

# EFFICACY OF TERLIPRESSIN IN UPPER GI BLEEDING DUE TO LIVER CIRRHOSIS

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## ABSTRACT

**Background:** Upper Gastrointestinal bleeding (GI) bleeding can be a fatal and life threatening emergency and need emergency treatment to avoid unwanted morbidity and mortality. **Objective:** To determine the efficacy of Terlipressin in cases of upper GI bleeding due to liver cirrhosis. **Methodology:** In this case series, there were total 50 cases of upper GI bleed within last 24 hours due to liver cirrhosis of both genders, falling in the age range of 30-70 years, presenting to medical wards and emergency department. Terlipressin was injected in a dose of 1mg every 6 hour. This therapy was given for maximum of 72 hours. The efficacy was labeled as yes when there was no bleeding episode over 12 hours. Data was entered and analyzed by sing SPSS version 21. **Results:** In this study, there were total 50 cases out of which 35 (70%) were males and 15 (30%) females. The mean age and duration of cirrhosis were 49.45±6.85 years and 4.87±2 years respectively. The efficacy was almost equal in both genders (p= 0.95). The efficacy was slight better in age group 30-49 years where 16 (69.56%) out of 23 cases had it (p= 0.12). The efficacy was significantly better in Class A where 4 (80%) out of 5 cases had it as compared to Class B and C with p= 0.01. **Conclusion:** Terlipressin has good efficacy in treating upper GI bleed in cases with liver cirrhosis and this is significantly better in cases with Child Pugh Class A.

**Key Words:** Varices, Terlipressin, Gastrointestinal bleeding.

## INTRODUCTION

Liver Cirrhosis is a high burden disease worldwide.<sup>1</sup> It is defined as the chronic inflammation, regenerative nodules formation and then ultimately fibrosis. There is wide range of etiologies.<sup>2,3,4</sup> In Pakistan, Hepatitis B and C infection are the most common one, while in the developed world; alcoholism is the leading cause of liver cirrhosis. Cirrhosis is ranked as the 12<sup>th</sup> leading cause for mortality each year in USA.<sup>1</sup>

Liver cirrhosis can result in various complications. Portal hypertension is one of the major one. It can lead to increased back pressure and varices formation that can bleed. Varices are observed in around 30% of patients with compensated and 60% patients with de-compensated liver cirrhosis.<sup>2,3</sup> Bleeding from these varices is a medical emergency that can result in high degree of mortality and morbidity even with appropriate treatment. Endoscopic intervention is considered as the mainstay of the treatment by which band ligation, sclerotherapy, cold lavage and other steps can be taken with maximum efficacy. But it is not available everywhere and expert hand is always in need. On few occasions the rate of bleeding is so rapid that the view could not be clear to take any appropriate step. That's the point where medical management is required. The data has revealed that almost 70–80% of cases with episodes of variceal bleed

respond to medical therapy.<sup>4,5</sup>

Medical management is considered in the form of supportive therapy, blood and blood products replacement, proton pump inhibitors, Terlipressin and sandostatin that have various degree of success. Terlipressin has advantage that it's given in stat doses and there is no continuous infusion required like sandostatin and in the past it has ended up in good outcome.<sup>6</sup> The objective of this study was to determine the efficacy of Terlipressin in cases of upper GI bleeding due to liver cirrhosis.

## METHODOLOGY

**Study Design:** Case series. **Settings:** Department of Medicine, Nishtar hospital, Multan. **Duration of Study:** 1<sup>st</sup> April to 31<sup>st</sup> October 2016. **Sampling technique:** Non probability consecutive sampling. In this study, there were total 50 cases of upper GI bleeding within last 24 hours due to liver cirrhosis (assessed by history and medical record) of both genders falling in the age range of 30-70 years, presenting to medical wards and emergency department. The cases with history of bleeding disorders, taking NSAIDs for more than 1 week in last one month, having hypersensitivity to Terlipressin were excluded from this study. The diagnosis of liver cirrhosis was made on clinical and laboratory data and the cases were divided into 3 groups of Child Pugh Class A, B and C. The Terlipressin was injected in a dose of 1mg every 6

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**Received:** 25-01-2017

**Accepted:** 15-02-2017

hour. This therapy was given for maximum of 72 hours. The efficacy was labeled as yes when there was no bleeding episode over 12 hours.

