed also probably due to the longer duration of octreotide after sclerotherapy (as 48 hours by Farooqi, 48-140 hours by Jenksin et al and 120 hours by Zuberi et al) as compared to our study (24 hours after sclerotherapy). Episodes of early rebleeding, blood transfusions and hospital stay were significantly less in these studies as compared to our study in which octreotide was not statistically significant in prevention of early oesophageal variceal rebleed.

Regarding blood transfusion, 14 patients (46.7%) needed transfusion in study group. Similar results were found in control group & there was no statiscally significant difference between the two groups regarding the need for transfusions.

Regarding an overall impression based on haemodynamic status, in study group 3 patients (10%) became unstable while in control group, 11 patients (36.7%) became unstable and it suggested that patients were clinically more stable if they were given octreotide infusion following injection sclerotherapy (p=0.02).

CONCLUSION

As far as the efficacy of the octreotide is concerned in prevention of early variceal re-bleed following sclerotherapy, it did not prove statistically significant.

- So, it can be recommended at the end of the study, that octreotide after sclerotherapy need not be continued for prevention of early oesophageal variceal rebleed.
- Patients started on post-sclerotherapy octreotide infusion are less likely to be unstable as regards portosystemic encephalopathy and overall mortality, but this needs further interventional studies for clear interpretation.

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