

CLINICAL MANIFESTATION OF PATIENTS WITH GALLSTONES

Dr. Anam Ghaffar*¹, Dr. Muhammad Baber Shehzad², Dr. Saad Sharif³

Pakistan.

*Corresponding Author: Dr. Anam Ghaffar
Pakistan.
DOI: <https://doi.org/10.17605/OSF.IO/Y9JNH>

Article Received on 20/07/2019

Article Revised on 10/08/2019

Article Accepted on 01/09/2019

ABSTRACT

Background: Gallstone is a major health problem worldwide. Cholelithiasis prevalence in Pakistan is about 15 to 20 %. Old age, female, obesity, fatty food and diabetes mellitus are the common risk factors for gallstone formation. **Objective:** To evaluate the clinical profile of patients with cholelithiasis. **Methodology:** It is a cross-sectional study done at Mayo Hospital Lahore from August 2017 to October 2017. We enrolled 75 patients in the study of age more than 20 years of age diagnosed as cholelithiasis to study their clinical profile. All diagnosed patients of gallstones through ultrasound were admitted in the ward. Clinical presentation like signs, symptoms and preoperative ultrasound findings of all patients were noted on a proforma. **Results:** A Total 75 were patients with history of admitted Cholelithiasis were enrolled in the study after taking informed consent. The mean age of patient was 45.5 ± 6.48 years in a range from 21 to 70 years. Female preponderance was found with 54 (72%) patients and male to female ratio was 1:2.5. Majority of the patients (32%) were in age group 41-50 years. The clinical features observed in patients were fever in 24 (32%), nausea and vomiting in 34 (45%), jaundice in 9 (18%) and dyspepsia in 20 (26%). Abdominal pain (right hypochondrium or epigastric region) was the most common complaint i.e. 69 (92%). The ultrasound findings among patients were single stone 23 (30.6), multiple stones 52 (69.3%), stone impacted in bile duct 9 (12%), thickening of gallbladder 17 (22.66%), Empyema 5 (6.6%) and Mucocele 10 (13.3%). Forty-nine (65.3%) of patients managed by laparoscopic cholecystectomy and 15 (20%) by open cholecystectomy, due to intra-operative complications 6 (8%) laparoscopic surgeries were converted to open cholecystectomy. Out of 75 patients, 5 were managed conservatively. Mixed type gallstones were most common (57%) on biochemistry. **Conclusion:** We concluded that the incidence of gallstones is very high after forty year of age with female preponderance. The most common presenting complaint was pain and tenderness at right hypochondrium. Ultrasound proved to be best screening test for cholelithiasis.

KEYWORDS: Gallstones, cholelithiasis and cholecystectomy.

INTRODUCTION

Gall stone disease can be either symptomatic or asymptomatic. The composition of Gall stones contains bile acids, cholesterol and pigmented materials.^[1] The prevalence of gallbladder stone varies widely in different parts of the world.^[2] It is a major health problem within the world. Its Prevalence Pakistan is around 15 to 20 %.^[3-4] The prevalence in western countries are 19%, Ireland 6% & Sweden 40%.^[5-6] In Australia, the prevalence ranges similar to Pakistan i.e. 15% to 25% while in Africa it is less than 1%.^[2] Recognized risk factors for gallstones proven by different studies are female, age above 40, fatty (obesity) and inactivity. Some other risk factors are hyperlipidemia and Diabetes are associated with gallstone disease.^[7] Patients usually presents with pain in Right upper quadrant or Epigastric area, which may radiates to the shoulder or back. The pain is usually dull and constant, but sometimes it may be colicky and episodic in nature. Other symptoms include dyspepsia, nausea, flatulence, food intolerance

particularly to fats, and some alteration in bowel frequency and consistency. The diagnosis of cholelithiasis can be made by complete relevant history & specific physical examination & along ultrasound findings. Despite Cholelithiasis needs surgical intervention i.e. cholecystectomy, but early identification of risk factors could help in making preventive or therapeutic strategies.^[8] Due to increase in the prevalence of cholelithiasis & its different spectrum in Pakistan, there is a need to perform research which would help in providing information related to the course of disease, prevalence, treatment plans, and outcome of patient.

