

Original Article**Etiology of Hepatomegaly in Balochistan****1. Esaa KhanTareen 2. Haroon Ishaq 3. Muhammad Atif 4. Wasim Baig**

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ABSTRACT

Aim of study: The aim of our study was to find out the definite diagnosis of hepatomegaly and the prevalence of various causes of hepatomegaly in Balochistan.

Study Design: Experimental and Observational study.

Place and Duration of Study: This study was conducted in the Medical Unit-III, Bolan Medical College, Quetta from April 2009 to December 2010.

Patients and Methods: 105 patients were admitted in our medical unit III with the clinical presentation of hepatomegaly. Patients were the age group 10 years to 85 years, 73 patients were males and 23 patients were females. Patients with congestive hepatomegaly were excluded from this study and methods used in this study were history, clinical examination, LFTs and liver biopsy.

Results: The incidence of various common causes of hepatomegaly in Balochistan are amoebic liver abscess 12%, hydatid disease of liver 13%, hepatocellular carcinoma 15%, hepatitis 17%, obstructive jaundice 9% & normal 9%.

Conclusion: The most common causes of Hepatomegaly in Balochistan are amoebic liver abscess, hydatid disease of liver, hepatocellular carcinoma, viral hepatitis, obstructive jaundice. This study has shown that percentage of hydatid disease of liver, fatty liver and lymphoma, as compared to Durban study was higher. This study will help in managing and understanding various causes of hepatomegaly in field of Therapeutics and Research, especially in Balochistan.

Key Words: Hepatomegaly, Liver abscess, Amoebic liver abscess, Hepatocellular carcinoma.

INTRODUCTION

Since the recommendation of World Health Organization in 1985, to use ultra sound equipment it has become readily available for diagnostic imaging, in the developing countries. The use of ultrasound for definite diagnosis of hepatomegaly has increased. The list of causes of hepatomegaly is long, but there are certain etiologies peculiar to each area, with the aim in mind we devised a study to find out the most common causes of hepatomegaly encountered in Balochistan, as all the patients of the province are referred to Civil Hospital Quetta for investigations and treatment. The most common causes of hepatomegaly in Balochistan are amoebic liver abscess, hydatid disease of liver, hepatitis, obstructive jaundice and hepatocellular carcinoma. The increased incidence of viral hepatitis and amoebic liver abscess secondary to amoebic colitis is due to poor sanitary conditions and inadequate availability of pure drinking water. Hydatid disease of liver is more common because the occupation of the majority of the people of Balochistan is farming and they are in close association with the dogs used for the herding sheep, goats and cattle, the reservoir of infection, thus completing the life cycle of hydatid disease. Hepatocellular carcinoma is a common

neoplasm world wide and a relation between this neoplasm and infection with hepatitis B virus and hepatitis C virus has been described.

PATIENTS AND METHODS

Hepatomegaly is one of the common causes of admission of patient in medical wards.

105 patients were admitted in our medical unit III with the clinical presentation of hepatomegaly. Patients were the age group 10 years to 85 years, 73 patients were males and 23 patients were females. Patients with congestive hepatomegaly were excluded from this study. In order to reach the definite diagnosis the following parameters were utilized 1)History 2)Clinical examination 3)Liver function test 4)HbsAg, HBeAg, HBV DNA Polymerase 5)Anti HCV Anti body, HCV RNA by PCR 6)Ultra sound scanning 7)Liver biopsy 8)Needle aspiration of liver abscess 9)Hepatic surgery for hydatid liver disease and subdiaphragmatic abscess. Liver biopsy was done with the trucut needle. The biopsy specimen was sent to the laboratory in formalin. Tissue piece after sectioning and fixation was stained with haematoxylin and eosin. Indirect haemagglutination test was carried out for hydatid disease of liver.

RESULTS

The incidence of various common causes of hepatomegaly in Balochistan are amoebic liver

abscess 12%, hydatid disease of liver 13%, hepatocellular carcinoma 15%, hepatitis 17%, obstructive jaundice 9% & normal 9%.

Table No.1: Percentage of different diseases in different age groups of male and female.

Total number of cases.....105

Sr.No.	Diagnosis	No. of Cases %	Age Limit (Years)	Sex
1	Amoebic liver abscess	12	24-85	All Male
2	Hepatocellular carcinoma	15	34-60	All Male
3	Viral Hepatitis	17	24-56	10M 10 F
4	Fatty Change	05	35-52	03M 02F
5	Hydatid disease	13	30-60	10M 03F
6	Obstructive jaundice	09	44-52	04M 05F
7	Lymphoma	05	32-45	03M 02F
8	Metastasis	51-85	51-85	04M 01F
9	Thalasemia	03	13-17	03M 0 F
10	Subdiaphragmatic abscess	03	17-35	02M 01F
11	Hepatic Tuberculosis	02	10-15	01M 01F
12	Chronic Lymphocytic Leukemia	02	35-46	01M 01F
13	Sarcoidosis	01	56	Male
14	Visceral Leishmaniasis	01	17	Male
15	Glycogen Storage Disease	02	10-12	01M 01F
16	Primary Biliary Cirrhosis	01	50	Female
17	Normal	09	12-60	05M 04F

