



A STUDY ON COMPLICATIONS AND OUTCOMES IN PATIENTS WITH PORTAL HYPERTENSION IN A TERTIARY CARE CENTER

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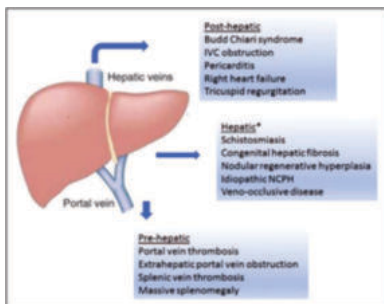
ABSTRACT

Background: Portal hypertension is a common clinical condition encountered by physicians. Early identification of the various complications associated with portal hypertension is important and Each complication will have a separate line of management .So early identification and treatment of the complications is necessary to prolong the patient survival. Various associated complications should be kept in mind while treating a case of portal hypertension. **Aim:** To study the complications and outcomes in patients with portal hypertension . **Objectives:** 1. To assess the incidence of various complications of portal hypertension 2..To study the outcomes in patients with portal hypertension . **Study Design:** Prospective, Observational study. **Place Of Study:** Department of General medicine, Kamineni institute of medical sciences, Narketpally. **Duration of study:** November 2020 to October 2022. **Sample size:** This study included 40 patients with portal hypertension.

KEYWORDS : Portal hypertension, Hepatic encephalopathy, Ascites, Esophageal varices, Spontaneous bacterial peritonitis, Hepato pulmonary syndrome, Hepato renal syndrome, Hepatic coagulopathy, Splenomegaly

INTRODUCTION

Portal hypertension is increased pressure within the portal venous system. It is determined by increased portal pressure gradient (the difference in pressures between the portal venous pressure and the pressure within the inferior vena cava or the hepatic vein). This pressure gradient is normally less than or equal to 5 mmHg. A pressure gradient of 6 mmHg or more between the portal and hepatic veins (or inferior vena cava) suggests the presence of portal hypertension in most cases[1]



Causes Of Portal Hypertension

Complications Of Portal Hypertension Include:

Thrombocytopenia:

Thrombocytopenia is a common haematological disorder in patients with chronic liver disease. It is multifactorial and depends on severity of liver disease.[3]

Abdominal Wall Collaterals

Varices bleeding leading to haemorrhage from gastroesophageal, anorectal, retroperitoneal, stomal, and other varices .Acute bleeding or iron deficiency anaemia due to chronic blood loss from portal hypertensive gastropathy, enteropathy, or coagulopathy [2]

Spontaneous Bacterial Peritonitis:

Spontaneous bacterial peritonitis (SBP) is a bacterial infection of ascitic fluid in patients with decompensated cirrhosis. The modifier 'spontaneous' distinguishes this from surgical peritonitis. The infecting organisms are most commonly enteric gram-negatives which translocate from the bowel. Symptoms in SBP include fever, abdominal pain, mental status changes, and ileus. Diagnostic abdominal paracentesis can be done with minimal risk and should be

performed in all patients admitted to the hospital, with worsening clinical appearance, or with gastrointestinal bleeding. The ascitic fluid polymorphonuclear cell count is the most sensitive test in diagnosing SBP. Cultures of the ascitic fluid are helpful in identifying the organism and are best performed by bedside collection of blood culture bottles. Ascites total protein, lactate dehydrogenase, and glucose levels can assist in distinguishing SBP from secondary peritonitis.[4]

Hepatic hydrothorax: A hepatic hydrothorax is a pleural effusion that develops in a patient with cirrhosis and portal hypertension in the absence of cardiopulmonary disease.[5]

Hepatorenal syndrome: Hepatorenal syndrome is a severe complication of endstage cirrhosis characterized by increased splanchnic blood flow, hyperdynamic state, a state of decreased central volume, activation of vasoconstrictor systems, and extreme kidney vasoconstriction leading to decreased GFR [6]

Hepatic encephalopathy: Hepatic encephalopathy (HE) is a neuropsychiatric syndrome that occurs in patients with acute or chronic liver disease. It is the most serious complication in patients with decompensated liver cirrhosis. Ammonia is major trigger for the appearance of HE, which in patients with liver cirrhosis involves pathophysiologically low-grade cerebral oedema with oxidative / nitrosative stress, inflammation, and disturbances of oscillatory networks in the brain[7]

Hepatopulmonary syndrome: intrapulmonary vascular dilatation that may induce severe hypoxemia.[8]

Portopulmonary hypertension: Portopulmonary hypertension (PoPH) is a condition that pulmonary arterial hypertension (PAH) occurs in patients with portal hypertension.[9]