PATIENTS AND METHODS

It is a cross-sectional study done at Nishtar Hospital Multan from August 2017 to October 2017. We enrolled 75 patients in the study of age more than 20 years of age diagnosed as cholelithiasis to study their clinical profile.

Inclusion criteria: Patients of age above 20 years with either gender with gall stones, had fitness for general anesthesia and consented for the study.

Exclusion criteria: We excluded those patients who were unfit for general anesthesia, pregnant ladies, having suspicion of carcinoma gall bladder, acute pancreatitis, obstructive jaundice and acute cholecystitis.

All diagnosed patients of gallstones through ultrasound were admitted in ward. Clinical presentation like signs, symptoms and preoperative ultrasound findings of all patients were noted on a performa. Nature of operation (Cholecystectomy), risks and benefits were described to the patient, written consent was taken and the pre-operative preparations were also initialized. During surgery the anatomical variations were observed. Some of the individuals underwent for open cholecystectomy and some laparoscopic cholecystectomy depends on clinical circumstances. The post-operative care was provided according to the protocols. Individuals underwent laparoscopic cholecystectomy were discharged on 2nd day of surgery and open cholecystectomy were discharged on 3rd or 4th post-operative day, unless they developed any complication. Patients were advised regarding diet, rest and to visit the surgical OPD for regular follow up.

RESULTS

A Total 75 were patients with history of admitted Cholelithiasis were enrolled in the study after taking informed consent. The mean age of patient was 45.5 ± 6.48 years in a range from 21 to 70 years. Female preponderance was found with 54 (72%) patients and male to female ratio was 1:2.5. Majority of the patients (32%) were in age group 41-50 years. The clinical features observed in patients were fever in 24 (32%), nausea and vomiting in 34 (45%), jaundice in 9 (18%) and dyspepsia in 20 (26%). Abdominal pain (right hypochondrium or epigastric region) was the most common complaint i.e. 69 (92%). The ultrasound findings among patients were single stone 23 (30.6%), multiple stones 52 (69.3%), stone impacted in bile duct 9 (12%), thickening of gallbladder 17 (22.66%), Empyema 5 (6.6%) and Mucocele 10 (13.3%). Forty-nine (65.3%) of patients managed by laparoscopic cholecystectomy and 15 (20%) by open cholecystectomy, due to intra-operative complications 6 (8%) laparoscopic surgeries were converted to open cholecystectomy. Out of 75 patients, 5 were managed conservatively. Mixed type gallstones were most common (57%) on biochemistry.

Table 1: Age distribution of patients. n=75

Age (yrs.)	Frequency	Percentage
21-30	7	9.33%
31-40	12	16%
41-50	24	32%
51-60	15	20%
60-70	17	22.66%

Table 2: Gender distribution. n=75

Gender	Frequency	Percentage
Male	21	28%
Female	54	72%

Table 3: Clinical presentation. n=75

Clinical presentation	Frequency	Percentage
Abdominal Pain	69	92
Nausea/vomiting	34	45
Fever	24	32
Jaundice	9	12
Dyspepsia	20	26
Pale stool	8	10

Table 4: Ultrasound findings. n=75

Ultrasound findings:	Frequency	Percentage
Single stone	23	30.66
Multiple stone	52	69.33
Stone impacted in bile duct	9	12
Thickening of gallbladder	17	22.66
Mucocele	10	13.3
Empyema	5	6.6
Contracted gallbladder	8	10.6

Table 5: type of surgical intervention. n=75

Intervention	Frequency	Percentage
Laparoscopic cholecystectomy	49	65.3
Open cholecystectomy	15	20
Laparoscopic converted into open cholecystectomy	6	8
Managed conservatively	5	6.66