DISCUSSION

The study which we carried out included 105 patients which were admitted in the year April 2009 to December 2010 in Medicine unit III of Civil Hospital Quetta. In this study patients included from Quetta and all the referred patients from peripheral hospitals of Urban & Rural areas of Balochistan. In Table No.1, the incidence of amoebic liver abscess as a cause of hepatomegaly was 12%. All the patients were male and belong to age group 24 - 85 years. The importance of ultrasound in the diagnosis and management of liver abscess has been emphasized by Berry et al in 1986⁴.we were able to localize the amoebic liver abscess and drain it by needle aspiration with the help of ultrasonography in all cases. One case presented as obstructive jaundice due to huge size of amoebic liver abscess. Hydatid cyst as a cause of hepatomegaly was found in 13% of patients. This incidence of hydatid disease of liver is much higher than the study of Maharaj et al in 1985⁵, where an incidence of less than 0.5% has been reported. Hepatocellular carcinoma was diagnosed in 15% of the patients. All the patients were male, the age group of patients was from 34-60 years. This male preponderance in hepatocellular carcinoma has been reported from Africa and the orient with male to female ratio of 6:1⁶.The oncogenic role of hepatitis B virus and hepatitis C virus in hepatocellular carcinoma

is particularly important in countries with a high prevalence of HBV infection⁷. obstructive jaundice was diagnosed in 9% of patients with hepatomegaly. Four of these patients had gall stones in common bile duct, 3 patients had carcinoma common bile duct and 2 patients had carcinoma of head of pancreas. In a similar study of the etiological diagnosis of extrahepatic cholestasis, 31% of patients had gall stones in common bile duct, 28.5% of patients had carcinoma pancreas and 5.7% of patients had bile duct tumor as cause of extrahepatic cholestasis⁸. 17 patients with hepatomegaly were diagnosed as to have viral hepatitis. Patients were of the age group 24 to 56 years. Six patients were HbsAg positive, out of which 2 had hepatitis more than 6 months duration and they were HBe Ag and HBs DNA Polymerase their liver biopsies showed chronic hepatitis. Liver metastasis was diagnosed by ultrasound and liver biopsy in 5% of patients. Two patients had metastasis from carcinoma colon. One female patient had carcinoma breast with liver metastasis. In two cases the primary malignancy could not be traced. About 50% of all carcinoma originating from the splanchnic area and about 35% of these arising outside the portal venous drainage area eventually spread to the liver⁶. We have found ultrasound to be very sensitive in detecting hepatocellular carcinoma and early metastasis in liver⁹. With the help of ultrasound the site and depth of focal lesion can be measured and needle liver

Table No.2: Percentage of different diseases in two cities.

<u>Sr.No.</u>	<u>Diagnosis</u>	<u>Durban Study</u>	<u>Quetta Study</u>
<u>1</u>	Amoebic liver abscess	12.7%	12%
<u>2</u>	Hydatid disease	0.5%	13%
<u>3</u>	Hepatocellular carcinoma	15.7%	15%
<u>4</u>	Hepatitis	18.0%	17%
<u>5</u>	Fatty change	02.0%	05%
<u>6</u>	Metastasis	12.0%	05%
<u>7</u>	Lymphoma	0.6%	05%
<u>8</u>	Chronic Lymphocytic Leukemia	0.0%	02%
<u>9</u>	Hepatic Tuberculosis	04.5%	02%
<u>10</u>	Thalasaemia	0.0%	03%
<u>11</u>	Sub diaphragmatic abscess	0.0%	03%
<u>12</u>	Alcoholic Hepatitis	03.8%	0.0%
<u>13</u>	Obstructive jaundice	0.0%	09%
<u>14</u>	Schistosomiasis	04.5%	0.0%
<u>15</u>	Normal	17.0%	09%

biopsy taken accurately from site of lesion, increasing the diagnostic accuracy of needle biopsy¹⁰. This makes ultrasound and liver biopsy as supplementary to each other, rather than substitutes. Hepatic tuberculosis was diagnosed by liver biopsy in two cases, one patient was female aged ten years and second patient was male aged 15 years. Ultrasound is of little value in the diagnosis of hepatic tuberculosis¹². Hepatic biopsy is the only method to confirm the diagnosis of hepatic tuberculosis. Hepatomegaly due to fatty infiltration of the liver was diagnosed in 5% of patients. 55 patients have diagnosed to have Non-Hodgkin lymphoma upon liver biopsy. The patients with hepatomegaly were diagnosed to have chronic lymphocytic leukaemia in peripheral blood smear and bone marrow aspiration biopsy. Three male patients who presented with hepatosplenomegaly were diagnosed as thalassaemic upon haemoglobin electrophoresis. Three patients who presented with hepatomegaly were diagnosed to have subdiaphragmatic abscesses upon ultrasound examination which were later drained surgically. In 9 cases with hepatomegaly, liver histology was normal upon liver biopsy. Patients with glycogen storage disease were members of the same family. In Table No.2, the comparison of this study with a similar study in 1986 by Maharaj et al. 5 in Durban reveals both similarities and differences in the prevalence of various causes of hepatomegaly. The percentage of hydatid disease of liver, fatty liver and lymphoma was higher in our study. No case of chronic lymphocytic leukaemia, thalassaemia, obstructive jaundice and sub-diaphragmatic abscess as a cause of hepatomegaly was reported in the Durban study. No case of schistosomiasis and alcoholic hepatitis is reported in our study. The detail comparison given in the Table No.2.

CONCLUSION

The most common causes of Hepatomegaly in Balochistan are amoebic liver abscess, hydatid disease of liver, hepatocellular carcinoma, viral hepatitis, obstructive jaundice. This study has shown that percentage of hydatid disease of liver, fatty liver and lymphoma, as compared to Durban study was higher. This study will help in managing and understanding various causes of hepatomegaly in field of Therapeutics and Research, especially in Balochistan.

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