



The main types of clinical presentation of gallstone disease

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Abstract

Background: Gallstone disease is the most frequent biliary pathology and one of the main problems affecting the gastrointestinal tract.

Aim of study: to recognize the main types of clinical presentations of gallstone disease with their management and age distribution.

Method: 100 adult patients with gallstone disease 70 female 70% and 30 males 30% with age ranging from 20-80 years, all of them were diagnosed in an outpatient or emergency department of Al-Yarmouk teaching hospital they were divided into two main groups as cold and emergency groups according to their clinical presentation, each group has 5 types of clinical presentations.

Result: in this study there are 10 different types of clinical presentations of gallstone disease were recognized, the 75 patients (75%) belong to the cold cases group has five types of clinical presentations including symptomatic gallstones, chronic cholecystitis, jaundice, incidental gallstone and attacks of biliary colic. The remaining 25 patients (25%) belong to emergency cases has five different clinical presentations including signs and symptoms of acute cholecystitis, acute biliary pancreatitis, cholangitis, acute abdomen, intestinal obstruction (gallstone ileus). All the hundred patients in this study underwent cholecystectomy either as elective or as emergency surgery whether open or laparoscopic techniques.

Gallstone disease is common with a wide spectrum of different clinical presentations there are 10 different main clinical presentations of gallstone disease. The gallstone disease are mainly found in age 31-40 years and they are low in age of 60-80 years. The main clinical presentation in cold cases group was signs and symptoms of chronic cholecystitis while signs and symptoms of acute cholecystitis were the main presentation in emergency cases group.

Keywords: incidental, gallstone, biliary colic

Introduction

Gallstone disease is one of the main problems affecting the digestive tract and the most common biliary pathology and the gallstone are main cause of morbidity worldwide, cholecystectomy is the most common surgical procedure performed in the world ^[1]. It was estimated that about 10-15% of the adult Western population have gallstones, but only 1- 4% of them have symptoms ^[2]. The percentage of gallstone increases with age, fat (obesity body mass index >30), fertile female (multiple pregnancies) and forty of age, family history of the gallstone, sudden weight loss (e.g after Bariatric surgery, long time on parenteral nutrition, loss of bile salts due to terminal ileitis or after ileal resection), genetics also plays a part as risk factors ^[3]. Gallstones are formed when there is disturbance in the chemical composition of bile (lecithin, bile salts & cholesterol) lead to precipitation of one or more of these components, the cause of that is unclear, gallstones can be classified according to its chemical constituent as cholesterol, pigmented or mixed stones ^[4]. Women are three times more likely to develop gallstones than men. People who have a first-degree relative with gallstones have 4.5 times to develop gallstones ^[5]. The high percentage of gallstones among women is most likely related to female hormones, the estrogen hormone which increases

secretion of cholesterol in the bile while the progesterone hormones increasing gallbladder stasis which lead to reduce bile acid secretion, this explain why oral contraceptives increase the risk of gallstone formation in females ^[6, 7]. About 10-15% of patients with symptomatic gallstones including acute cholecystitis had concomitant stone in the common bile duct because of the migration of gallstone to the duct ^[8]. About 15% of gallstones can be seen by plain X-ray of abdomen two thirds of these are pigment stones ^[9]. Ultrasound is the procedure of choice for diagnosis of gallstones cholecystitis, the classic diagnostic features are distended gallbladder with wall thickening (>3 mm) as well as presence of stone inside gall bladder. The second line of investigation is CT but CT is more useful in diagnosing complications such as gangrenous cholecystitis, gallbladder perforation and emphysematous cholecystitis, which may necessitate emergency cholecystectomy ^[10]. The laparoscopic cholecystectomy is considered the standard procedure for the majority (>98%) of patients ^[11].

Aim of study

To recognize the main types of clinical presentations of gallstone disease with their management and age distribution.

Patients and methods

The 100 of adult patients with gallstone disease presented to AL-Yarmouk teaching hospital from June 2015 till June 2018, including 70 females (70%) & 30 males (30%) with age ranging from 20 to 80 years, they were divided into:

A. Cold cases group

This group includes 75 patients 75% who were presented to the outpatient department with the following clinical presentation.

Table 1

1.	Chronic calculus cholecystitis	42 patients
2.	Biliary colic	25 Patients
3.	Jaundice	3 Patients
4.	incidental gallstones	5Patients

All patients of this group need evaluation including detailed history and through examination with full investigation workup including laboratory and radiological studies. All the patients of the cold cases group underwent elective cholecystectomy (laparoscopic cholecystectomy) after proper preparations.

B. Emergency cases group

This group Includes 25 patients 25% who were presented to the emergency surgical department, the clinical presentations of this group are:

Table 2

1.	Acute calculus cholecystitis	14patients
2.	Acute biliary pancreatitis	7patients
3.	Cholangitis	1patient
4.	Abdominal mass	1patient
5.	Acute abdomen	1patient
6.	Intestinal obstruction	1patient

All the patients of this group were admitted to the hospital and underwent cholecystectomy 14 of them as elective (laparoscopic cholecystectomy) while the remaining 11 patients treated as emergency surgery (open cholecystectomy).