Table 6: Type of stone. n=70

Type of stone	Frequency	Percentage
Cholesterol stone	19	27.14
Mixed	40	57.14
Pigmented	11	15.71

DISCUSSION

Gallstones were first time described by Lange bunch in late 19th century.^[1] It is one of the most expensive diseases in Medical field, having a great economic burden on developing countries. Worldwide prevalence of cholelithiasis is extremely high especially in developed countries, however developing countries like Pakistan is presently facing rapidly increasing burden of such disease due to the over-consumption of fast food.^[9,10] Gallstones disease usually occurs in advancing age, as it is unusual in population younger than 30 years of age.^[11] In our study, mean age was 45.5 ± 6.48 years ranges from 20 to 70 years, this is similar with a study done by Channa et al,^[12] reported mean age \pm SD was 45.95 ± 10.253 . Majority of patients were observed in 4th and 5th decade in present study, which is suggestive

of early occurrence of gallstone disease in Pakistani population that is consistent with study done by Bhatti in Lahore and but Veerbhadrappa in Madhya Pradesh found an increased incidence in 5th and 6th decade in India.^[13-14] Similar trend is also reported by Njeze in his meta-analysis.^[15] In present study, male to female ratio is 1:2.5 with 28% male and 72% female which is consistent with the former studies.^[16] Aslam et al^[17] has reported almost similar ratio of males (26.4%). In contrary the literature has reported female to male ratio is 4:1.^[13] Female is the single most important non-modifiable cause of gallstones. Studies shows that in all populations, regardless of overall gallstone prevalence, female are almost double at risk of developing gallstones during their fertile years but this preponderance become less during postmenopausal period i.e. with increasing age this gender difference gets narrow.^[15,18] Fertile and multiparous women are affected more commonly than the non-fertile women. In our study patient underwent laparoscopic and open cholecystectomy were 65.3% and 20% respectively. Some patients (8%) undergone laparoscopic operation but due to intra-operative complications they ultimately end up for open cholecystectomy. Ultrasound revealed 30.6% of patients with solitary stones and 69.3% with multiple stones. These findings are almost similar to study by Muller MF, et al.^[19] Aslam et al.^[17] reported that 84.5% patient had multiple stones while 15.4% had single stones. Jalali SA et al.^[20] reporting the incidence of multiple stones was higher than the single stones The CBD calculus in present study was 12% which was consistent with the literature.^[21] Pain in abdomen is the most common presentation of cholelithiasis. In the present study patients (92%) had pain abdomen mainly in right hypochondrium and epigastric region. This finding is well documented in the literature.^[22] Dyspepsia was seen in 26% patients in the present study which was contrary to the finding of Lokesh et al.^[23] In the present study jaundice was seen in 12% and fever was seen in 32% which was more than that seen in the literature this difference may be due to small sample size of our study.^[14,21] There are many other well documented risk factors that are were not discussed in our research i.e. increase intake of refined carbohydrates, fatty food and reduced fiber content is a potential risk factor for gallstones formation. Calcium, Vitamin C and Coffee consumption seems to be inversely associated with gallstone pathogenesis as reported by different studies.^[15,24]

LIMITATION OF STUDY

This is a small scale and single center study, which needs further multi-center large scale studies.

CONCLUSION

We concluded that the incidence of gallstones is very high after forty year of age with female preponderance. The most common presenting complain was pain and tenderness at right hypochondrium. Ultrasound proved to

be best screening test for cholelithiasis. We found that the commonest type of stones were mixed stones. To reduced rate of complications and hospital stay laparoscopic cholecystectomy is beneficial.

