The Egyptian Journal of Hospital Medicine (January 2018) Vol. 70 (8), Page 1362-1364

Prevalence of Gall bladder Disease in King Faisal Medical Complex (Taif): A Retrospective Study

Samah Saud Al Juaid, Fatmah Meteb Al.Nofei, Hanan Abid Al Qurashi, Adel Dakhel Almaymuni, Mohamed Abdul Samie Mitkis, Muhammad Asadullah, Mohamed Ghilani

Taif University, College of Medicine

Coressponding outhor: Samah Saud Al juaid, email: samahsaud@hotmail.com, phone number: 00966533872708

ABSTRACT

Background: gallstone disease is defined as the presence of gallstones accompanied by symptoms attributable to their presence (Biliary colic) or complications such as cholecystitis,cholangitis and biliary pancreatitis. In addition, the disease is thought to be a risk factor for developing pancreaticobiliary cancer. **Objective**: this study aimed to determine the rate of biliary disease in King Faisal Medical Complex as a reflection of the prevalence of the disease in Taif region.

Methods: this a cross sectional retrospective analysis included 565 patients with gallstone disease , in King Fisal Medical Complex during 1 year (from 1 July 2015 to 30 Jun 2016). Data of the patients were collected from patient's files which included 4 departments. 1-Emrgency Room 2-Surgical Outpatient Department 3-Operating Room and 4-Histopathological Department. **Result:** this study included 565 patients with gallstone disease, (10 years and above) . 398(70%) females, 167(30%) males. Mean age for females was 44.89 years (SD+15.93), Mean age for males was 48.45 years (SD+19.67). The overall ratio of gall bladder disease to all general surgery operation was 24%. The Majority of them diagnosed with chronic cholecystitis present to OPD (57%), while acute cholecystitis presented to ER was 43%. Most of them were females (77%)while, males were 23%. 85% of patients underwent to lap cholecystectomy with 1% rate of conversion. 14% of patients underwent ERCP and 1% open cholecystectomy.There was significant gender differences in type of operation (P value=.013). 38% of male patients with gallstone disease came to the emergency department compared to 62 % of females.Variety of GBD diagnosis was observed , chronic calculous cholcystitis (50%) acute calculous cholecystitis and empyema (30%), obstructive jaundice (14%), Biliary colic (5%),GB mass (1%). **Conclusions:** the number of patients presented with gall stones disease and it's complications to King Faisal Medical Complex, Taif alone showed significant high number, mostly due to hypoxia as our region is one of the highest altitude region in the Middle East. Prevalence of disease was more in female population and it showed the target population which should be educated regarding prevention of disease.

Keywords: gallbladder disease , prevalence , high altitude , Saudi Arabia .

INTRODUCTION

Gallstone disease is defined as the presence of gallstones accompanied by symptoms attributable to their presence (Biliary colic) or complications such as cholecystitis,cholangitis and biliary pancreatitis. In addition the disease is thought to be a risk factor for developing pancreaticobiliary cancer [(4)]. Cholecystectomy is one of the most common operations performed in general surgical units throughout Saudi Arabia and this rate increased after introduction of laparoscopic cholecystectomy[(6).]

Objective:

The aim of this study was to determine the rate of biliary disease in King Faisal Medical Complex as a reflection of the prevalence of the disease in Taif region.

MATERIALS AND METHODS

This study is retrospective analysis of 565 patients with gallstone disease , in King Fisal Medical Complex during 1 year (from 1 July 2015 to 30 Jun 2016) .Data of the patients were collected from patient's files which included 4 departments. 1-Emrgency room 2-Surgical Outpatient Department 3-Operating Room and 4-Histopathological Department. **The study was done after approval of ethical board of Taif university**.

Data analysis for different variables was done. The categorical variables were presented with frequency and percentage. T-test was used to analysis continuous data . The categorical variables were analyzed using the Chi square test. A P-value .013 was considered significant. Data were analyzed by the Microsoft XL 2010.