The data was entered and analyzed with the help of SPSS version 21. Quantitative variables were presented in terms of mean  $\pm$  SD (Standard Deviation). Frequency and percentages were calculated for categorical data. Effect modifiers were controlled and post stratification chi-square test was applied taking p-value  $\leq$  0.05 as significant.

## RESULTS

In this study, there were total 50 cases out of which 35 (70%) were males and 15 (30%) were females. The mean age and duration of cirrhosis were  $49.45 \pm 6.85$  years and  $4.87 \pm 2.01$  years respectively. There were 5 (10%) cases in Child Pugh Class A, 21 (42%) in B and 24 (48%) in class C.

The efficacy was seen in 30 (60%) of cases. The efficacy was almost equal in both genders ( $p=0.95$ ) as in table I. The efficacy was slight better in age group 30-49 years where 16 (69.56%) out of 23 cases had it ( $p=0.12$ ). The efficacy was significantly better in Class A where 4 (80%) out of 5 cases had it as compared to Class B and C where it was almost equal with  $p=0.01$ . (Table II)

**Table I: Efficacy versus gender, age and child Pugh class**

Gender	Efficacy		Total No (%)	P. Value
	Yes No (%)	No No (%)		
Male	22 (62.8)	13 (37.2)	35 (100)	0.95
Female	8 (53.3)	7 (46.6)	15 (100)	
<b>Total</b>	<b>30 (60)</b>	<b>20 (40)</b>	<b>50 (100)</b>	
<b>Age groups versus efficacy</b>				
30-49 years	16 (69.5)	7 (30.4)	23 (100)	0.12
50-70 years	14 (51.8)	13 (48.2)	27 (100)	
<b>Total</b>	<b>30 (60)</b>	<b>20 (40)</b>	<b>50 (100)</b>	
<b>Child Pugh Class versus efficacy</b>				
<b>Class</b>				
Class A	4 (80)	1 (20)	5 (100)	0.01
Class B	12 (24)	9 (18)	21 (42)	
Class C	14 (28)	10 (20)	24 (48)	
<b>Total</b>	<b>30 (60)</b>	<b>20 (40)</b>	<b>50 (100)</b>	

## DISCUSSION

Upper GI bleeding is a life threatening emergency and it needs urgent intervention to avoid mortality. Terlipressin is one of the commonest used agents to stop bleeding. It is a vasopressin analogue, has a long half life and minimal side effects and better safety profile than vasopressin. A meta analysis was done to see for its efficacy and it was seen that in terms of mortality reduction there was 34% decrease in relative risk as compared to placebo.<sup>7</sup> The data has revealed that the Terlipressin has not only beneficial effect on variceal bleeding, but also has an extra advantage to reverse the hepatorenal syndrome. In another study, the comparative study between Terlipressin and octreotide was done and it was seen that it had better efficacy than Octeriotide.<sup>8</sup> In this study, the efficacy was seen in 60% of cases.

In other studies done by Ioannou GN et al and Escorsell A et al the efficacy of Terlipressin at 48 hours was 75-80% cases and after 5 days it was seen in 67% of cases.<sup>9,10</sup>

In current study, the efficacy was significantly better in Class A where 4 (80%) out of 5 cases had it as compared to Class B and C where it was almost equal with  $p=0.01$ . This was also seen by other studies done in the past that also found better results in lesser degree of disease.<sup>11,12</sup> The reason of better efficacy can be explained by the fact that the earlier the disease and lesser are the chances to develop the varices. In contrast in severe disease like Child pugh Class C, there were much higher chances to have high degree of varices and that led to decreased response to Terlipressin.

## CONCLUSION

Terlipressin has good efficacy in treating upper GI bleeding in cases with liver cirrhosis and this is significantly better in cases with Child Pugh Class A.

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**Article Citation:** Jamil MI, Qadir U, Naeem I, Jameel HU. Efficacy of terlipressin in upper gi bleeding due to liver cirrhosis. *JSZMC* 2018;9(2): 1379-1381