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Original Research Article

# Clinical analysis on Gall Bladder Disease Cholecystitis and Cholelitheasis

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**Abstract:** Cholecystitis is a recurrent problem, a disease of hepato Biliary system. The risk factor, predispositioning for gall bladder disease includes obesity, DM, oestrogen and pregnancy, hemolytic disease and cirrohotic liver diseases. Apart from studying the epidemiology and demographic factors dietary habitats, clinical presentation diagnostic tools and management it also looks into the stone analysis and the culture of blood to formulate the antibiotic treatment proper. Acute cholecystitis occurs when bile becomes trapped in the gallbladder. This often happens because a gallstone blocks the cystic duct, the tube through which bile travels into and out of the gallbladder. When a stone blocks this duct, bile builds up, causing irritation and pressure in the gallbladder. This can lead to swelling and infection. To identify the risk factor of the gallstone disease more commonly epidemiological studies now use the ultrasonography inpatients with clinical evidence of pain in the abdomen with radiation , fever, and positive Murphys sign, following imaging ultrasonography evidences the gall baldder disease status and the other associated diseases. Asymptomatic gall stones Majority will not develop symptoms upto 80% have never experienced biliary pain or complications as acute cholecystitis, cholangitis or pancreatitis such asymptamatic gallstones develop 1.2% major complication. Gallbladder cancer is a notoriously rare though lethal malignancy with marked ethnic and geographical variations. The presenting symptoms are typically vague so that its diagnosis commonly occurs at an advanced stage. This late diagnosis plus the anatomic feature that the Gallbladder lacks a serosa culminates in a rather dismal prognosis.
**Keywords:** Gall Bladder Disease Cholecystitis and Cholelitheasis

## INTRODUCTION

GSD remains one of the major clinical problems leading to surgical intervention. The prevalence of cholecystitis secondary to stone has, cholelithiasis affecting almost 10% of the adult population and has been documented that presence of gallstone increases with age

An estimated 20% adults over 40yrs and 30% over 60 yrs of age have biliary colic [1]. During the reproductive age grp the Female to Male ratiois 4:1 with the sex descrepency narrowing in older population to nearequity [2]. In response to the revolutionary advances in the treatment of gall stone disease, the purpose of collective review of essential information ofthe following : Type of gallstone , Acute and Chronic cholecystitis and other complications of gall stones,. is essential.

Patients with a calculous cholecystitis may present with fever and sepsis alone, without history or physical examination findings consistent with acute cholecystitis [3]. Especially diabetics may present with vague symptoms and without many key historical and physical findings (eg, pain and fever), with localized tenderness the only presenting sign; may progress to complicated cholecystitis rapidly and without warning [4]. Inflammation and swelling of the gallbladder can reduce normal blood flow to areas of the gallbladder, which can lead to cell death due to inadequate oxygen. Risk factors for gallstones and cholecystitis are similar and include female sex, increasing age, pregnancy, oral contraceptives, obesity, diabetes mellitus, ethnicity rapid weight loss. Cholecystitis is diagnosed based on the characteristic symptoms of right upper abdominal pain, nausea, vomiting, and fever as well as laboratory testing showing an increased white blood count [5]. Abdominal ultrasound is typically also used in diagnosis [4]. Uncomplicated cholecystitis has an excellent prognosis; however, more than 25% of patients require surgery or develop complications. Delayed diagnosis of acute cholecystitis increases morbidity and mortality. Cholelithiasis and cholecystitis may present as a single episode or may recur on

multiple occasions.[6]

## MATERIALS AND METHODS

This study included 69 patients with abdominal pain who had completed a questionnaire detailing their demographic medical history and life style. . Gall bladder disease was ascertained by the said clinical parameters and categorized as acute and chronic cholecystitis. Ultrasonography was done in all pts to confirm the nature of the Gb disease and presence and absence of the stone. Laboratory investigation analyzed for Total leucocytes count and LFT .Gallbladder specimen was reviewed histological. And correlated with our clinical and ultrasonographic study the predictive probability of gall stone disease for male and the female pts were concluded by clinical, imaging and histological study.

## RESULTS

Gall bladder diseases secondary to gall stone is a significant health problem in societies affecting 10 to 15 % of the adult population. Sickle cell diseases is associated with pigment gall stones develops sickle cell crisis, infection carries a higher mortality rate at 1% and postoperative complication > 30% Symptomatic gall stone Since most gallstone are asymptomatic it is essential to define exactly which symptom are caused by gallstone true biliary colic pain and complication, nonspecific abdominal complaints inclusive of dyspepsia with accompapaniying features of nocturnal onset ,nausea vomiting, and radiating to the back Acute cholecystitis gall bladder disease Biliary pain results against an obstructed outlet .in coordination with GB contraction and sphincter of oddi relaxation Obesity, particularly abdominal or centripetal obesity, is a well established risk factor for gallstone disease, Obesity in the late teenage years carries the greatest risk, whereas sthinness protects against cholelithiasis (Females with obesity have an even increased risk of stones formation.

**Table-1: Age and Gender Distribution**

| Age | Male | | Female | |
|---|---|---|---|---|
| | No | % | No | % |
| 11 to 20 | 4 | 5.80 | 0 | 0 |
| 21 to 40 | 1 | 1.45 | 24 | 34.78 |
| 41 to 60 | 6 | 8.70 | 28 | 40.58 |
| >61 | 0 | 0 | 6 | 8.70 |
| Total | 11 | 15.94 | 58 | 84.06 |

A total of 69 patients were studied, and the following results recorded. Cholecystitis secondary to gallstones were more common in fourth and fifth decade, accounting for 81.21.% of all cases (58). The mean age of patients with cholecxystitis was 44.1 years with a range from 13 to 70 years . Of 69patients, 11 (15.94%)were males and the rest 58 (84.06%) females. This shows that cholelithiasis is predominant in the female population with a male-female ratio of 1:5 .Comparing the mean age with reference to gender, the mean age of females was 45.36 years and 36.54 years in males.