RESULTS

This study included 565 patients with gallstone disease, (10 years and above) . 398(70%) females, 167(30%) males. Mean age for female was 44.89 years (SD+15.93), mean age for male was 48.45 years (SD+19.67).

Age descriptive analysis Mode 40 , largest age 98 , smallest 10 .The overall ratio of gall bladder disease to all general surgery operation was 24% .

Received: 16/12/2017
Accepted: 26/12/2017

DOI: 10.12816/0044649

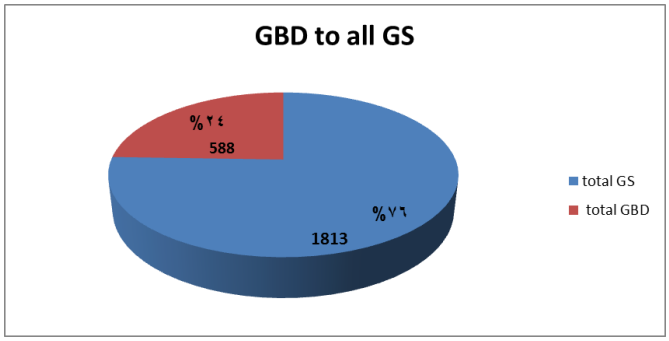

Figure 1: rate of GBD to all GS

The Majority of them diagnosed with chronic cholecystitis present to OPD (57%), while acute cholecystitis presented to ER was 43% .

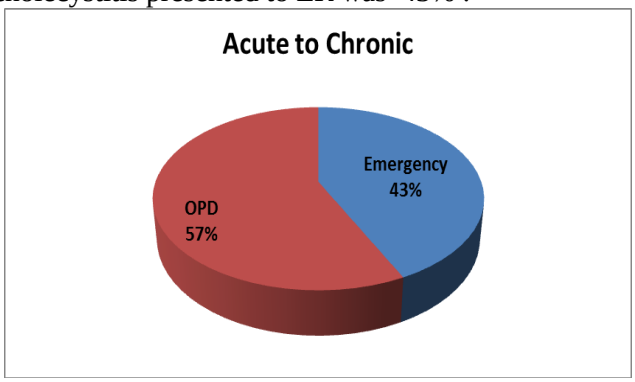

Figure 2: comparison between acute and chronic cases of GBD

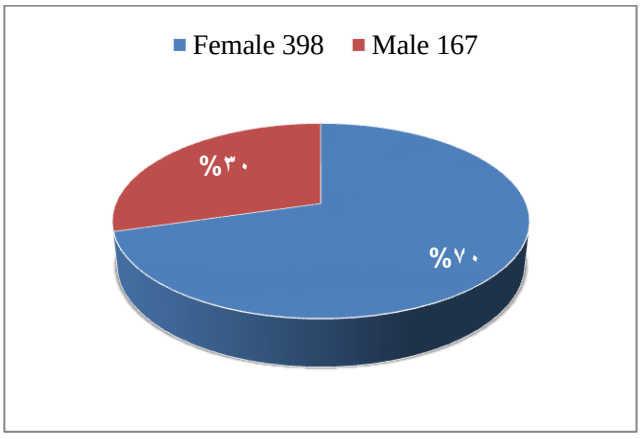

Figure 3: male to female rate of gallbladder disease

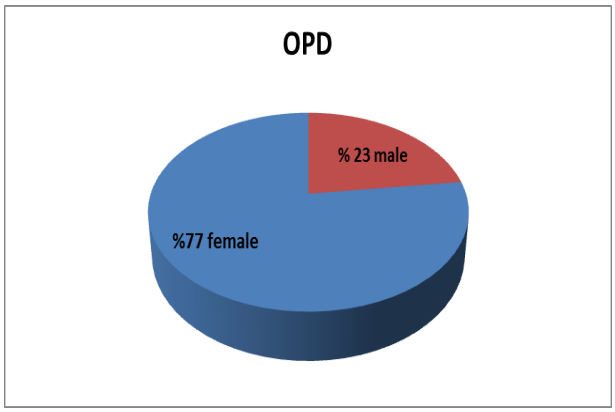

Figure 4: female to male rate visits to GS OPD

Most of them were females (77%),while males were 23%. 85% of patients underwent to lap cholecystectomy with 1% rate of conversion. 14% of patients underwent ERCP and 1% open cholecystectomy.

