International Surgery Journal
Sathish Kumar B et al. Int Surg J. 2019 Jun;6(6):2164-2167
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20192386

Original Research Article

A study of clinical presentations and management of cholelithiasis

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Received: 28 March 2019
Accepted: 06 May 2019

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ABSTRACT

Background: Cholelithiasis or gallstones, is one of the most common and costly of all the gastrointestinal diseases. Gallstones are associated with high-calorie diets, type 2 diabetes mellitus, dyslipidemia, hyperinsulinism, obesity, and metabolic syndrome. The aim of the study was to analysis the incidence, clinical presentations, and management of cholelithiasis in tertiary care Hospital at Karimnagar, Telangana, India.
Methods: This study was a prospective study; total 50 patients were enrolled in this study. The study was conducted at Department of Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar from September 2016 to September 2017. The data were analyzed and evaluated for clinical profile, management options of cholelithiasis.
Results: The present study shows gallstones diseases are a common problem in female population. The female to male ratio is 3:2. Age, gender and incidence statistically there was no significant in this study.
Conclusions: Gallstones analysis showed mixed stone in 90% of the cases and cholesterol stones in 8% of the cases as the most common variety. The period of post-operative stay in our study was 7 days for open cholecystectomy and 3 days for laparoscopic cholecystectomy in majority of the cases.

Keywords: Cholelithiasis, Gall bladder stone, Outcomes, Ultrasound

INTRODUCTION

Cholelithiasis or gallstones, is one of the most common and costly of all the gastrointestinal diseases.[1] Gallstones are associated with high-calorie diets, type 2 diabetes mellitus, dyslipidemia, hyperinsulinism, obesity, and metabolic syndrome.[2] The prevalence of gallbladder stone varies widely in different parts of the world. In India it is estimated to be around 4%. An epidemiological study restricted to rail road workers showed that north Indians have 7 times higher occurrence of gall stone as compared with south Indians.[2]

The aim of our study was to analysis the incidence, clinical presentations, management and outcomes of cholelithiasis in tertiary care hospital at Karimnagar.

METHODS

Total 50 patients with cholelithiasis were included in this study. This study was a prospective study conducted at Department of General Surgery, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar during the period of September 2015 to September 2017.

All patients with echographic evidence of cholelithiasis with age range 11-60 years were enrolled in the present study.

Inclusion criteria

All patients with symptoms and evidence of presence of gallstones.

Exclusion criteria

- Patients with pre-operative investigations showing CBO stones.
- Patients with intra-operative suspicion of having CBD stones (palpable CBD stones).

A detailed history of patient's age, sex, religion, socio economic status, nature of the symptoms, duration of the symptoms, past history of similar complaints, diet history, history of OCP. Alcohol ingestion, diabetes was obtained.

All patients' undergone detailed examination, all patients had haemogram, ECG, LFT, blood sugar, blood urea, serum creatinine, urine analysis, blood group, chest x-ray, ultrasound scan of the abdomen. Relevant investigations were taken for patients with associated medical illness and their control was achieved.

In this study, all patients underwent open cholecystectomy. For each patient, type of treatment and outcome were evaluated. Patients who undergone lap cholecystectomy were discharged on the third day and open cholecystectomy were discharged on the 7th day and without complications. Patients were advised regarding diet, rest and to visit the surgical OPD for regular follow up.

We recorded clinical, laboratory and echographic features of all patients, type of treatment and outcome. In the follow up period attention were given to subject to improvement of the patients with regard to symptoms as well as examination of the operative scar.

The protocol of this study was approved by the Institute ethics committee, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar.

Statistical Analysis

All data was entered in the Microsoft excel sheet and SPSS software version were analyzed using in this study.

RESULTS

During the study period, total 50 gall stone cases that were analyzed prospectively duration of 2 years. An informed consent form was obtained from all the cases. There is an increased incidence of cholelithiasis in the 5th and 6th decade with the peak in the 5th decade. In my study the youngest patient was 15 years old and the oldest patient is 72 years old.

Table 1 shows age, gender and incidence statistically there was no significant in this study. The present study shows gallstones diseases are a common problem in female population. The female to male ratio is 3:2.

Table 1: Age, sex and incidence.

	No. of cases	Percentage (%)
Age (in years)		
11-20	1	2.0
21-30	5	10
31-40	9	18.0
41-50	17	34.0
51-60	11	22.0
>60	7	14.0
Gender		
Male	20	40.0
Female	30	60.0

Table 2: Presenting symptoms.

	No of cases	Percentage (%)
Symptoms		
Pain	49	98
Nausea/vomiting	28	56
Dyspepsia	12	24
Fever	4	8
Signs		
Tenderness	48	96
Guarding	15	30
Mass	4	8

Table 2 shows in present study pain was the commonest symptom presenting in 49 patients, 28 patients had nausea and vomiting, dyspepsia was present in 12 patients and fever was present in 6 patients.

Table 3 shows that 43 patients had stones in the gall bladder only. 24 % (12 patients) had solitary stones in gall bladder, 76% (38 patients) had multiple stones in gall bladder. Thickening of gall bladder was present in 80% (40 patients) of the cases. Dilatation of the common bile duct more than 1.5 cm was present in 6 patients. Mucocele of the gall bladder was present in 4 cases.

