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Research Article

**RISING FREQUENCY OF GALLBLADDER STONES IN CLD
PATIENTS**¹Dr. Ifrah Nasir, ²Dr. Filza Mukhtar, ³Dr. Qura tul ain¹WMO, BHU Nabi Shah Khurd Bhera²Medical officer, 112/6R, Haroonabad, Bhawalnagar³Medical Officer Farooq Hospital Westwood Branch Lahore**Abstract:**

Objective: - Our research aimed at the gall stone incidence assessment in the patients who had an association with the liver cirrhosis during hospital stay at general medical ward.

Design: Cross-Sectional, Clinical Study.

Situation: - Study carried out in a hospital on the people who were hospitalized in the Allied Hospital, Faisalabad (Medical Ward).

Population: - Personnel who were partially affected by chronic liver disease were taken under study. The research population was hundred cases diagnosed with Cirrhotic at any stage of their life and in both the sex.

Main Cause of the Disease: - The main reason of the incidence was established as Gall Stones.

Outcomes: - Out of 100 cases 50 Females and 50 Male, of the age range from 30 - 70 years with the mean of 45.0 with ± 10.95 years. 8 + 8 out of these 31% had gall stones. 17 / 50 i.e. 34% among them were females and 14 / 50 i.e. 28% were males. Associated oedema of gall-bladder wall too was found. 30 out of the 100 cases had HbsAg positive, seventy out of one hundred had Anti HCV reactive and ten had positive for HbsAg and Anti HCV both. Total patients found having Pugh's modification of Child Criteria A, B and C as 0%, 70% and 30% respectively.

Conclusions: - Patients of Chronic Liver Disease commonly have more Gall Stones. Most of the patients remain unaware of the fact, till, by the way they go through the tests. The only best noninvasive way used for its diagnosis is Ultrasonography.

Keywords: - The key words used in the study are Chronic Liver Disease, Cirrhosis, Ascites, Gall Stones, HbsAg, Anti HCV and Ultrasonography.

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INTRODUCTION:

Mortality and Morbidity become the reason of Cirrhosis in the patients of Pakistan, most common origin of this is Viral Hepatitis while comparing with West where people use more alcohol. In our country HBV is rare than HCV [1], on the other side both can be a cause in a case. Through ultrasonography it was noticed that gall stones mostly were present in those cases who were having Cirrhosis. This disease is associated with Liver Gall-Stone problem in the patients. Gall-Stones do not affect survival-III and on the other side it's frequency is four to five times more than common population [2].

In Biliary Pathology Gall-Stones are mostly common. There are many types of these pigment stones and mixed stones are its examples. It has been observed that cholesterol stones are usually solitary but mixed stone and small stones are normally multiple and often can be single. Several causes could be there which produce these stones. Metabolic defect is considered as one cause of producing Cholesterol and Mixed Stones [3]. Bile Acids and Phospholipids Dissolve Cholesterol by the detergent action of their solution, whereas it is insoluble in water. Excessive cholesterol with relation to bile salts and phospholipids make the bile lithogenic. Increased level of estrogens is a factor of reducing concentration of bile salts in bile and interrupt circulation of bile salts entero-hepatically. Is liver gall or the gall bladder responsible for Cirrhosis? The answer is probably the both, as liver function is disturbed with increase in Estrogen levels, which reduce gall bladder contraction, it resultantly reduces bile acid pool-IV and rapidly produce Deoxycholic Acid from Cholic Acid which increase the amount of deoxycholic Acid and this produce defective Vesicles [4]. Larger multilamellar Vesicles-V aggregates due to richness of cholesterol in these vesicles. Many of the patients of this disease are unaware of gall stones. The above said factors were taken as a challenge for diagnosis of incidence of these stones in cases having cirrhosis at hospital of Lahore used for teaching.