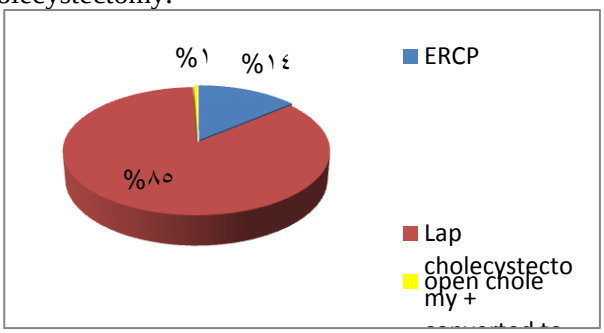

Figure 5: percentage of each type of gallBladder operations.

There was significant gender differences in type of operation (P value=.013). 38% of males patients with gallstone disease came to the Emergency Department compared to 62 % of females.

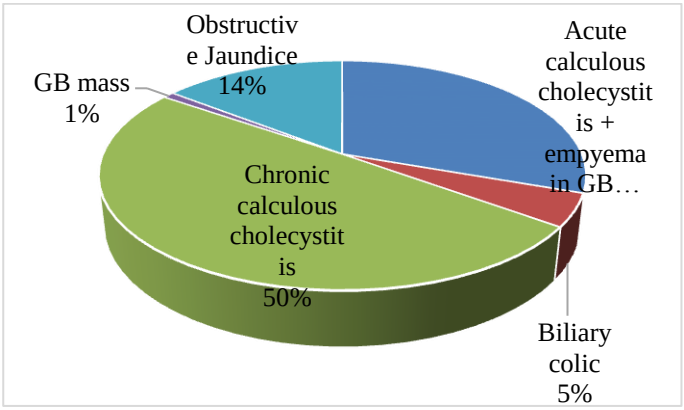

Figure 6: percentge of each diagnosis.

Variety of GBD diagnosis was observed , chronic calculous cholcystitis was 50% acute calculous cholecystitis and empyema was 30%, obstructive jaundice was 14% and biliary colic was 5% and GB mass 1%.

DISCUSSION

Cholecystectomy is one of the most common operation performed in general surgical units throughout Saudi Arabia . It comprises about 57% of major elective surgery and about 43% of emergency surgery in King Faisal Medical Complex Taif. Other studies reported 47% of major general surgical operation in Abha city and 50% of procedure in another study from Almadina city [10,11]. These data give the impression that gallstone disease is common among Saudi Arabians .

It is Known that the pathogenesis of gallstone disease is related to imbalance in the metabolic and dynamic process of cholesterol and bile acids. It has

been known that female sex,age ,race, obesity, diabetes mellitus, ageing, cirrhosis, typeIV hyperlipidaemia, parity ,oral contraceptive use , smoking and family history of gallstone disease are risk factors for gallstone formation [11]. The prevalence of gallstone in high altitude communities is high and attributed to slow intestinal transit time that can lead to constipation , increased bilirubin absorption and higher bile concentrations in the gallbladder [7-8].

In addition , increased blood cell formation due to oxygen lack and hence increased hemolysis may increase levels of bilirubin pigments with an increased risk of pigment gallstones [9] .Our region is one of the highest altitude region in Middle East 1700 m above sea level , this may be one of the etiological factors contributed to the high prevalence in our area.

