

FREQUENCY OF GASTRO OESOPHAGEAL VARICES IN LIVER CIRRHOSIS

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ABSTRACT

Background: Gastroesophageal varices can present as one of the complications of liver cirrhosis. **Objective:** To determine the frequency of gastro oesophageal varices in liver cirrhosis. **Methodology:** This was a cross sectional study, carried out at Department of Medicine, Sheikh Zayed Hospital, Rahim Yar Khan from 1st July to 31st December 2016. The cases of liver cirrhosis diagnosed on clinical suspicion and radiological findings of coarse echo texture of liver, dilated portal vein more than 1cm with or without ascites falling in child pugh class B and C were included. The cases were included of both gender with age range of 20-70 years. These cases then underwent upper GI endoscopy at same institute and were looked for gastro oesophageal varices. Data analysis was done by using SPSS version 20. **Results:** In this study, there were total 100 cases, out of which 64 (64%) were males and 36 (36%) were females. The mean age was 53± 11 years. Gastric varices were seen in 14 (14%) of the cases. Gastric varices were significantly high in cases with child pugh class C where it was seen in 12 (17.14%) of cases with p= 0.04. This was also significantly high in cases that had duration of liver cirrhosis more than 5 years where it was seen in 13 (20.96%) of cases with p value of 0.001. **Conclusion:** Gastro oesophageal varices are not uncommon in cases of liver cirrhosis and it is significantly high in cases with duration of cirrhosis more than 5 years and child pugh class C.

Key words: Cirrhosis, Varices, Child pugh class

INTRODUCTION

Liver cirrhosis is an irreversible and end stage liver disease which results due to chronic and ongoing liver damage irrespective of its etiology.¹ Its number is increasing all over the world especially in the developing regions like our country. The highest number of cases in Asia are seen due to hepatitis B and C infection.² In developed world alcoholism and hepatitis C infection are the most common etiology.^{1,2,3}

Cirrhotic liver infection can result in various complications like Upper gastrointestinal bleeding due to either ulceration or gastro oesophageal varices, ascites, portal hypertension, hepatorenal syndrome, hepato pulmonary syndrome and osteoporosis.² Portal hypertension is one of the fatal complications that can result due to fibrosed parenchyma and in addition to this increasing resistance to blood flow can result in increased intra hepatic hypertension due to vasoconstriction.³ This increased vasoconstriction is seen among 20 to 30% of the cases. The basic mechanism behind is the decreased synthesis of Nitric Oxide by the cirrhotic liver. This increased resistance and the back ward portal hypertension lead to development of the collateral circulation and causing gastro esophageal varices.⁴ The prevalence of gastro esophageal varices is seen in 5-40% of cases with liver cirrhosis.⁴ The major risk factors reported are; severe form of disease and longer duration of portal hypertension.⁵ The

diagnostic as well as therapeutic test of choice for varices is upper GI endoscopy where not only varices can be visualized but intervention in the form of sclerotherapy and band ligation can also be done to decrease the morbidity and mortality in such cases.⁶⁻⁸ This objective of this study was to determine the frequency of gastro oesophageal varices in liver cirrhosis.

METHODOLOGY

Study design: Cross sectional study. **Study setting:** Department of Medicine, Sheikh Zayed Hospital, Rahim Yar Khan. **Study duration:** 1st July to 31st December 2016. **Sampling technique:** Non probability consecutive sampling.

Inclusion criteria: Both gender, Age range of 20-70 years. The cases falling in Child Pugh Class B and C. The cases of liver cirrhosis diagnosed on clinical suspicion and radiological findings of coarse echo texture of liver, dilated portal vein more than 1cm with or without ascites lasting for at least 1 year (assessed by history and medical record).

Exclusion criteria: The cases with end stage renal or cardiac disease and the cases on chronic NSAIDs use. The data was analyzed by using SPSS version 20. Mean and standard deviation were calculated for quantitative variables while frequency and percentages for qualitative variables. Post stratification chi square test was applied taking p value of ≤ 0.05 as significant.

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RESULTS

In this study, there were a total of 100 cases, out of which 64 (64%) were male and 36 (36%) were female. The mean age was 53 ± 11 years and mean duration of cirrhosis was 9 ± 4 years. Gastric varices were seen in 14 (14%) of the cases. Gastric varices were significantly high in cases with child pugh class C where it was seen in 12 (17.14%) of cases with $p = 0.04$. This was also significantly high in cases that had duration of liver cirrhosis more than 5 years where it was seen in 13 (20.96%) of cases with p value of 0.001. (Table I)

Table I: Gastric varices with respect to child pugh class and duration of cirrhosis.

