

CONSERVATIVE MANAGEMENT OF GALLBLADDER DISEASE IN A SURGICAL UNIT IN KHARTOUM - SUDAN

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ABSTRACT Background: Gallbladder disease (GBD) is a common presentation in surgical departments. Gallstone disease is more common in females with increasing age groups. It is rare in childhood, with an increased incidence of diagnosing asymptomatic gallstones. Other risk factors include a family history of advancing sedentary lifestyle, obesity, pregnancy, drugs, etc. Patients with GBD have variable attitudes regarding cholecystectomy as the solution for their pain. Hence, the rate of cholecystectomy is variable but generally increases after the introduction of laparoscopic surgery. **Results:** A total of 1795 patients, representing 9.3%, presented to the surgical unit at the University of Khartoum Medical and Health Services University Hospital. Male to Female ratio is 2:13. The age ranges between 14 to 94, with a mean age of 46.5 (\pm 14.6). The median age is 45 years. Most patients were treated conservatively, with a surgery rate of only 8.0%. **Conclusion:** Most of the patients respond well to conservative management. Cholecystectomy is performed in 2 among 25 patients with GBD.

KEYWORDS Gallbladder disease, GBD, Cholecystectomy, Conservative management

Background

Gallbladder disease (GBD) is one of the most common presentations in surgical departments (1-3). Gallstone disease is more common in females with increasing age groups after the age of forty years; both gender and age are regarded as risk factors for gallbladder disease (1,4,5,6). It is rare in childhood, with an increased incidence of diagnosing asymptomatic gallstones by ultrasound scan (7).

Gallstone disease is more common than acalculous or functional gallbladder disease; most gallstones are asymptomatic (1).

Risk factors for gallstones include non-modifiable and modifiable risk factors like female gender, family history advancing age, race, sedentary lifestyle, obesity, pregnancy, drugs like ceftriax-

one, octreotide, thiazide diuretics, some diseases like hemolytic diseases, cirrhosis, Crohn's disease but one of the studies investigated risk factors in children and the major causes of gallstones development are not known (1,2,7).

Cholecystectomy is a common elective surgical procedure whose rate increased after the introduction of laparoscopic surgery (1,8,9). Cholecystectomy had been performed in around 50% (35 out of 69) of patients with symptomatic GBD following a period of 5.6 years follow-up (10). Emergency cholecystectomy is also increasing in rate, although many schools do not prefer the procedure especially during the early time of inflammation because of the higher incidence of complications (11-14).

Patients with GBD have variable attitudes regarding cholecystectomy as the solution for their pain; hence, the rate of cholecystectomy is variable (15).

Upper gastrointestinal endoscopic findings, including peptic ulcer disease, were detected in different percentages of patients with cholelithiasis (16-18).

This descriptive study is conducted at the University of Khartoum Medical and Health Services University Hospital to study the surgery rate in patients with Gallbladder disease.

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DOI: 10.5455/ijism.136-1664936735

First Received: October 5, 2022

Accepted: December 2, 2022

Associate Editor: Ivan Inkov (BG);

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Table 1 The Age Groups of New Patients, Patients on Follow Up and Patients Underwent Cholecystectomy- University of Khartoum Medical and Health Services University Hospital 2022 (N=1795)

Age Group	New Cases (%)	Follow Up (%)	Surgery (%)	Total (%)
10-	7 (0.4%)	10 (0.6%)	2 (0.1%)	17 (0.9%)
20-	101 (5.6%)	80 (4.5%)	23 (1.3 %)	181 (10.1%)
30-	172 (9.6%)	155 (8.6%)	49 (2.7%)	327 (18.2%)
40-	242 (13.5%)	233 (13.0%)	72 (4.0%)	475 (26.5%)
50-	173 (9.6%)	220 (12.3%)	66 (3.7%)	393 (21.9%)
60-	123 (6.9%)	123 (6.9%)	31 (1.7%)	246 (13.7%)
70-	62 (3.5%)	70 (3.9%)	9 (0.5%)	132 (7.4%)
80-	11 (0.6%)	8 (0.4%)	0 (0.0%)	19 (1.1%)
90-	4 (0.2%)	1 (0.1%)	0 (0.0%)	5 (0.3%)
Total	895 (49.9%)	900 (50.1%)	252 (14.0%)	1795 (100%)
Range	14- 94	14- 90	14- 77	14- 94
Mean	46.5	48.3	45.3	46.9
Median	45	48	46	47
STD	14.6	13.9	11.9	14.3
F: M	6.3: 1 (25: 4)	7: 1	11: 1	6.6: 1 (13: 1)

Methodology

The data of the surgical department of a single hospital; the University of Khartoum Medical and Health Services University Hospital; a 60-bed capacity hospital, was analyzed. It is the health insurance Hospital of the University of Khartoum, the largest and oldest University in Sudan- Africa. It serves a population of around 60 thousand persons: representing the students of the University of Khartoum, the staff working in the University and their families. In addition, it has a role in general community service, i.e., it is not restricted to health insurance clients, but also general population can receive medical management. Patients presented to the surgical department are referred for surgical opinion, mainly surgery, after being worked up by the general physicians (residents), i.e., highly selected. Patients with gallbladder disease, except those with strong indications for surgery, received conservative treatment in the form of advice for dietary habits modifications, weight reduction, Gallstones dissolvent and disintegrating medicines, and proenzymes to assist digestion. These may be combined with antiulcer treatment, e.g., proton pump inhibitors. Indications of surgery include recurrent cholecystitis that necessitates admission (more than three times per year), and symptoms leading to absence from work or study.

