

Original Research Article

Surgical management of gall bladder stones at tertiary care institute of Bhuj, Kutch, Gujarat

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ABSTRACT

Background: Gallstones are the major cause of morbidity and mortality throughout the world. With at least 10 % of the adults have gallstones with a recent rise in the incidence due to change in the dietary factors. This study intends to know its various modes of presentation, treatment, and outcome.

Methods: Fifty patients with symptoms and signs of cholelithiasis were included in the study, clinical profile, investigation, treatments, outcomes were analyzed.

Results: The highest age incidence of cholelithiasis was in the 5th decade, more common in females. Pain abdomen was the most common symptom. Ultrasonography showed gallbladder stones in all patients and 52% of patients undergone open cholecystectomy, 48% of patients undergone laparoscopic cholecystectomy. The conversion rate of lap to open cholecystectomy was 4%. The operating room time and the length of post operative stay were 65 min and 7 days in open cholecystectomy and 115 min and 3 days in lap cholecystectomy.

Conclusions: The result showed cholelithiasis was more common in females, 5th decade, presented most commonly with pain abdomen. Ultrasonography was the most common investigation. Laparoscopic cholecystectomy reduces the number of hospital days, pain disability.

Keywords: Cholecystectomy, Cholelithiasis, Ultrasonography

INTRODUCTION

The gallbladder is a pear-shaped organ that rests beneath the right side of the liver. Its main purpose is to collect and concentrate a digestive liquid (bile) produced by the liver. Bile is released from the gallbladder after eating, aiding digestion. Bile travels through narrow tubular channels (bile ducts) into the small intestine. Removal of the gallbladder is not associated with any impairment of digestion in most people.^{1,2}

Gallbladder removal is one of the most commonly performed surgical procedures. Gallbladder removal surgery is usually performed with minimally invasive

techniques and the medical name for this procedure is laparoscopic cholecystectomy or laparoscopic gallbladder removal.^{3,4}

Gallstones are hardened deposits of digestive fluid that can form in your gallbladder. Gallbladder is a small, pear-shaped organ on the right side of your abdomen, just beneath your liver. The gallbladder holds a digestive fluid called bile that's released into your small intestine.⁵

Gallstones range in size from as small as a grain of sand to as large as a golf ball. Some people develop just one gallstone, while others develop many gallstones at the same time.⁶

Diagnosis of gall stone is by proper history and physical examination and combining it with appropriate investigation which varies from surgeon to surgeon and hospital to hospital and country to country.⁷ Changing incidence in India is mainly attributed to westernization and availability of investigation that is ultrasound to urban as well as rural area and also because of increase affordability due to change in the socio-economic structure and the cost of investigations.⁸

Because of increase incidence of gall stones and its variable presentations in India as well as in the west, there is a great need for a study which can provide the information regarding the prevalence of the disease, various clinical presentation and management, outcomes of the cholelithiasis.

METHODS

About 100 consecutive cases were admitted, examined, investigated and operated from May 2016 to June 2018 at territory care institute of Bhuj, Kutch, Gujarat. An unrestricted materials and methods are gathered. Detailed history of all the 100 cases was taken according to the proforma. The ethical clearance certificate was obtained from the institute ethical committee.

Information regarding the age, 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 and speciality consultations were taken for patients with associated medical illness and their control was achieved. Risk and complications of the condition as well as surgery has been explained to the patients, concerned was taken.

Preoperative antibiotics were given. After opening the abdomen the pathological features and anatomical variations were noted, bile obtained from the gallbladder with a syringe and sent for culture sensitivity. Based on clinical investigation and operative criteria, exploration of the CBD was done. In this study sum of the patients undergone open cholecystectomy and some of the patients undergone lap cholecystectomy because of the reasons like previous operation, obese patient and affordability. A sub hepatic tube drain was used in patients who undergone open cholecystectomy and connected to urosac bag. The abdominal wound was closed in layers. The gallstones were sent for chemical analysis and the gallbladder for histopathological examination.