Variables		Gastro oesophageal varices		P-value
		Yes No (%)	No No (%)	
Child Pugh Class	B	2 (6.67%)	28 (93.33%)	0.04
	C	12 (17.14%)	58 (82.86%)	
Duration of liver cirrhosis	< 5 years	1 (2.63%)	37 (97.37%)	0.001
	> 5 years	13 (20.96%)	49 (79.04%)	

DISCUSSION

Upper GI bleed is one of the fatal complications of the liver cirrhosis. The underlying pathophysiology is portal hypertension and varices formation at the gastric and esophageal surfaces. Gastric varices were seen in 14 (14%) of the cases in this study. These results were almost similar to the studies done by Samiullah et al, where they found this prevalence in 7.4% of the cases.⁹ According to another study by Garcia-Tsao Get al, gastro oesophageal varices were seen in 15% of the cases.¹⁰ In contrast to this even higher results were seen by the study done by Yuksel et al, where they found this prevalence in 32.45% of the cases,¹¹ while in a study by Khurram et al, they found as high as in 84% of the cases.¹² The difference in the prevalence among the studies of Pakistan and the other can be explained by the added risk of alcoholism which is not common in Pakistan and also the availability of the resources offering surveillance endoscopy and early detection of the lesions. Further the presentation of the cases in different degree of severity in these studies can be another confounding factor. Another factor regarding this high difference can be explained by the difference in inclusion criteria as we included on the cases of cirrhosis while the study by Khurram et al, they included the cases presenting with upper GI bleed and hence had

higher number of cases with varices.¹²

Gastric varices were significantly high in cases with child pugh class C where it was seen in 12 (17.14%) of cases with $p = 0.04$, this was also significantly high in cases that had duration of liver cirrhosis more than 5 years where it was seen in 13 (20.96%) of cases with p value of 0.001. Similar findings were also observed by many studies in the past.^{13,14} These both conditions share a common pathophysiology as longer the duration of the disease and higher the severity of the disease i.e. assessed in the form of Child pugh classification. The evidence has shown that child pugh class C is considered an independent risk factor for the development of gastro oesophageal varices. This association is not only for its development but also its high likelihood to bleed.

CONCLUSION

Gastro oesophageal varices are not uncommon in cases of liver cirrhosis and it is significantly high in cases with duration of cirrhosis more than 5 years and child pugh class C.

REFERENCES

- Garcia-Tsao G, Groszmann RJ, Fisher RL, Conn HO, Atterbury CE, Glickman M. Portal pressure, presence of gastro esophageal varices and variceal bleeding. *Hepatology*. 1985;5:419-24.
- Wiest R, Groszmann RJ. Nitric oxide and portal hypertension: its role in the regulation of intrahepatic and splanchnic vascular resistance. *Semin Liver Dis* 2000;19:411-26.
- Sikuler E, Groszmann RJ. Interaction of flow and resistance in maintenance of portal hypertension in a rat model. *Am J Physiol* 1986 ;250(2):G205-G212.
- Sarin SK, Lahoti D, Saxena SP, Murthy NS, Makwana UK. Prevalence, classification and natural history of gastric varices: a long-term follow-up study in 568 portal hypertension patients. *Hepatology* 1992;16:1343-49.
- deFranchis R. Evolving consensus in portal hypertension report of the Baveno IV consensus workshop on methodology of diagnosis and therapy in portal hypertension. *J Hepatol*. 2005 ;43:167-76.
- Mehta G, Abraldes JG, Bosch J. Developments and controversies in the management of oesophageal and gastric varices. *Gut*. 2010 ;59:701-5.
- Akahoshi T, Hashizume M, Shimabukuro R. Long-term results of endoscopic Histoacryl injection sclerotherapy for gastric variceal bleeding: a 10-year experience. *Surgery* 2002;131:S176-81.
- The North Italian Endoscopic club for the study and treatment of esophageal varices. Prediction of the first variceal hemorrhage in patients with cirrhosis of the liver

- and esophageal varices. A prospective multi- center study. *N Engl J Med* 1988 ;319:983-989.
9. Samiullah S, Memon MS, Memon HG, Ghori A. Secondary gastric varices in hepatic cirrhosis. *J Coll Phys Surg Pak* 2011;21(10):593-96.
 10. Garcia-Tsao G, Bosch J. Management of varices and variceal haemorrhage in cirrhosis. *N Engl J Med* 2010;362:823–32.
 11. Yuksel O, Köklü S, Arhan M, Yolcu OF, Ertugrul I, Odemis B, et al. Effects of esophageal varices eradication on portal hypertensive gastropathy and fundal varices: a retrospective and comparative study. *Dig Dis Sci*.2006 ;51:27-30.
 12. Khurram M, Khaar HB, Javed S, Hasan Z, Arshad M, Goraya F, et al. Upper GI endoscopic evaluation of 299 patients with clinically compensated cirrhosis. *Pak J Gastroenterol* 2003 ;17:12-16.
 13. Akiyoshi N, Shijo H, Iida T, Yokoyama M, Kim T, Ota K, et al. The natural history and prognostic factors in patients with cirrhosis and gastric fundal varices without prior bleeding. *Hepatol Res* 2000 ;17:145-55.
 14. Irani S, Kowdley K, Kozarek R. Gastric varices: an updated review of management. *J Clin Gastroenterol* 2011; 45:133-48.

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