**Table-2A: Paritywise distribution**

| Multipara | | Primipara | | Nullipara | | ANC | |
|---|---|---|---|---|---|---|---|
| No | % | No | % | No | % | No | % |
| 54 | 93.10 | 1 | 1.72 | 1 | 1.72 | 1 | 1.72% |

**Table-2B: Multipara with Stone**

| Stones | | No Stones | |
|---|---|---|---|
| No | % | No | % |
| 39 | 77.22 | 15 | 27.78 |

Out of 69 cases 58 were females of which 54 pts were multipara the incidence of cholecystitis was one each in the primi and nullipara also we had one pt who was Anc 7$^{th}$ month. Fiftyfour calculous cholelicystitis and 15 (27.78% ) had acalculous cholecystitis.This may be as a result of estrogenic influences, which increases the expression of hepatic lipoprotein receptors and stimulates hepatic hydroxymethylglutaryl coenzyme A (HMG CoA) reductase activity. Thus, both cholesterol uptake and biosynthesis are increased The male:female ration was 1:4.8. Only four (8.7%) of these patients were obese. Thirty-two (69.6%) were multiparous. We are beginning to have an increase in gallbladder disease

probably as a result of changing dietary habits (increase in intake of calories and cholesterol/fats) of the population.

**Table-3A: Site of Pain**

| RHC | | Abdominal | | Epigastric region | | Non Specific | |
|---|---|---|---|---|---|---|---|
| No | % | No | % | No | % | No | % |
| 62 | 89.86 | 4 | 5.80 | 1 | 1.45 | 2 | |

**Table-3B: Pain Radiating**

| Radiating | | Non Radiating | |
|---|---|---|---|
| No | % | No | % |
| 30 | 43.48 | 39 | 56.52 |

In the present study 38 patients had severe abdominal pain in the rt hypochondrium with radiation in 30 pts. Other 7 patients had pain in the abdomen .epigastrium and around the umbilicus in the rest 39 pts the pain was not radiating

## DISCUSSION

Patients with symptoms of fever biliary pain and intact GB lacking ultrasound evidence of gall stones should be carefully evaluated to exclude other causes for their symptoms. Risk factors for Gallstone formation: Important risk factors have been identified as being associated with gallstones some features such as ethnicity genetics advancing age and female gender cannot be modified where as others (eg diet physical activity rapid weight loss and obesity , geography and particularly ethnicity play an enormous role in the prevalence of gallstone diseases and also the type of stones [7]. cholesterol predominates in western countries and brown Pigments in the bile ducts are more common in Asia..Intermediate prevalence rate in asian population and Blank American13.9%women and 5.3% men The lowest occur in sub saharian Black Africans {13.9%women and 5.3%men. The female gender during the fertile yrs women is twice as likely as men to form the stones and the gap narrows following menopause [8]. Currently the underlying mechanism of oral contraceptives , sex and parity, and estrogen replacement therapy are the risk factors for gallstone formation The sex hormones adversely influence the liver bile secretion ,and the gallbladder function [9]. Diet and total parental nutrition (TPN)Other than a high caloric intake that leads to obesity, any importance of dietary content is unclear and difficult to analyze. Diets specifically high in cholesterol, fatty acids, or legumes seem to increase the risk of chcarbohydrates and cholelithiasis [10]. Certainly, the shift to a more Western diet, high in refined Carbohydrates and fat (triglycerides) and low in fiber, best explains the profound increase in cholesterol gallstones amongst [11]. American Indians and in European countries following World War II.Socio economic status, however, may merely be an indirect marker for other risk factors like obesity and chronic medical conditions. Advanced cirrhosis is a well established risk factor for gallstones, is also associated with chronic hepatitis C viral infection and nonalcoholic fatty liver disease with an overall prevalence at 25% to 30%. This is likely related to altered pigment secretion, abnormal gallbladder motility and/or increased estrogen levels. ileal Crohn's disease, cystic fibrosis is associated with bile acid malabsorption due to its binding to undigested dietary nutrients[12]. Drugs like Octreotide Thiazide diuretics treatment may increase biliary cholesterol saturation. Statins inhibit HMGCoA reductase seems to prevent cholesterol gallstone disease by diminishing cholesterol synthesis in the liver and decreasing its secretion into bile [13].

## CONCLUSION

Cholecystitis is the most prevalent surgical condition affecting populations Rather than a single clinical entity, cholecystitis is a class of related disease states with different causes, degrees of severity, clinical courses, and management strategies From the present study, we conclude that the mean age of the patients was 43.56 years with a male-female ratio of 1:5. Mixed type of stone is more common than the cholesterol and pigmented and is more prevalent in obese patients on mixed diet than vegetarian. Multiple calculi were most frequently found in mixed type of stone while less in cholesterol. Pain flatulence and nausea/vomiting are the major clinical presentation of the gall stones . Appropriate care of the patient who has a diseased gallbladder requires a broad understanding of the acute, chronic, and acalculous cholecystitis syndromes,The circumstances in which cholecystitis appears to be associated with distinct clinical-pathological variants of the disease.. We are having an increase in gallbladder disease probably as a result of changing dietary habits (increase in intake of calories and cholesterol/fats) Diagnosis is most often confirmed using ultrasonography, for atypical cases or for those in which the diagnosis is uncertain. Higher studies can be opted .

### Limitations

There are several limitations to our study. Some relevant to this study include: accuracy, unobtainable texts and timeframe restrictions. In this study we could not use statistical techniques for

combining results of the eligible studies due to minimal no of patients enrolled.

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