REFERENCES

1. Najee GE. Gallstones. Niger J Surg. 2013 Jude; 19(2): 49–55.
2. Browning JD, Horton JD. Gallstone disease and its complications. Semen Gastrointestinal Dis., 2003 Oct; 14(4): 165-77.
3. Diehl AK. Symptoms of gallstone disease. Bailleurs Clan Gastroenterology, 1992, Nov; 6(4): 635-57.
4. Lee JY, Keane MG, Pereira S. Diagnosis and treatment of gallstone disease. Practitioner, 2015 Jun; 259(1783): 15-9, 2.
5. Sanders G. Gallstones. BMJ., 2007 Aug 11; 335(7614): 295–299.
6. Shaffer EA. Gallstone disease: Epidemiology of gallbladder stone disease. Best Pract Res Clin Gastroenterology, 2006; 20(6): 981-96.
7. Lambert F, Gurus Amy K, KO CW. Gallstones. Nat Rev Dis Primers, 2016 Apr 28; 2: 16024.
8. Nakeeb A, Comuzzie AG, Martin L, et al. Gallstones: genetics versus environment. Ann Surg, 2002 Jun; 235(6): 842–849.
9. Chen CY, Lu CL, Huang YS, Tam TN, Chao Y, Chang FY, et al. Age is one of the risk factors in developing gallstone disease in Taiwan. Age Ageing, 1998; 27(4): 437-41.
10. Novice G. Gender and gallstone disease. Wien Med Wochenschr, 2006 Oct; 156(19-20): 527-33.
11. Panpimanmas S, Manmee C: Risk factors for gallstone disease in thai population. J Epidemiol, 2009; 19(3): 116–121.
12. Chua CH, Tang CN, Siu WT, Ha JP, Li MK. Laparoscopic cholecystectomy versus open cholecystectomy in elderly patients with acute cholecystitis: retrospective study. Hong Kong Med J., 2002 Dec; 8(6): 394-9.
13. Bhatti A, Waqar A, Zia S, Hussain N, Zulfiqar T. A cross sectional study on the risk factors of gallbladder stone. Int J Res Med Sci, 2016; 4(11): 5041–6.
14. VP S, Tank P, Singh A, Goel S, Nathwani P. A study of gall stone disease from a tertiary care center of Madhya Pradesh, India. Int Surg J., 2017; 4(2): 728.
15. Shaffer EA. Epidemiology and risk factors for gallstone disease: has the paradigm changed in the 21st century? Curr Gastroenterol Rep., 2005; 7(2): 132–40.
16. Muller MF, Sterling MK, Wingman A. Radiologic and ultrasound detection of gallstones. There Much, 1993 Aug; 50(8): 547-52.
17. Grande M, Torqued A, Farina AM. Wound infection after cholecystectomy. Correlation between bacteria in bile and wound infection after operation on the gallbladder for acute and chronic gallstone disease. Ear J Surg, 1992 Feb; 158(2): 109-12.

18. Katsika D, Grjibovski A, Einarsson C, Lammert F, Lichtenstein P, Marschall HU. Genetic and environmental influences on symptomatic gallstone disease: a Swedish study of 43,141 twin pairs. *Hepatology*, 2005; 41(5): 1138–43.
19. Nano-Guzman CM, Marin-Contreras ME, Figueroa-Sanchez M, et al. Gallstone ileus, clinical presentation, diagnostic and treatment approach. *World J Gastrointestinal Surg*, 2016 Jan 27; 8(1): 65–76.
20. Fest D, Snottily S, Colchis a, et al. Clinical manifestations of gallstone disease: evidence from the multicenter Italian study on cholelithiasis (MICOL). *Hematology*, 1999 Oct; 30(4): 839-46.
21. Rao KS, Ravi K. A Prospective Study on Cholelithiasis and Its Complications. *IOSR J Dent Med Sci*, 2017; 16: 1-04.
22. Kumar Verma S, Das R, Gaurav K. Epidemiology and management of gall stone disease in tribal population of eastern India. *IJRR*, 2016; 3(12): 3361-3.
23. Lokesh K, Siddavaram S. A Clinical study of gall stone disease. *Orig Res Artic J Evid Based Med Heal*, 2017; 4(94): 5789-97.
24. Lambou-Gianoukos S, Heller SJ. Lithogenesis and bile metabolism. *Surg Clin North Am*, 2008; 88(6): 1175–94.