SAMPLE/PATIENTS AND METHODS:

From January, 2017 to December, 2017 one hundred cases who were consecutive, out of these 50 were females and 50 males, with history of chronic liver

disease or ascites, got admitted from emergency of general medical wards or were presented in outdoor department of Allied Hospital, Faisalabad were included. All of them were suffering from Liver Cirrhosis, it was thoroughly examined and confirmed through Blood CP, Urine Examination, LFT, Gastroscopy and Abdominal Ultrasonography. Those cases were cases excluded who were not having cirrhotic during these investigations. These cases did not get through Liver Biopsy. Ultrasonography was considered reliable for determining the regularity of gall stones in these cases. Following are Ultra sonographic findings during diagnosis of stones in gall bladder: -

- (i) Echogenic structures, in one or more than one quantity and distally shadowing, with possible movability Within the gall bladder.
- (ii) Movable but not shadowing, one or more echogenic structures within the gall bladder.
- (iii) Echogenic structures having constant shadowing in the region of gall bladder fossa, with little or no visualization of the gall bladder.

RESULTS:

Research population was selected in the age bracket of (30 – 70) years. Whereas, we calculated mean age as (45.0±10.95) years, our outcomes observed that age bracket of 40 – 60 years had a total of (64%) cases. Whereas, the incidence of gall stone was observed in only thirty-one percent of the cases. A number of cases were from the tertiary healthcare tier. Gall stone was found in 17 / 50 females with a proportion of (34%); whereas, in males we found it 14 / 50 with a proportion of (28%) without any significant variation (P-value under 0.5). Single stone was observed in the 13 female and multiple stones were found in four females in the total of seventeen. In the males the same incidence was observed about single stone in 12 / 14 and multiple stones in 2 / 14. Every case was diagnosed with Gall Bladder Wall Odema, this was observed as distinct in the severe intractable Ascites patients. HbsAg and anti-HCV reactive cases were respectively 30% and 70%; whereas, both the indications were observed in 10% cases. While classification through Pugh's Modification of Child Criteria A, B and C respectively 0%, 70% and 30%.

Table: Demographic Data

Total patients	=100
M:F	=1:1
Age range Positive for gall stones	= 30-70 years 45.0 ± 10.95 years
Males	= 14/50
Females	= 17/50

DISCUSSION:

In our country significant morbidity and mortality is caused by Cirrhosis. The sample of cases of study have ages range between 30 – 70 years with the mean of 45.0 ± 10.95 years and is near to another study carried out in the same city [5]. Cases suffering from Cirrhosis start out on complications during the most productive years of their life. About 31% cases of the study had gall-stones which were silent and not bothered [6]. Even this being a high figure, we shall have this in our mind that our sample comprised on highly selected population, still it is comparable with Conte-De-et (al6) and Elzouki-et (al7) reported 29.5% to 30% of cirrhotic patients had gall stones [7]. Maggi A et (al8) with Chung Pi-Si-et (al9) reflected a higher rate of 38% to 41% cirrhosis patients with gall stones. Sheen et (al10) says; in cirrhotic we found 31.2% females and 18.5% males with gall stones, for males it is not appropriate as per the current research. Razi et (al11) says if presence of gall stones observed in Pakistani population it must be 15% in Karachi and this is very lower than in cirrhotic [8]. Different causes have been considered for explanation of rising rate of gall stones in cirrhosis. These take in diminished bile acid pool-XIV and less secretion of Cholesterol, Alcoholism-XII, Lithogenic Role of Hemolysis-XIII, but still we are unable to find exact mechanism [9]. Emptying impaired-XV symptoms of gall bladder has been proposed like a probable hazard for creation of gall stone. During pregnancy, increased level of Estrogen can cause impair motility of gall bladder, Fornari et (al16) proposed; increased in the levels of Estrogens and Progesterone's cause gall bladder paralysis in the such women cases with pregnancy. Patients of CLD, irrespective of etiology of liver disease, have common Autonomic neuropathy-XVII [10]. Chawla Aet al18 also proposes that in the cases with sophisticated Cirrhosis Autonomic Neuropathy may contribute in production of gall-stones, possibly by damaging gall bladder draining and sphincter of Oddidysmotility [11]. Contraction and discharging of gall bladder is obviously moderated in liver cirrhotic, this opinion is advocated by Acalovschim et al 19 and Kao CH et al20, while Chung Pin Li et al8 and Pompili et al21 oppose it. As per the study of Elzouki et al7 viral hepatitis produce gall-stones in patients of Cirrhosis, on the other hand Fornari et al16 experienced that alcoholic Cirrhotic have it more commonly [12]. About fatty women during their years of fertility it is commented that these stones nourish rapidly whereas in this study it is observed similarly high in male cases, hence Elzouki et al7 presented the similar observations [13]. Most of the cases 23 / 31 bear single while only 8 / 31 bear more than one gall stone. In child C of Pugh's

