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Cholilithiasis: A study on clinical presentation and management

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Abstract

Introduction: Cholelithiasis is a chronic recurrent disease of the hepatobiliary system. The impaired metabolism of cholesterol, bile acids and bilirubin are characterized by gallstone formation.

Materials & Methods: In the present study, apart from studying the epidemiology i.e., demographic factors, dietary habits, clinical presentation, diagnostic tools and management, it also looks at the stone analysis, bile culture and complications after surgery in rural population in central India.

Results: In this study, 100 cases of cholelithiasis who were admitted in hospital for three years. At present, available literature on cholelithiasis is reviewed and the results of the study are compared with those of other authors. The results are been tabulated in form of tables.

Conclusion: The highest age incidence of cholelithiasis was in the 5th and 6th decade with maximum incidence in the 5th decade. There was an increased incidence in females.

Keywords: Cholelithiasis, gallstones, cholecystectomy, laparoscopy

Introduction

Gall stones are commonly occurring surgical problem in developing and developed countries. Cholelithiasis is one of the most common health problems in adult life. The incidence of gall stones increases progressively with age. Approximately 1/3rd of the persons in their eight decade of life have biliary colic, at the same time occurrence of gall stones in children with haemolytic anemia is by no means rare.

Biliary colic develops about four times frequently in women than in men. About 50% of the patients are asymptomatic and remaining patients present as recurring biliary colic or acute cholecystitis secondary to choledocholithiasis or gall stone pancreatitis. Though there are vast number of investigations, only the non-invasive investigation like ultrasonography abdomen is mostly practiced.

Interest in the formation and management of gall stones disease dates back to ancient times. To study the epidemiology of gall stones is exciting and frustrating. Exciting because epidemiology holds key to aetiology, when we know exactly who gets the disease we are a long way to defining why they get it. Frustrating because accurate information on who gets gall stones is so hard to come by.

There is widespread impression that gall stones are increasing in frequency both in developed and developing countries. As research on the subject is continuing more and more interesting facts are brought to light each year.

Thus, though it is possible to say that we understand the subject of gall stones much better than say 100 years ago, much is there to be discovered.

Many studies were done to identify risk factor for biliary lithiasis in the west have focused on hypersaturation of cholesterol in bile in nucleation process a critical step in the genesis of bile stone. Thyroid disorder is a prevalent condition among adult population; however, it is frequently over looked. For decade, there has been a discussion, whether thyroid disorders could cause gallstone disease. Particularly, there are several explanations for a possible relation between hypothyroidism and gallstone disease; these explanations include the known link between thyroid failure and disturbances of lipid metabolism

Objectives of the study

1. To study the various modes of presentation of gall stones in surgical department

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2. To study the pattern in age, sex, economic status, diet, clinical signs, symptoms and distribution
3. To study the various modalities of treatment.

Inclusion criteria

The cases in this study includes patients with ultrasonologic evidence of gall stones.

Exclusion criteria

Patients without evidence of gall stones ultrasonologically will be excluded.

Methodology

Patients with above inclusion and exclusion criteria depending on the severity of symptoms and findings on ultrasonography they will be considered for treatment.

All the patients admitted with acute onset of pain and obstructive symptoms due to gall stones will be first subjected to conservative treatment in the form of intravenous fluids, nil by mouth, antibiotics and analgesics.

In those patients where medical line of treatment failed will be subjected to surgery.

Follow up.

All the patients will be followed post operatively until they are free from symptoms.

Duration of study: 3 years

Source of data

From the patients admitted in the surgical department of Hospital.

List of abbreviations

GB--Gall Bladder

CBD--Common Bile Duct

SO--Sphincter of Oddi

CCK--Cholecystokinin

USG--Ultrasonogram

CECT--Contrast Enhanced Computed Tomography

MRCP--Magnetic Resonance Cholangiopancreatography

ERCP--Endoscopic Retrograde Cholangiopancreatography

PTC--Percutaneous Transhepatic Cholangiography

TSH--Thyroid Stimulating Hormone

TH--Thyroid Hormones

TR--intranuclear Thyroid Receptors

LDL--Low Density Lipoproteins

HDL--High Density Lipoproteins

HIDA --Dimethyl Iminodiacetic Aci

Results and discussion

In this study, 100 cases of cholelithiasis who were admitted in Hospital during for 3years were studied. At present, available literature on cholelithiasis is reviewed and the results of the study are compared with those of other authors.

Age of Incidence

There is an increased incidence of cholelithiasis in the 5th and 6th decade with the peak in the 5th decade. In the study, the youngest patient was 17-year-old and the oldest patient was 70-year-old. Similar incidence is seen in the studies of Herman *et al.* (5th decade). Hanif series showed peak incidence in the 5th decade. In Western studies, the peak incidence is in the 5th and 6th decades. The rise in the peak age of incidence is due to change in the

dietary factor. Similar findings were noted in the studies of Ganey *et al.* and Moreaux *et al.*

Distribution of Cases by Sex

In the present study, 54 patients were female and 36 patients were male. The present study shows that gallstone disease is a common problem in female population. The female- to-male ratio is 3:2.

Battacharya's series showed 71.4% were female and 28.6% were male. Similar sex preponderance in favor of females was noted by Tamhankar, Ganey *et al.*, and Major Alok Sharma *et al.* series showed that 70% were male and 30% were female.

Conclusion

Evaluation of thyroid profile should be a part of general workup in patients with both cholelithiasis and choledocholithiasis especially in females above the age of 40yrs and patient should be treated with appropriate thyroid medications.

1. The highest age incidence of cholelithiasis was in the 5th and 6th decade with maximum incidence in the 5th decade. There was an increased incidence in females.
2. Pain was the most common symptom (present in 97.78% of the patients), nausea and vomiting were the second most common symptom presenting in 55.56% of patients, dyspepsia was present in 22.22% of patients, jaundice in 13.33% of patients, and 8.88% of patients had fever.
3. Tenderness in the right hypochondrium was the most common sign present in 96.67%, guarding was the next sign present in 31.11% of the patients and mass abdomen in 7.78% of the patients.
4. Ultrasonography is the investigation of choice in our hospital. All patients had gallstones, 24.44% of patients had solitary stone. 75.56% of patients had multiple stones, 14.44% of patients had bile duct stones, 80% had thickening of gallbladder, 12.22% had gallbladder distension, and 7.78% had gallbladder mass.
5. Histopathology revealed chronic cholecystitis in majority of the cases while bile culture revealed no growth in majority of cases in the present study.
6. About 48.88% of patients underwent laparoscopic cholecystectomy, 51.11% underwent open cholecystectomy. Laparoscopy to open conversion rate was found to be 4%. Right subcostal incision was the most common incision used in open cholecystectomy. 4 patients had intraoperative bile duct injury which was repaired immediately and the patients recovered.
7. The post-operative complication in the present study was 13.33%. Wound infection was the most common, 2 patients had post-operative bile leak which was managed conservatively and the patients improved.
8. Gallstones analysis showed mixed stone in 90% of the cases and cholesterol stones in 7.78% of the cases as the most common variety.
9. There was no mortality in the present study.

Complications

In the present study, 7 patients had wound infection. 3 patients had post-operative bile leak which was managed conservatively and patients recovered. 5 patients had bile duct injury which was repaired on the T-tube.

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