All patients received antibiotics and routine post operative care. Patient was properly examined in the post operative period to note the development in any

complication. Suitable treatment was given according to the need. Antibiotics were given and subsequently changed according to the bile culture and sensitivity report. Patients who undergone lap cholecystectomy were discharged on the third day and open cholecystectomy were discharged on the 7th day. Unless any complications. Patients were advised regarding diet, rest and to visit the surgical OPD for regular follow up. 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.

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of SPSS version 15 (SPSS Inc., Chicago, Illinois, USA).

Descriptive statistics included computation of percentages, means and standard deviations. For all tests, confidence level and level of significance were set at 95% and 5% respectively.

RESULTS

This study includes a total of 100 cases that were studied prospectively over a period of 2 year, that were treated as a inpatients. In terms of age of the patients there is an increased incidence of cholelithiasis in the 5th and 6th decade with the peak in the 5th decade. In our study the youngest patient was 25 years old and the oldest patient is 65 years old.

Table 1: Age wise distribution.

Age group (in years)	No. of cases
11-20	2
21-30	10
31-40	18
41-50	34
51-65	26
Total	100

In the present study 60 patients were female and 40 patients were male. The present study shows gallstones diseases are a common problem in female population. The female to male ratio is 3:2. Ultrasound scanning of the abdomen was done in all patients. 86 patients had stone in gallbladder, 60 patients had thickening of Gall bladder. In the present study 50 patients undergo laparoscopic cholecystectomy and 50 patients undergone open cholecystectomy.

In the present study 6 patients had wound infection. 2 patients had post operative bile leak which was managed conservatively and patient recovered. six patients had bile duct injury which was repaired on the T-tube.

Postoperative length of stay was 8 days for open cholecystectomy and 4 days for lap cholecystectomy.

Table 2: Sex wise distribution.

Sex	No. of cases
Male	40
Female	60
Total	100

Table 3: Type of operation.

Type of operation	No. of cases
Laposcopic cholecystectomy	50
Open cholecystectomy	50
Total	100

In the present study gallstones analysis was done in all patients. 90 patients had mixed type of stone, 8 patients had cholesterol stone and 2 patients had pigment stone.

DISCUSSION

In this study the results of our study are compared with those of well-known authors. After a detailed history, clinical investigations and available treatment following observations were noted.

In this study, cases fall between 16 and 65 years. There is an increased incidence in the 5th and 6th decade with the maximum incidence in the 5th decade. Similar incidence is seen in the studies of Herman et al. (5th decade). Hanif series showed peak incidence in 5th decade. In western studies the peak incidence is in the 5th and 6th decades.^{9,10}

In the present study 60 out of 100 cases were female while the rest 40 were male. Battacharya series showed 71.4% were female, 28.6% were male.

Pain was the predominant symptoms in the present study with 98%. The commonest site of pain was in the Rt. Hypochondrium, and the next commonest site was Epigastria. Similar presentations 74 were noted in the series of Sharma, Ganey series, Goswitz et al series. 115 56% (28 patients) of cases in the present series had nausea/vomiting. Patients vomiting were spontaneous, occurred mostly during the attack of pain.

In the present study 90% had mixed stones and 8% had cholesterol stone, 2% had pigment stone, which is similar to the studies of Mathur et al. Postoperative treatment all the patients were given IV fluids, Nasogastric aspiration was done, and antibiotics and analgesics were given. Drainage tube was removed between 3 and 5 days based upon the drainage. In the present study wound infection

was the most common complication, which was 6%. The wound infection rate in the study of Saxena et al. was 6.3%. One 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.

CONCLUSION

The conversion rate from laparoscopic cholecystectomy to open cholecystectomy was 4%. Subcostal incision was the most common incision used for open cholecystectomy and next being the right paramedic. Laparoscopic cholecystectomy reduced the number of stay in the hospital, pain and disability as compared to open cholecystectomy. The commonest type of the stone was mixed stone.

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