classification, severity of Liver disease [22 and 23], is a menace aspect for these stones in cases with Cirrhotic and considered as to be another cause of backing this study as several gall stones are mostly common and as per the research of Conte D et (al6) and Elzouki et al7, that Biliary Litho genesis get increased through the extent of liver malfunction and can become a causative reason for presence of these stones in Cirrhosis [14]. Notably 70% of such cases were anti HCV reactive, 30% were HBsAg reactive, while 10% out of these had both viral markers. As per various researches, anti HCV reactivity range is unstable from 18% (24) 37.5% (25), 62.2% (26) and 65.5% (1) in Cirrhosis and 24.4% (1) positive in both. As per current learning this is only 10%, viral markers pattern change is reflected through it.

CONCLUSION:

Patients suffering from Chronic Liver Disease more commonly have Gall-Stones. When they are subjected to investigations people come to know about it incidentally as these do not affect the survival of most of the cases. This disease is found in both males and females. Cases suffering from Cirrhosis start out on complications during the most productive years of their life for diagnosis of this disease Ultrasonography is a good non-invasive tool.

REFERENCES:

1. Acalovschi, M., Gallstones in patients with liver cirrhosis: incidence, etiology, clinical and therapeutical aspects. *World Journal of Gastroenterology: WJG*, 2014. 20(23): p. 7277.
2. Li, X., et al., Liver cirrhosis: a risk factor for gallstone disease in chronic hepatitis C patients in China. *Medicine*, 2017. 96(26).
3. Tujios, S.R., et al., Transpapillary gallbladder stents can stabilize or improve decompensated cirrhosis in patients awaiting liver transplantation. *Journal of clinical gastroenterology*, 2015. 49(9): p. 771-777.
4. Aghdassi, A.A., et al., Analysis of lifestyle factors in patients with concomitant chronic pancreatitis and liver cirrhosis. *Pancreatology*, 2017. 17(5): p. 698-705.
5. Hussain, A., et al., Frequency of gallstones in patients with liver cirrhosis. *Journal of Ayub Medical College Abbottabad*, 2014. 26(3): p. 341-343.
6. Li, X., et al., Gallstones in Patients with Chronic Liver Diseases. *BioMed research international*, 2017. 2017.
7. Strömberg, J., et al., Cholecystectomy in patients with liver cirrhosis. *Gastroenterology research and practice*, 2015. 2015.

8. Shi, X., et al., Gallbladder perforation in a patient with alcoholic liver cirrhosis and asymptomatic gallstones: A case report. *Medicine*, 2018. 97(18): p. e0414.
9. Shirole, N.U., et al., Cirrhosis of liver is a risk factor for gallstone disease. *International Journal of Research in Medical Sciences*, 2017. 5(5): p. 2053-2056.
10. Zhang, F.-M., et al., Hepatitis C Virus Infection Is Positively Associated with Gallstones in Liver Cirrhosis. *Digestion*, 2016. 93(3): p. 221-228.
11. Li, X. and P. Gao, Hepatitis C Virus Infection Increases Risk of Gallstone Disease in Elderly Chinese Patients with Chronic Liver Disease. *Scientific reports*, 2018. 8(1): p. 4636.
12. Kassem, M.I. and E.M. Hassouna, Short- term outcome of total clipless laparoscopic cholecystectomy for complicated gallbladder stones in cirrhotic patients. *ANZ journal of surgery*, 2018. 88(3): p. E152-E156.
13. Zhang, J., et al., MELD scores and Child–Pugh classifications predict the outcomes of ERCP in cirrhotic patients with choledocholithiasis: a retrospective cohort study. *Medicine*, 2015. 94(3).
14. Haq, A., A. Shamim, and M. Ali, Prevalence of Gallstone Disease in Patients of Hepatitis C Virus Infection. *PAKISTAN JOURNAL OF MEDICAL & HEALTH SCIENCES*, 2017. 11(3): p. 1065-1067.