

FREQUENCY OF OESOPHAGEAL VARICES AMONG PATIENTS UNDERGOING GI ENDOSCOPY

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ABSTRACT

Background: At least two thirds of cirrhotic patients develop Oesophageal Varices (OV) during their lifetime. Severe Upper Gastro Intestinal (UGI) bleeding as a complication of portal hypertension develops in about 30%-40% of cirrhotics. Despite significant improvements in the early diagnosis and treatment of oesophagogastric variceal haemorrhage, the mortality rate of first variceal haemorrhage remains high (20%-35%).

Aim: To find out frequency of OV in two different areas of Karachi.

Method: We prepared a register of 255 patients who underwent upper GI endoscopy at Murshid Hospital and Health Care Centre between 1999 and 2003 and compared it with 254 patients scoped at Hamdard University Hospital Karachi during the same period.

Results: At Murshid Hospital oesophageal varices were present in 58 cases 22.75%, age specific occurrence was 10.3% (20-30 years), 25.8% (>30-40 years), 63.7% (>40 years) while at Hamdard University Hospital the frequency of oesophageal varices was 18 cases 7.1%, age specific occurrence at this centre showed that all cases of oesophageal varices were above the age of 45 years.

Conclusions: A record linkage population based study of oesophageal varices allows outcomes to be identified and workout the cost. Those at risk in the population should be informed about the future implication to their health and costs. The health service should investigate the increasing incidence and prevalence of oesophageal varices at local as well as national level.

KEY WORDS: Oesophageal varices, upper gastrointestinal bleeding, endoscopy

Pak J Med Sci April-June 2005 Vol. 21 No. 2 164-7

INTRODUCTION

Obstruction of the portal venous system at any level and/or an increase in portal flow, leads to increased portal pressure.¹ Normal

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* Received for publication: August 25, 2004

Accepted: November 28, 2004

pressure in the portal vein is 5-10 mm Hg because the vascular resistance in the hepatic sinusoids is low. An elevated portal venous pressure (>10 mm Hg) distends the veins proximal to the block and increases capillary pressure in organs drained by the obstructed veins.

Small anastomoses connecting the portal and systemic circulation may enlarge (often markedly) because of the increased portal pressure and allow portal blood to pass directly into the systemic circulation.² Obstruction and increased resistance can occur at the following three levels in relation to hepatic sinusoids,

1. Presinusoidal venous block (e.g. portal vein thrombosis, schistosomiasis, primary biliary cirrhosis): These lesions are characterized by elevated portal venous pressure but a normal Wedged Hepatic Venous Pressure (WHVP).

2. Post sinusoidal obstruction (e.g. Budd-Chiari syndrome, veno-occlusive disease, in which the central hepatic venules are the primary site of injury): WHVP characteristically is elevated.
3. Sinusoidal obstruction (e.g. cirrhosis) is characterized by increased Hepatic Venous Pressure Gradient (HVPG), with WHVP being equal to portal venous pressure.^{2,3,4}

Irrespective of cause, portal hypertension results in the development of collateral channels between the portal and systemic venous circulations, of which the most important clinically are those that develop in the oesophagus. Once varices have formed, they tend to increase in size and eventually bleed⁵. About one third of cirrhotic patients with esophageal varices bleed from ruptured varices at two years⁶ and 50% die within six weeks of the first bleeding episode⁷. Untreated patients surviving a variceal haemorrhage have a 1 to 2-year risk of rebleeding of about 60% and a risk of death of about 40% to 50%⁵. Varices are the commonest single endoscopic diagnosis and there is enough evidence in the local literature to show this as one of the most common cause of upper GI bleeding⁸. Amongst numerous causes of portal hypertension, the most commonly seen in Pakistan is cirrhosis of liver, secondary to viral hepatitis⁹. The endemicity of the HBV infection varies greatly worldwide^{10,11} and even locally there may be significant variation. Knowing the fact will help to define public health policies at local as well as national levels for definitive results.

PATIENTS AND METHODS

The total number of upper gastrointestinal endoscopy performed on (Group A) residents at the catchment's area of Murshid Hospital and Health Care Centre (MH&HCC) were included in this study irrespective of their age, sex and presenting symptoms during October 1999 to April 2003. These 255 cases were recorded and compared with 254 cases scoped on (Group B) resident of Karachi central at Hamdard University Hospital (HUH) Karachi, during the same period. A total of 292 patients underwent endoscopy at Hamdard University Hospital and those 38 were excluded from the study who came from areas other than centre of Karachi.