Results

The total number of patients presented with symptomatic Gallbladder Disease (GBD) in the period January 2018 to February 2022 is 1795 representing 9.3% of the total patients presented to the outpatient (out of 19203); emergency cases are not included. Around half of them (895) are new cases (50.1%), while 900 (49.9%) were discovered before but are on regular follow-ups. The male-to-female ratio is 1: 13. The age ranges between 14 to 94, with a mean age of 46.5 (\pm 14.6). The median age is 45 years.

Around 8.0% underwent cholecystectomy, 8.9% of the male and 7.9% of the female cases. Cholecystectomy represents 2.9% of the total surgical procedures done during that period. Most patients who underwent surgery were in the age group 40- less than 50 (28.6%), followed by the age group 50- less than 60

(26.2%); None of the patients 80 years and above underwent surgery.

Discussion

Gallbladder disease represents 9.3% of surgical patients. Generally, Gallstones have different prevalences worldwide, ranging from 0.1% to 50.5% (5,19).

Cholecystectomy is a common surgical procedure for gallbladder disease, especially gallstones, but patients can still respond to conservative management. A good example is this surgical unit, where many patients with conservative management were followed up for ten to twenty years. It is expected to have more prevalence (rate) of surgery, as most of the patients are referred mainly for cholecystectomy or expecting to have surgery (indicating sample selection bias). Ninety-two percent (92.0%) of patients responded to the conservative treatment.

Cholecystectomy represents 2.9% of the total surgical procedures done during that period. Worldwide in different countries, including North America, Ontario, and Maryland, the introduction of laparoscopic surgery in the 1990s increased the rate of cholecystectomy by 28- 60% (8,9,20-25). However still, the prevalence of gallbladder disease and cholecystectomy cannot be assessed in this case as most of the relevant literature describes the change in the rate of cholecystectomy after the introduction of laparoscopic surgery which is not applicable here; because of sample bias, laparoscopic surgery is not introduced and no previous study to compare rates.

Regarding the extremes of age groups, patients under twenty are 17 and surgery is performed in 2 (11.7%), while those above 90 years are 5, and none of them underwent surgery. Surgery is generally performed more frequently in the young than in the old; 12.6% of patients below 30 years (total of 198) compared to 5.7% of patients of 70 and above (total of 156). In both groups, females are more (. The severity of the disease may explain this in the young at presentation, good response to conservative management in the old or, in general, in addition to the comorbidities in the old group! In a study done in Pakistan in 244 patients with gallstones under 30 years of age, all of them were

Table 2 The Age Groups and Gender of Patients Underwent Cholecystectomy- University of Khartoum Medical and Health Services University Hospital 2022 (N=1795)

Age Group	Cholecyst-ectomy Females	Total Females	Cholecyst-ectomy Males	Total Males	Total Cholecyst-ectomy	Total Cases
10-	1	15	1	2	2	17
20-	22	167	1	14	23	181
30-	46	304	3	23	49	327
40-	67	440	5	35	72	475
50-	60	330	6	63	66	393
60-	26	186	5	60	31	246
70-	9	99	0	33	9	132
80-	0	14	0	5	0	19
90-	0	4	0	1	0	5
Total	231	1559	21	236	252	1795
Range	14- 77	14- 91	17- 65	16- 94	14- 77	14- 94
Mean	45.2	46.4	45.8	53.5	45.3	46.9
STD	11.8	13.9	13.4	15.0	11.9	14.3
Median	45	46	50	54	46	47
M: F	-	-	-	-	1: 11	2: 13 (1: 6.6)

symptomatic, and females were 85.2% (4).

Children and young patients less than twenty years represent 0.9 % (17 of 1795), with 11 (64.7% of them 16 years or less (10 females and 1 male). Only 2 of them (11.8%) underwent surgery. All of them were investigated for common blood dyscrasias, e.g. sickle cell anaemia, sickle cell trait, and spherocytosis, and all proved negative. Studies showed different risk factors of cholelithiasis in children, e.g. blood dyscrasias, obesity, and prolonged parenteral nutrition (26,27). Another study on 70 patients aged 18 or under showed that the major causes of gallstones are unknown (7).

As surgery is performed in only two patients less than 20 years, a male and a female, gender and age cannot be assessed or compared in the current data or with the literature.

None of the patients in this study underwent emergency cholecystectomy for acute cholecystitis. Some studies concluded that early cholecystectomy compared to conservative management for gallstones, has fewer biliary complications and a reduction in reported abdominal pain(5). Others use conservative management for asymptomatic cases, and cholecystectomy is the choice in complicated gallbladder disease, including acute cholecystitis. In contrast, in older and critically ill patients, percutaneous cholecystostomy followed by interval cholecystectomy is preferred (10).

Conclusions

Gallbladder disease represents 9.3% of surgical patients. It is more common in females aged 40 to less than 50 years, with a male-to-female ratio 2:13. Most patients respond well to conservative management; the surgical rate is 8.0%.

Conflict of Interest Disclosure

None.

Funding/ Financial Support Statement

None.

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