



## GATRO-OESOPHAGEAL VARICES IN LIVER CIRRHOSIS

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### ABSTRACT

**Objective:** To determine the frequency of gastro-esophageal varices in cases with cirrhotic liver. **Methods:** This study was carried out at Emergency department of Sir Ganga Ram Hospital, Lahore during July to December 2017. In this cross-sectional study, 100 cases of cirrhotic liver were included of both gender and age more than 30 years. Cirrhotic liver was labeled as yes when there was reduced liver size less than 10 cm and with or without portal vein dilatation of more than 1 cm and with parenchymal changes. After collection of laboratory and clinical data these cases underwent upper GI endoscopy to look for the presence of varices of any grade. **Results:** In this study 100 cirrhotic cases were included comprising 57% males and 43% females with mean age of  $51.33 \pm 5.78$  years. There were 57% cases in Child Pugh class B. GOV were seen in 30 (30%) of the cases. GOV were significantly high in cases that had liver cirrhosis for more than 3 years and was seen in 26 (38.23%) of cases with  $p = 0.01$ . GOV were also significantly high in class B and C with  $p = 0.03$ . **Conclusion:** GOV varices are seen in every 3rd cases of cirrhosis and significantly high in Child Pugh class B & C and with cirrhosis duration more than 3 years.

**KEYWORDS:** Cirrhosis, GI endoscopy, GOV.

### INTRODUCTION

Hepatitis is one of the major concerns in the medical and gastroenterological departments as its number is increasing day by day and due to lack of diagnostic facility, absence of public awareness and affordability issues leading to improper treatment are the major causes that end up in chronic ongoing inflammation leading to parenchymal damage and liver Cirrhosis. It is amongst the top causes of death in the United States as well as in the under-developed countries.<sup>[1]</sup>

Liver cirrhosis can result in wide range of structural and functional abnormalities and end up in various complications like portal hypertension leading to varices formation and upper gastro-intestinal (GI) bleeding, hepatic encephalopathy, hepato renal syndrome (HRS), sub-acute bacterial peritonitis, ascites, hepato-pulmonary and Porto-pulmonary HTN. Portal hypertension is denoted portal vein of pressure at least 5 mm Hg or more in the portal vein as compared to the inferior vena cava.<sup>[2-3]</sup>

Upper GI bleeding can be fatal due to underlying varices formation either at the gastric or esophageal area and can be classified into four types i.e. grade 1 to 4 depending upon the severity of the disease in the form of portal hypertension. Upper GI endoscopy is the investigation of choice not only for the diagnosis but can also be

therapeutic in the form of band ligation of sclerotherapy.<sup>[4-6]</sup>

### OBJECTIVE

To determine the frequency of gastro-esophageal varices in cases with cirrhotic liver.

### MATERIAL AND METHODS

This study was carried out at Emergency department of Sir Ganga Ram Hospital, Lahore during July to December 2017. In this cross-sectional study, 100 cases of cirrhotic liver were included of both gender and age more than 30 years. Cirrhotic liver was labeled as yes when there was reduced liver size less than 10 cm and with or without portal vein dilatation of more than 1 cm and with parenchymal changes. After collection of laboratory and clinical data these cases underwent upper GI endoscopy to look for the presence of varices of any grade.

### Statistical analysis

SPSS-23 was used to process the data and chi square test was applied after the stratification of the confounders and  $p$  values  $< 0.05$  was taken as significant.

## RESULTS

In this study 100 cirrhotic cases were included comprising 57% males and 43% females with mean age of  $51.33 \pm 5.78$  years (Table 1). There were 57% cases I child pugh class B. GOV were seen in 30 (30%) of the

cases. GOV were significantly high in cases that had liver cirrhosis for more than 3 years and was seen in 26 (38.23%) of cases with  $p = 0.01$  as in table 2. GOV were also significantly high in class B and C with  $p = 0.03$  (table 3).

**Table 1: Demographics.**

Variables	Number	%age
Male	57	57
Female	43	43
Child pugh class A	12	12
Child pugh class B	57	57
Child pugh class C	31	31
	<b>Mean <math>\pm</math> SD</b>	<b>Range</b>
Age (years)	$51.33 \pm 5.78$	30-80
Duration of cirrhosis (years)	$7.11 \pm 2.56$	1-15

**Table 2: GOV and cirrhosis duration (n= 100).**

Duration of cirrhosis	GOV		Total	Significance
	Yes	No		
>3 years	26 (38.23%)	42 (61.77%)	68	$p = 0.01$
<3 years	04 (12.5%)	28 (87.5%)	32	

**Table 3: GOV and child pugh class (n= 100).**

Child Pugh class	GOV		Total
	Yes	No	
A	1 (8.33%)	11 (91.67%)	12 (60%)
B	18 (31.57%)	39 (68.43%)	57 (40%)
C	11 (35.48%)	20 (64.52%)	31 (100%)

$p = 0.03$

## DISCUSSION

Cirrhosis is a highly symptomatic disease and portal hypertension is a serious concern as the medical management has only partial benefit and liver transplantation is so uncommon. Portal HTN can lead to varices formation and especially Gastro oesophageal varices (GOV) are needed to be addressed as they are relatively difficult to manage than oesophageal ones.

In the present study, Gastro oesophageal varices (GOV) were seen in 30 (30%) of the cases. The results of the previous studies were wide variable and the frequencies and prevalence of GOV were higher in other studies than the present one. According to a study carried out by Svoboda *et al* the GOV were observed on upper GI endoscopy in 62% of their cases.<sup>7</sup> The results were even higher in the study of D'Amic *et al* where this complication of GOV was noted in 72% of cases.<sup>8</sup> The difference can be because we considered the cases with isolated GOV as compared to their studies where they counted the cases with GOV and esophageal together.

GOV were significantly high in cases that had liver cirrhosis for more than 3 years and was seen in 26 (38.23%) of cases with  $p = 0.01$  and were also

significantly high in class B and C with  $p = 0.03$ . The results of the present study were in line with the previous studies. According to studies carried out by Saeed-u-Zaman *et al* and Akiyoshi N *et al* GOV were found significantly in cases with higher age groups and those with higher MELD score or child pugh class; elaborating the underlying pathophysiology that longer the duration of hepatitis, severe is the disease and more likelihood to develop GOV with significant  $p$  value of  $< 0.059-10$ . In contrast Irani S *et al* did not find any significant association between severity of cirrhosis and varices.<sup>11</sup>

## CONCLUSION

GOV varices are seen in every 3rd cases of cirrhosis and significantly high in Child pugh class B & C and with cirrhosis duration more than 3 years.

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