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Abstract

Background: The incidence of Cholelithiasis is definitely recognized through propelling ages, as gallbladder stones are unordinary in individuals more young then 30 years for the most part with the recurrence running from 10 to 20% of the aggregate population. It represents a major burden for healthiness global and are one of the most widely recognized issue presenting to emergency room. Ultrasound is perceived as the highest quality level for diagnosing gallstones.

Objectives: The present study was aims to establish the sonographic incidence of Cholelithiasis in the individual with positive family history.

Material and Method: The Cross sectional study was included 130 patients. This study was conducted at the Department of Radiology in Khyber Teaching Hospital Peshawar, Pakistan. The duration of study was from 15 July to 15 October 2019. Data was analysis by Statistical Software for Social Sciences "SPSS version 24".

Results: Overall 130 patients included in this study. Out of 130, female individuals was 85(65.4%) and male 45(34.6%). Epigastric pain was in all individuals 130(100%). Out of 130 patients, gallstones found in 76(58.4%) patients, in which males are 21(16.2%), females 55(42.3%) and the remaining 54(41.5%) patients had no stone. In 130 patients, 37(28.5%) had positive family history and 93(71.5%) negative family history.

Conclusion: It is suggested that all individuals who have epigastric pain should go through process of ultrasonography. The overall prevalence of gallstone disease was 28.5%. The occurrences of gallbladder stones were revealed several folds elevated in female while contrast with male.

Keywords: *Cholelithiasis, Family History, Epigastric Pain, Ultrasonography*

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INTRODUCTION

Gallbladder is a pear shaped hollow viscus located in the right upper quadrant, lodged on the visceral surface of the liver between segments IV and V, and connected to the hepatic duct through the cystic duct to form the common bile duct. The gallbladder is composed of the fundus, which usually projects beyond the inferior order of the liver: the body, and the neck. It is usually 7 to 10 cm long and 2.5 cm wide, and the wall measures less than 3 mm in thickness. The gallbladder serves as the deposit for bile produced in the liver, with an average volume of 30 to 50 mL[1]. Gallbladder stones disease is define as "occurrence of one or more than one stone in the gallbladder"[2]. Gallstones can occur anywhere within the biliary tree[3]. Ethnicity and family traits are seen as causal variable[4]. It can occur due to super concentration of bile, cholesterol precipitation and incapacitated of enterohaptic stream of bile acid[5]. The occurrence of gallbladder stones disease is absolutely acknowledged with propelling ages, as gallbladder stones are exceptional in individuals more young than 30 years for the most part with the recurrence running from 10-20% of the total population[6]. About 12% of the United State people or 30,000,000 Americans contain gallbladder stones. More than 750,000 cholecystectomies are performed each year. Age, sex, race, heftiness, diabetes and equality have all been distinguished as huge risk factors for the advancement of gallbladder stones. A lot of these individuals as well contain a family history of gallbladder stones but presingly thought about the connection among hereditary qualities and gallbladder stones illness in humans[7].

The prevalence of Cholelithiasis varies among different populations. Gallstones occur commonly in the Western world[8,9]. Westerners will in general have higher predominance than Asians. In non-Hispanic 16.6% and 8.6% white females and males in the United State correspondingly. In Italian female and male 16.6% to 18.4% and 6.7% to 9.4%[10]. British female and male 22.4%to 11.5%. Yet just 10.7% in China, 6.6% Singapore, 5% Taiwan and 3.2% in Japan individually[11,12]. The data from Pakistan has seen to be uncommon; anyway past assessment on southern Sindh zone of Pakistan has uncovered a careful frequency of 9.03%[13]. In Pakistan incidence is about 4% and 14% in men and women individually[14].

Stones are two types, Pigmented and Cholesterol stones[15]. Risk factors connected with gallbladder stones in the West consist of sexual characteristics (F > M), age fatness[16,17]. Several additional possible risk factors for the growth of gallbladder stones are sedentary way of life, elderly age group and family history of gallstones[9]. Gallbladder stones development is a multifactorial procedure including a large number of metabolic pathways[18].

It is claimed that females are multiple times more prone to this disease than males. A well-known reminder for retaining the risk factors corresponded with gallstones is woman, obese, fertile and forty[19]. In Pakistan late years has seen an extending pattern in the amount of gallbladder stones cases in Southern Sindh[14]. The identifiable evidence of the segments of gallbladder stones is essential as it gives data that could be valuable for specialists to discover the hidden reason for gallbladder stones individuals therapeutically, or surgically. Unfortunately, gallbladder stones course of action is heterogeneous and shifts inside and among the populace around the globe[20].

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METHODOLOGY

This cross sectional study was conducted at the Department of Radiology in Khyber Teaching Hospital Peshawar, Pakistan. The study was approved by Ethical Committee of "The University of Lahore". The study duration was from 15 July to 15 October 2019. Data was analysis by Statistical Software for Social Sciences "SPSS version 24".