Results

The 100 adult patients included in the study 70 female and 30 male table 3.

Table 3: Gender

Gender	Number	%
Female	70	70
Male	30	30
Total	100	100

There are 10 types of clinical presentations of gallstones disease can be recognized, 5 of them belong to the cold cases group as shown in table 4.

Table 4: Clinical presentations of cold cases with gallstones

Clinical presentation	Number	Male	Female	%
Chronic cholecystitis	32	9	23	42.67
Biliary colic	12	4	8	16
Symptomatic	23	8	15	30.67
Jaundice	3	1	2	4
Incidental gallstone	5	1	4	6.67
Total	75	23	52	100

The remaining 5 clinical presentations belong to the emergency cases group as shown in Table 5.

Table 5: Acute presentation of gallstones

Clinical presentation	Number	Male	Female	%
Acute cholecystitis	12	3	9	48
Acute biliary pancreatitis	9	3	6	36
Cholangitis	1	-	1	4
Acute abdomen	1	-	1	4
gallstone ileus	2	-	2	8
Total	25	7	18	100

The age of the included patients is ranging from 20 to 80 years as shown in table 6.

Table 6: Age groups

Age groups in years	Number	Male	Female	%
20-30	21	2	19	21
31-40	39	11	28	39
41-50	15	8	7	15
51-60	18	7	11	18
61-70	4	1	3	4
70-80	3	1	2	3
Total	100	30	70	100

The distribution of the patients into the cold and emergency groups regarding their age is shown in table 7.

Table 7: Cold and emergency group

Age in years	Total numbers	Cold cases group	Emergency cases group
20-30	21	17	4
31-40	39	29	10
41-50	15	11	4
51-60	18	13	5
61-70	4	3	1
70-80	3	2	1
Total	100	75	25

The highest age group of gallstone disease presentation was between 31-40 years including 39 patients from the total of 100 patients. The presentation of gallstone disease as cold cases is higher than the emergency cases group. The main clinical presentation in cold cases group was signs and symptoms of chronic calculous cholecystitis 42 patients 56%, while signs and symptoms of acute calculous cholecystitis were the main presentation in emergency cases group 12 patients 48%. All the patients of the cold cases group underwent elective cholecystectomy while in emergency cases group 11 patients needed emergency cholecystectomy and 14 patients underwent elective cholecystectomy following successful conservative management.

Discussion

Gallstone disease is the most frequent biliary pathology. Gallstones are present in about 10-15% of the adult population in the USA, up to 80% of them are asymptomatic [12, 13]. Biliary colic usually occurs after meals when the gallbladder contracts to push bile out into the duodenum. After a first attack of biliary colic, more than 90% of people will have a repeat attack in the next 10 years [14]. Recurrent attacks of biliary colic are the main indication

for cholecystectomy^[15]. Cholecystectomy was the eighth most common operation done in the United States^[16]. Patients usually present with right upper quadrant or epigastric pain, which may radiate to the back, although it is dull and constant it may be described as colicky. Patients may also complain of dyspepsia, flatulence, usually after fatty meal with some alteration in bowel frequency. biliary colic is typically present in 10-25% of patients as a severe right upper quadrant pain that ebbs and flows usually associated with nausea and vomiting. Pain is usually severe and may radiate to the chest lasting minutes or even hours. Frequently the pain starts during the night, waking the patient. Mild attack may occur intermittently during the day. Dyspeptic symptoms may coexist and be worse after such an attack. As the pain resolves, the patient is able to eat and drink again, often only to suffer further episodes. It is of interest that the patient may have several episodes of this nature over period of a few weeks and then no more trouble for some months. The 100 adult patients included in this study 10 different clinical presentations of gallstone disease were identified, five of them who include 75 patients (75%) belong to the cold cases group and five of them who included 25 patients (25%) belong to emergency cases group. Within the cold cases group five different clinical presentations were identified including symptomatic gallstones, biliary colic, chronic cholecystitis, jaundice, incidental gallstones finding and within the emergency cases group five clinical subgroups of presentations including acute cholecystitis, acute pancreatitis, cholangitis, acute abdomen, intestinal obstruction, all the included patients underwent cholecystectomy either as elective or emergency surgery.

Conclusion

Gallstone disease is common disease with different clinical presentations ranging from asymptomatic to fatal presentation. The five clinical presentations of emergency groups and five clinical presentation of cold group. 31-40 years age group show the highest percentage of clinical presentation of gallstone disease in both cold and emergency cases, while the 70-80years age group show the lowest percentage in cold cases and the 60-80years age groups show the lowest percentage in emergency cases. The highest clinical presentation in cold cases group was chronic cholecystitis while the highest clinical presentation in emergency cases group was acute cholecystitis.

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