In contrast to similar reports from America and Europe, where more than two thirds of gallstones were asymptomatic [4]. More than 60% of our cases had symptoms [3].

The low prevalence of symptomatic gallstones in cross sectional surveys from the industrialized countries was probably due to rapid diagnosis and treatment [3]. Despite gallstones has complications, the treatment (cholecystectomy) has its own complications as well [3]. Risks of gallstones vary from simple biliary colic to severe , life threatening ascending cholangitis and pancreatitis .[3]Carcinoma of gallbladder had been postulated to be closely related to long standing gallstones diseases [3]. The prevalence of gallbladder carcinoma in our study was 0.5%.

Among the patients involved in this study 85% of patients underwent to lap.cholecystectomy with 1% rate of conversion .

14% of patients underwent ERCP and 1% open cholecystectomy.

CONCLUSION

The number of patients presented with gall stones disease and it's complications to King Faisal Medical Complex, Taif alone , showed a significant high number, mostly due to hypoxia as our region is one of the highest altitude region in the Middle East. Prevalence of disease was more in female population and it showed the target population which should be educated regarding prevention of disease. The incidence of disease was less in male population, but they mostly present with complications of disease and in this regards, it is needed to address their early diagnosis and management of disease. Another interesting factor found in this study number of cases underwent ERCP for CBD stones. Among the total number of patients 17% of patients underwent ERCP at some stages of their management. We got an impression from this study that the prevalence of gall stones disease in Saudi population especially in Taif region is quite high and needs measures to educate population for disease prevention and early diagnosis, so that burden of disease could be lower down on health care system and patients could be prevented from the gall bladder disease and it's complications.

ACKNOWLEDMENT

The researchers would like to thank Dr. Nisreen A.A. Osman, Assistant professor of pathology, university of medicine, minia university and Dr. Madiha Mousa, health administration and health science. Also, Ahmed Ali Abdelkawy Mohamed, King Faisal Medical Complex, Quality Specialist.

REFERENCES

1- http:// www.taifeity.gov.sa/pages

2- **Alsaif MA (2005):** Variation in dietry intake between newly diagnosed gallstone patient and controls. Pakistan Journal of Nutrition, 4:1-7

3- **AbuEshy SA, Mahfouz AA, Badr El, Gamal MN, AlShehri My, Salati MI and Rabie ME (2007):** Prevalence and risk factors of gallstone disease in high altitude Saudi population. East Mediterr. Health J., 13:794-802.

4- **Browning JD and Horton JD (2003):** Gallstone disease and its complication.Semin Gastrointest. Dis., 14:165-174

5- **Alam MK (2011):** Assesment of indicators for predicting choledocholithiasis before laproscopic cholecystectomy. Ann. Saudi Med., 18:511-513

6- **Abdulmohsen A, Ahmad A, Adnan A, Ahmad ,Maha A, Lade w and Tawfi M (1999):** Increased rate of cholycystectomy after introduction of laproscopic cholecyctectomy in Saudi Arabia. World Journal of Surgery, 23:458-462.

7- **Moro PL *et al.* (2000):** Gallstone disease in Peruvian coastal native and high land migrants . Gut, 46(4):569-573

8- **Spathis A *et al.* (1997):** Gallstones in a community free of obesity but prone to slow intestinal transit. European Journal of Gastroenterology and Hepatology, 9:201-207.

9- **Trotman BW *et al.* (1981):** Hemolysis-induced gallstones in mice:increased unconjugated bilirubin in hepatic bile predisposes to gallstone formation. Gastroenterology, 81:232-238.

10- **Abu-Eshy SA *et al.* (2007):** Prevalence and risk factors of gallstonedisease in a high altitude saudi population. East. Mediterr. Healthy J., 13:1-7

11- **Ahmed AF *et al.* (1993):** Gallstones revisited ,Almadinah Almounawarh experience (a prospective study of 212 consecutive cases). Saudi Medical Journal, 14(5) : 436-445.