Table 3: Ultrasound findings.

Findings of USG	No. of patients	Percentage (%)
Stones in gall bladder	50	100
Solitary stone	12	24
Multiple stones	38	76
Bile duct stones	7	14
Thickening gall bladder	40	80
Dilated bile duct	6	12
Mass	4	8

Table 4: Type of operation.

Type of operation	No. of patients	Percentage (%)
Laparoscopic cholecystectomy	24	48
Open Cholecystectomy	26	52

Table 5: Postoperative complications.

Postoperative complications	Open cholecystectomy	Lap cholecysectomy	Total
Wound infection	2	1	3
Haemorrhage	0	0	0
Retain stone	0	0	0
Bile leak	1	0	1
Prolong ileus	0	0	0

Table 4 shows 26 patients undergone open cholecystectomy and 24 patients undergone lap cholecystectomy. The conversion rate from lap to open cholecystectomy was 4%.

Table 5 shows, 3 patients had wound infection. 1 patient had postoperative bile leak which was managed conservatively and patient recovered.

DISCUSSION

The frequency of gallstones increases with age, escalating markedly after age 40 to become 4 to 10 times more likely in older individuals. The stone type also changes with age, initially being composed predominantly of cholesterol (corresponding to an increased cholesterol secretion into and saturation of bile) but in late life tending to be black pigment stones. Further symptoms and complications increase with age, leading to more frequent cholecystectomies.[3] According to study in epidemiology of gall bladder disease by Laura et al.[9]

Biliary tract disease is more common in women than men with a ratio of 4.2:1. Similar findings were seen in King Khalid University Hospital, Riyadh. A report from Belgium showed a male-female ratio of 3:1.[8]

The female gender has a most compelling association with gallstone disease, especially during the fertile years. Women are almost twice as likely as men to form stones; the gap narrows following menopause after which men begin to catch up.[2]

The underlying mechanism is female sex hormones; parity, oral contraceptive use and estrogen replacement therapy are established risk factors for cholesterol gallstone formation.[5-6]

Female sex hormones adversely influence hepatic bile secretion and gallbladder function. Estrogens increase cholesterol secretion and diminish bile salt secretion, while progestin act by reducing bile salt secretion and impairing gallbladder emptying leading to stasis. A new 4th generation progestin, drospirenone, used in some oral contraceptives may further heighten the risk of gallstone disease.

In our study showed that pain was the predominant symptoms in the present study with 98%. The commonest site of pain was in the right hypochondrium and the next commonest site was epigastrium.

The present study shows 5 patients complained of pain radiating to the back. 48 patients had chronic recurring pain, 2 patients had acute onset of pain, 13 patients had dull aching pain and 33 patients had colicky pain. Similar presentations were noted in the series of Goswitz et al.[7]

Ultrasound scanning was done in all patients, all the cases revealed stone in the gall bladder. 43 patients had stones in the gall bladder only. 24 % (12 patients) had solitary stones in gall bladder, 76% (38 patients) had multiple stones in gall bladder.

Thickening of gall bladder was present in 80% (40 patients) of the cases. Dilatation of the common bile duct more than 1.5 cm was present in 6 patients. Mucocele of the gall bladder was present in 4 cases.

Bansal et al, study shows ultrasound scanning revealed gall bladder calculus only in 99 patients and 5 patients had stones both in gallbladder and common bile duct. Solitary calculi were found in 38 patients on sonography but on intra-operative correlation three of these patients were found to have multiple calculi. Thus, the USG percentage of accuracy of solitary calculus is 92.1%.[8]

In the present study, 90 % had mixed stones and 8 % had cholesterol stone, 2% had pigment stone. In our study showed the pigment stone is encountered in patient with sickle cell crises.

The majority of gallstones in developed countries consist predominantly of cholesterol (>85%), whereas the remainder constitutes black pigment stones (i.e., composed of calcium bilirubinate). East Asia where brown pigment stones are located in bile ducts, predominately associated with parasitic infestation according to study in epidemiology of gall bladder disease by Stinton et al.[9]

In our study 50 patients had laparoscopic cholecystectomy and 43 patients underwent open Laparoscopic cholecystectomy is a feasible and safe procedure even in most cases of acute cholecystitis enable it the conversion rate may be as high as 32% according to study in Maharastra by Bansal et al. The risk of bile duct injuries is higher and the operation time longer than in elective laparoscopic cholecystectomy.

In the present study wound infection was the most common complication, which was 6%. 1 patient had bile leakage through the drain tube, the patient was managed conservatively and the patient improved. In this case drain was removed on the 7th day.

Follow up

There was no problem in the follow up period in any patient. Nothing more can be stated because of limited period of follow up of patients.

CONCLUSION

Our study concluded that 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 female. Gallstones analysis showed mixed stone in 90% of the cases and cholesterol stones in 8% of the cases as the most common variety. The period of post-operative stay in our study was 7 days for open cholecystectomy and 3 days for laparoscopic cholecystectomy in majority of the cases. There was no mortality in the present study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee of Chalmeda AnandRao Institute of Medical Sciences, Karimnagar, Telangana, India

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Cite this article as: Sathish Kumar B, Reddy V, Reddy SV, Ram Mohan C, Koneru J. A study of clinical presentations and management of cholelithiasis. Int Surg J 2019;6:2164-7.