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Research Article

**ANALYSIS OF EPIDEMIOLOGY AND SYMPTOMATOLOGY  
OF EXUDATIVE TYPE OF ASCITES IN HOSPITALIZED  
PATIENTS****Dr Noorish Zia<sup>1</sup>, Dr Beenish<sup>2</sup>, Dr Muhammad Abu Bakar<sup>3</sup>**<sup>1</sup>King Edward Medical University, Lahore, <sup>2</sup>Aziz Fatimah Medical & Dental College, Faisalabad, <sup>3</sup>Medical Officer at BHU Golay Wali, Khushab.**Article Received:** August 2019**Accepted:** September 2019**Published:** October 2019**Abstract:**

**Introduction:** Ascites is a major complication of cirrhosis, occurring in 50% of patients over 10 years of follow up. **Aims and objectives:** The main objective of the study is to analyse the epidemiology and symptomatology of exudative type of ascites in hospitalized patients.

**Material and methods:** This descriptive study was conducted in King Edward Medical University, Lahore during 2019. The majority of patients presenting with ascites will present to the medical outpatient department (OPD), medical emergency, and medical wards. The medical OPD, emergency, and wards are staffed with internists, internal medicine residents, interns, and nurses. The patient's clinical profile is kept recorded in their charts.

**Results:** A total of 52 patients with ascites were included in this study. Thirty (57.7%) of them were males and the majority (77%) of the participants were fifty years old or younger. The mean age was 43.8 ( $\pm 14$ ); the age range of the patients was from 19 to 80. The majority (86.5%) of the participants were from a rural area and 41 (78.8%) were married.

**Conclusion:** It is concluded that liver cirrhosis is the major cause of ascites in Pakistan while chronic viral hepatitis infections (HBV and HCV) are the main causes of liver cirrhosis.

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**INTRODUCTION:**

Ascites is a major complication of cirrhosis, occurring in 50% of patients over 10 years of follow up. The development of ascites is an important landmark in the natural history of cirrhosis as it is associated with a 50% mortality over two years, and signifies the need to consider liver transplantation as a therapeutic option. The majority (75%) of patients who present with ascites have underlying cirrhosis, with the remainder being due to malignancy (10%), heart failure (3%), tuberculosis (2%), pancreatitis (1%), and other rare causes [1]. The true prevalence and incidence of cirrhosis of the liver and its complications in the UK are unknown. Mortality from cirrhosis has increased from 6 per 100 000 population in 1993 to 12.7 per 100 000 population in 2000. Approximately 4% of the general population have abnormal liver function or liver disease and approximately 10–20% of those with one of the three most common chronic liver diseases (non-alcoholic fatty liver disease, alcoholic liver disease, and chronic hepatitis C) develop cirrhosis over a period of 10–20 years [2]. With a rising frequency of alcoholic and non-alcoholic fatty liver disease, a huge increase in the burden of liver disease is expected over the next few years with an inevitable increase in the complications of cirrhosis.

Ascites formation is the result of a series of anatomical, pathophysiological, and biochemical changes [3]. The specific causes of ascites can be divided into those associated with portal hypertension (cirrhotic ascites) and those unrelated to portal hypertension (noncirrhotic ascites). In patients with liver cirrhosis, ascites develops as a consequence of sinusoidal portal hypertension, which results in alterations to capillary pressure, permeability and accumulation of retained fluid in the abdominal cavity. This mechanism of fluid accumulation is known as transudation [4]. The passage of high molecular weight substances is limited because capillary damage is not the underlying process in transudation. Another mechanism of ascites formation is known as exudation; ascites development is secondary to increased vascular permeability due to the inflammatory process, tumoral invasion, or traumatic damage to the peritoneum or intraperitoneal organs [5].

Ascitic fluid may accumulate rapidly or gradually depending upon the cause. Mild ascites may not produce any symptoms. Moderate ascites may just produce an increase in abdominal girth and weight gain. Large amounts of fluid can produce abdominal discomfort and the appearance of hernias particularly umbilical hernia and hinder the mobility of the patient.

Ascites can be the first sign of liver disease. Thus, it is important to obtain a history of risk factors for a liver disease like alcohol consumption, drug abuse, blood transfusions, or hepatitis in the past. The sudden development of ascites in a previously stable patient of cirrhosis should raise the suspicion of hepatoma [6].