Patient under the age of 14 years and those referred from other parts of city were excluded from the study.

MH&HCC is situated on west of the city serving large industrial area majority of population is factory workers while HUH is situated in the centre of Karachi, and the majority of population is middle class office workers.

RESULTS

A total number of 509 patients underwent upper GI endoscopy at two said hospitals. In group A, 255 patients were scoped which included 156 (61.18%) males and 99 (38.82%) females. Median age was 40 years (SD±14.67). Oesophageal varices were present in 58 (22.75%) cases. Male 38 (24.36%) and females were 20 (20.20%). (Table-I)

Table-I: Case distribution according to oesophageal findings at Murshid Hospital & Health Care Centre

<i>Finding</i>	<i>Male</i>	<i>%</i>	<i>Female</i>	<i>%</i>	<i>Total Number</i>	<i>%</i>
Normal	76	48.72	51	51.52	127	49.80
Oesophageal Varices	38	24.36	20	20.20	58	22.75
Hiatus hernia	22	14.10	17	17.17	39	15.29
Oesophagitis	10	6.41	6	6.06	16	6.27
Growth	8	5.13	3	3.03	11	4.31
Others	2	1.28	2	2.02	4	1.57
Grand Total	156	61.18%	99	38.82%	255	

Age specific distribution of oesophageal varices were 10.3% (20-30 years), 25.9% (>30-40 years) and 63.8% (>40 years). (Table-II)

Table II: Cases of Oesophageal varices at MH&HCC

Age	Number of Cases	%
20 to 30	6	10.3
31 to 40	15	25.9
41 to 50	37	63.8
Total	58	100

In group B, 254 patients were scoped and it included 141 (55.51%) males and 113 (44.49%) females. Median age was 38 years (SD ± 15.46). Oesophageal varices were present in 18 (7.0%) cases. Male 11 (61.11%) and females were 7 (38.89%) and all cases with oesophageal varices at this centre were above the age of 45 years. (Table-III)

Statistically a significant high frequency of oesophageal varices were found in suburb of Karachi ($p < 0.0001$) and also at an early age.

DISCUSSION

This study shows a significant variation of oesophageal varices in two areas of a metropolitan city and mentions that there is a high frequency of (OV) in the suburb of Karachi. It is also observed that (OV) manifested in this area is even at an early age i.e. 4th and 5th de-

cade while in western countries reported peak incidence is 5th and 6th decade. Studies from two other big cities in Pakistan revealed frequency of OV as 8.09%¹² and 15.9%¹³ this indicate that there is a wide difference in the incidence of disease in different cities and even in different parts of a city as highlighted in this study. Another study from northern part of Pakistan showed that Chronic Liver Disease (CLD) is a major cause of mortality. HCV is the main cause of CLD followed by HBV or a combination of these viruses. They also concluded that major manifestations of CLD are gastrointestinal bleeding, hepatic failure and portal hypertension¹⁴. Hepatitis C is a global problem and in Pakistan we have an enormous share of this chronic illness. It is a major cause of chronic liver disease (CLD) and has taken over from hepatitis B as the single most important cause for cirrhosis, its complications and hepatoma in Pakistan^{15,16}. It is a disease that is prevalent both in the industrialized as well as developing world¹⁷.

Furthermore, in certain less privileged communities in our country ideal healthcare service is lacking. Nosocomial transmission due to suboptimal disinfecting procedures and re-use of needles thought to be a major cause of transmission of disease, other routes of transmission of hepatitis are related to local cultural practices, like acupuncture, tattooing and body piercing, which are still carried out in our country almost in all towns and villages. In addition to this unscreened blood and unsafe injections have been shown to promote the trans-

Table III: Case distribution according to oesophageal findings at Hamdard University Hospital Karachi

Finding	Male	%	Female	%	Total Number	%
Normal	85	60.28%	74	65.49%	159	62.60%
Oesophageal Varices	11	7.80%	7	6.19%	18	7.09%
Hiatus hernia	25	17.73%	16	14.16%	41	16.14%
Oesophagitis	6	4.26%	2	1.77%	8	3.15%
Growth	9	6.38%	11	9.73%	20	7.87%
Others	5	3.55%	3	2.65%	8	3.15%
Grand Total	141		113		254	

mission of these viruses in Pakistan. Public health policies and education should be implemented in order to address these issues. This must be done at the community and national levels for definitive results.

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