Cirrhotic cardiomyopathy: Increased cardiac output in patients with cirrhosis was described initially. Later, various observations have indicated the presence of a latent cardiac dysfunction, which includes a combination of reduced cardiac contractility with systolic and diastolic dysfunction and electrophysiological abnormalities. This syndrome is termed cirrhotic cardiomyopathy.[10]

AIM:

To study the complications and outcomes in patients with portal hypertension

OBJECTIVES :

1. To assess the incidence of various complications of portal hypertension
2. To study the outcomes in patients with portal hypertension

Inclusion Criteria:

1. Patients diagnosed with portal hypertension
2. Patients with High SAAG ascites
3. Patients with age more than 18 years

Exclusion Criteria:

1. Patients without portal hypertension
2. Patients with age less than 18 years

Methodology:

After prior informed consent from the patients the study was conducted on 40 patients with portal hypertension. A detailed history and investigations were done. After the patient has been diagnosed with portal hypertension, the complications of portal hypertension have been assessed and their outcomes at the time of discharge was studied.

RESULTS:

This study was conducted on 40 patients with portal hypertension and associated complications and outcomes have been studied to obtain the following results

Table - 1 Age Distribution In Patients With Portal Hypertension

Age In years	n=40
18-20	1
21-30	2
31-40	11
41-50	13
51-60	8
61 and above	5

The highest number of cases presenting with portal hypertension were in the age group 41-50 years

Table - 2 Gender Distribution Of Patients With Portal Hypertension

Gender	n =40
Male	31
Female	9

Among patients presenting with portal hypertension 77.5% were males (31 patients) and 22.5% were females (9 patients)

Table - 3 Distribution Of Cause Of Portal Hypertension

Cause of portal hypertension	n = 40
Pre hepatic	1
Hepatic	29
Post hepatic	10

Hepatic cause of portal hypertension is more common than pre hepatic and post hepatic causes of portal hypertension

Table- 4 Distribution Of Hepatic Causes Of Portal Hypertension

Cause of hepatic portal hypertension	n=29
1.Cirrhosis of liver	26
2.Non cirrhotic portal fibrosis	2
3.Liver metastasis	1

Among hepatic causes of portal hypertension Cirrhosis of the liver is the most common cause.

Table- 5 Distribution Of Post Hepatic Causes Of Portal Hypertension

Causes of post hepatic portal hypertension	n=10
1.Budd chiari syndrome	2
2.Heart failure	8

Among post hepatic causes of portal hypertension Heart failure is the most common cause.

Table- 6 Distribution Of Various Complications Of Portal Hypertension

Complication	Number of patients
1. Hepatic encephalopathy	17
2. Ascites	39
3. Esophageal varices	21
4. Splenomegaly	21
5. Hepato pulmonary syndrome	1
6. Spontaneous bacterial peritonitis of ascites	7
7. Hepato renal syndrome	8
8. Hepatic coagulopathy	9

Ascites is the most common complication of portal hypertension followed by Esophageal varices and splenomegaly.

Table- 7 Distribution Of Outcomes In Patients With Portal Hypertension

Outcome	n=40
Asymptomatic	4
Morbidity	29
DAMA	2
Mortality	5

12.5% Mortality in patients presenting with portal hypertension

DISCUSSION

In this study portal hypertension was found to be more common in the age group 41-50 years and males. Hepatic causes of portal hypertension are more common than pre and post hepatic causes. Cirrhosis of the liver was found to be the commonest cause of portal hypertension.

In the present study 42.5% of the patients had hepatic encephalopathy, 97.5% had ascites, 52.5% patients had Esophageal varices and 52.5% patients had splenomegaly. 17.5% patients had spontaneous bacterial peritonitis. 20% patients had hepato renal syndrome and 22.5% patients had hepatic coagulopathy with deranged PT, INR

In the study conducted by Oumer abdu Muhie et.al [11] (n=52), 20% had SBP, 16.7% had hepatic encephalopathy, 17.3% had esophageal varices, 20.8% had hepatocellular carcinoma

In the study conducted by Subash Bhattarai et.al [12] (n=754) 26% patients had SBP, 32.5% had hepatic encephalopathy, 42.3% had esophageal varices

In the present study the mortality rate in patients presenting with portal hypertension was 12.5%

In the study conducted by Touhidur Rahman et.al [13] the mortality rate was 9% at the time of discharge.

CONCLUSIONS

The most common cause of portal hypertension is cirrhosis of liver and the most common complication at presentation is ascites. Careful history, investigations, abdominal diagnostic paracentesis, Ultrasonography and sometimes CT abdomen are the tools needed to diagnose the cause of portal hypertension. Portal hypertension can be established by indirect ways such as High Saag ascites, increased portal

vein diameter and clinical correlation. Identification of the cause of portal hypertension is important because the line of management differs based on the cause and associated complications. As mortality rate is significant early diagnosis and treatment of associated complications is necessary to prolong the survival of the patient.

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