Observation made on grey scale ultrasound machine. Scanning of gallstone was perform with Mindray DC70, frequency 2.5 to 3.5 MHz. All the patients were undergoing abdominal ultrasonography to detect the stone. The patient position was supine using sector or linear transducer. Changing the patient position was useful to identifying these stones. The sonography finding of gallstone was Hyperechoic foci with posterior ascetic shadowing. Gallbladder wall thickness was also important.

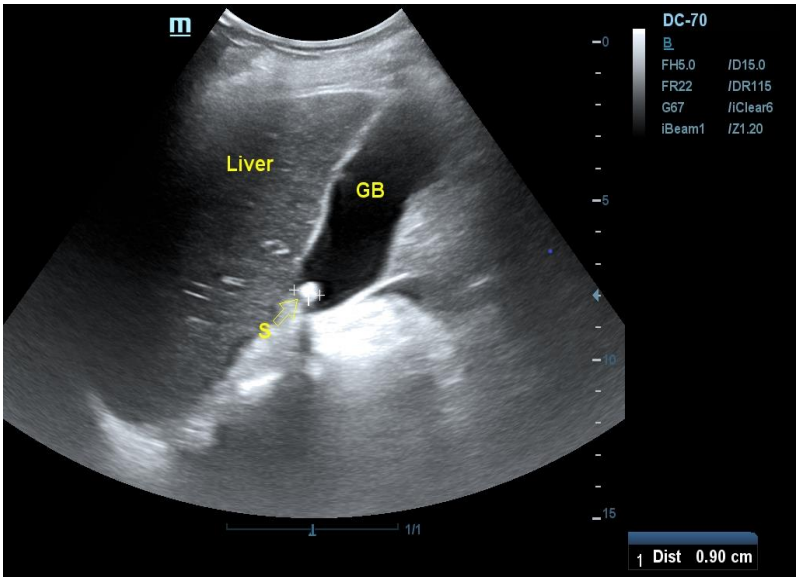

Figure 1: Neck of Gallbladder contain calculus measuring 0.9 cm

RESULTS

In table 1, total of 130(100.0%) patients in which male patients are 45(34.6%) and females are 85(65.4%).

Table 1: Gender wise distribution

	frequency	**percent**
Male	45	34.6
Female	85	65.4
Total	130	100.0

According to table 2, Epigastric Pain was there in the entire individuals 130.

Table 2: Epigastric Pain

	Frequency	Percent
Present	130	100.0

A total of 130 patients out of which gallstone was present in males were 21(16.2%), females were 55(42.3%) and the remaining 54(41.5%) patients have no stone in there gallbladder in 3.

Table 3: Gallstones in gender wise

	Frequency	Percent
Male	21	16.2
Female	55	42.3
Absent	54	41.5
Total	130	100.0

According to table 4, a total of 130 patients out of which 37(28.5%) patients were positive family history and the remaining 93(71.5%) patients were no family history.

Table 4: Family history wise distribution

	Frequency	Percent
Positive history	37	28.5
Negative history	93	71.5
Total	130	100.0

DISCUSSION

This study was conducted to establish the ultrasonography incidence of gallbladder stones in individual with positive family history. As per current examination the occurrence of gallstone disease was 28.5%. Incidence of gallbladder stones was two times higher in female. Result of our research is similar with the outcome of the study which was conduct in 2002 by Attila Nakeeb[7] et al, reason of his study was to known the heredity vs. atmosphere gallstones. The outcome of his study demonstrated that the suggestion study is major possibility of indicative gallbladder stones

disease was female's genders p < 003. On the way to the conclusion he reasoned that this information suggest that hereditary factor is 30 percent of indicative gallbladder stones disease. Our study also concludes that hereditary factor is accountable for gallstone disease. Outcome of our research shows that here is also extremely close connection among gallstone and family history 28.5%. Ultrasound quite often a respectable starting choice and are uncomplicated conditions, may be all that is necessary. So our study have the same opinion with the others study that separated from the affectability and particularity of ultrasound, it is non-obtrusive, promptly accessible, moveable and reasonably priced. As a result it is justified that utilize ultrasonography as 1st contour modality in the adults to rule elsewhere gallbladder stones. Our study revealed the significant association with gender**.** It was established that occurrence of gallstone disease was greater in women in comparison with men. This finding is predictable with the past Pakistani (Hafiz et al., 2013) study. The female gender are almost twice time more prone to gallstone mostly during fertile years.

RECOMMENDATION

It is essential, to have huge information of gallbladder anatomy, for a decent ultrasonography and ideal accomplishment in the assessment of gallstone. It is prescribed to present new challenging procedures and strategies to build the affectability with respect to ultrasonography. In routine sonographic examination, it was seen that adults with right hypogastric or epigastric pain, often have gallstones in the differential diagnosis. So it is required to establish the sonographic incidence of Cholelithiasis with positive family history.

CONCLUSION

It is a helpful symptomatic instrument for the evaluation of gallstones in the patients having epigastric pain. It is claimed that females are two times more prone to this disease than males. The overall prevalence of gallstone disease was 28.5%. Ultrasound is best modality for the detection of gallbladder stone disease.

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