**Aims and objectives:**

The main objective of the study is to analyse the epidemiology and symptomatology of exudative type of ascites in hospitalized patients.

**MATERIAL AND METHODS:**

This descriptive study was conducted in King Edward Medical University, Lahore during 2019. The majority of patients presenting with ascites will present to the medical outpatient department (OPD), medical emergency, and medical wards. The medical OPD, emergency, and wards are staffed with internists, internal medicine residents, interns, and nurses. The patient's clinical profile is kept recorded in their charts.

**Data collection:**

Data were collected using pretested questionnaires which were composed of variables on sociodemographic characteristics, sexual history, weight and height, presence or absence of diabetes, chronic kidney disease, and presence or absence of known cardiac and liver disease. A family history of liver disease was also included. Drug history including herbal medicine and alcohol consumption was also included in the questionnaire. Data were collected by interviewing participants, reviewing records, and doing physical examinations.

**Statistical analysis:**

The data were checked for completeness. Data were entered, compiled, and analysed using statistical package for the social sciences (SPSS) 20. Descriptive statistics were generated on patient demographics, clinical parameters, frequencies of factors, and complications of ascites.

**RESULTS:**

A total of 52 patients with ascites were included in this study. Thirty (57.7%) of them were males and the majority (77%) of the participants were fifty years old or younger. The mean age was 43.8 ( $\pm$  14); the age range of the patients was from 19 to 80. The majority (86.5%) of the participants were from a rural area and 41 (78.8%) were married. Three-fourths of the patients were farmers. Thirty-eight (73%) patients take alcohol occasionally while 11 (21.2%) patients take alcohol frequently or massively. Eight (15.4%) patients reported a history of multiple sexual partners. Only 2

patients reported contact with jaundiced persons. Herbal medicine use was reported by 28(53.8%); they

reported the use of smokable, drinkable, and dabbable medicines.

**Table 01: Risk factors for ascites among study participants.**

Risk factor		Frequency (%)
History of alcohol ingestion	None	3(5.8)
	Occasional	38(73.1)
	Frequent	7(13.5)
	Massive (Alcohol dependent)	4(7.7)
History of multiple sexual partners	Yes	8(15.4)
	No	44(84.6)
Contact history to jaundiced patient	Yes	2(3.8)
	No	50(96.2)
History of herbal medicine use	None	24(46.2)
	Smokable	3(5.8)
	Drinkable	23(44.2)
	Dabbable	2(3.8)
Diabetes history	Yes	1(1.9)
	No	51(98.1)
History of blood transfusion	Yes	4(7.7)
	No	48(92.3)

### DISCUSSION:

Ascites is a common clinical problem confronting a physician in Gondar, Ethiopia. Its incidence and prevalence are not enumerated in this set up before. Similarly, the prevalence of the causes of ascites has not been studied in Gondar, Ethiopia. Liver cirrhosis was found to be the most common cause of ascites in this study contributing to nearly half (46.2%) of the cases [7]. Chronic viral hepatitis infections were the main causes of liver cirrhosis (47.8% of the liver cirrhosis). Alcoholic liver disease had contributed to 16.7% of the liver cirrhosis.

Liver cirrhosis was found to be the main cause of ascites in this study similar to other studies done elsewhere; however, the proportion of ascites caused by liver cirrhosis was lower as compared to the studies conducted in USA, Qatar, and Ethiopia [8]. This could be because of the higher tuberculosis and hepatosplenic schistosomiasis in the current study, where such infections are epidemic in the study setting. Nevertheless, the cirrhotic ascites rate was comparable to that of the studies done in Nigeria and Qatar [9].

In contrast to studies done in Qatar and USA where alcoholic liver disease and NASH were more common causes of cirrhotic ascites, viral hepatitis especially HBV was the commonest cause of cirrhotic ascites in this study.

Heart failure, tuberculosis, and hepatosplenic schistosomiasis were relatively more common in this study in contrast to studies done in the USA, Qatar, and Pakistan [10]. However, tuberculosis incidence (11.5%) in this study was lower in contrast to the study done in Nigeria (22%) but was comparable to a previous Ethiopian study (9%).

### CONCLUSION:

It is concluded that liver cirrhosis is the major cause of ascites in Pakistan while chronic viral hepatitis infections (HBV and HCV) are the main causes of liver cirrhosis. The other major causes included heart failure, tuberculosis, and hepatosplenic schistosomiasis.

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