

Asymptomatic Colelithiasis in Pregnant Patients in the Primary Care Level

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Rec Date: June 02, 2016; Acc Date: July 15, 2016; Pub Date: July 22, 2016

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Abstract

Background: Cholelithiasis is one of the registered causes within maternal deaths in an indirect way, with a reported up to 20% prevalence, it is considered within the main reasons for surgery in the postnatal period.

Objective: To determine the frequency of asymptomatic cholelithiasis in pregnant successors of the Family Medicine Unit no. 53 (FMU 53).

Material and methods: Observational, perspective, and descriptive study was conducted in the FMU 53 pregnant women who attended the service of ultrasound, size of sample was estimated taking 10% of anticipated ratio, significance of 95% and 3% of Alfa error corresponding to 348 patients. Excluding patients with diagnosis of biliary ducts pathology, biliary tract surgery patient carrier, and the ones who did not want to participate, ultrasound of biliary tract exploration took place; descriptive statistics was used for analysis and the results were presented in figures.

Results: 348 Ultrasonographic studies were performed to pregnant patients, 16% (54) with presence of sonographic data of asymptomatic cholelithiasis, 66% (36) with age of 20 to 29 years, 26.5 as middle age, predominating the primigravid 41% (22) and the third trimester with 66% (33), in 74% multiple gallstones, polyps 7%, 39% thin complexion, 31% overweight and obesity and 33% with work activity.

Conclusion: The incidence of asymptomatic Cholelithiasis in pregnant women of the FMU 53 is high, it predominates in primigravid patients of thin complexion, between 20 to 29 years of age, with multiple gallstones, size >5 mm and they are economically active women.

Keywords: Pregnancy; Ultrasound; Gall stones

Introduction

Cholelithiasis is the presence of litos (kidney stones) in the gallbladder [1,2]. The first anatomic-clinical reference of cholelithiasis due to the surgeon Florentino Antonio Benivieni (1443-1502), who found gallstones in the necropsy of a patient who frequently attended because of pain in the "hepatic region" [3].

It is estimated that 10 to 20 percent of Americans have gallstones and up to one-third will develop acute cholecystitis, it is more common after age 40 in both sexes, however in terms of gender women predominate in a 2:1 ratio [1].

After the c-section cholecystectomy is the second surgical intervention that most frequently occurs in the Mexican Institute of Social Security (IMSS) with a total of 69,675 cholecystectomies which 47,147 are performed with open technique and 22,528 by laparoscopy [1].

In pregnancy the elimination of bile acids are the metabolic link end of the hormonal steroids, since there is a marked rise in the estrogen and progesterone levels which induces the over saturation of bile by cholesterol. Estrogen increases cholesterol in the blood and its elimination in the bile; Meanwhile progesterone exerts a soothing action on gallbladder smooth muscle and inhibits the cholecystokin, which is the major hormone involved in gallbladder contractility, favoring the bile stasis and predisposing the formation of gallstones. The bile grit that may be a precursor of gallstones are formed in 30% of pregnant women; in the first trimester the volume of the gallbladder in fasting and residual volume after the contraction in response to a test meal increases, however arise up to a 42.9% during the second trimester of pregnancy [4-9].

Complications associated with the presence of severe intrahepatic cholestasis in pregnancy are spontaneous preterm birth in 19%, stain of meconium 47.6% and prenatal death in a 9.5% [10]. In the event that the complication is pancreatic bile it can lead to severe aftermath, in a retrospective study of 112 patients with average age of 25 years, the main clinical presentations were: Biliary colic n=56, biliary pancreatitis n=27, acute cholecystitis n=17, and choledocholithiasis n=12 [11-13].

The ultrasonography is the radiological study most useful for the diagnosis of acute cholecystitis. It has a sensitivity and specificity of 95% of agreement Rumak, and the Mexican Association of surgery referred sensitivity 50-88% and 80-88% specificity; In addition to being a sensitive study to document the presence or absence of gallstones, delineates the thickening of the wall of the gallbladder equal to or greater than 5 mm, ultrasonic Murphy's sign and the liquid pericholecystic (specificity 93.6%), outer bile liquid, increase of bile size, bile lithiasis, gas in the wall, detritus echogenic [3,6].

The prevalence of asymptomatic gallstones identified by ultrasound in 1260 pregnant women was 3.96 10%, reports corresponding to Cuba, Costa Rica and Centeramerica during the year of 2012 [4,5] Other data reported to the Mexican Association of General Surgery in 2014 issued an incidence of 1-3% per year [2,6].

Dr. Maria E. Corteguera conducted Gallbladder Ultrasound research in 2198 pregnant women in a period of one year, detecting 120 positive cases, 106 patients with lithiasis and 15 with polyp or pseudopolyps; we found that the predominant age group was 20 to 29, in obese patients, nulliparous 44%, primigravid 34.9% and Caucasians [14].

Dr. Hernández Aarón, a prospective study was conducted in the General Hospital zone No 32 from Minatitlan, were studied all pregnant women who came to the emergency room with pain in upper hemi abdomen and found cholecystitis; the diagnosis was established by ultrasound, reported gallbladder with gallstones, wall greater than 5 mm and/or evidence of edema, the results reported a rate of 1.6 for every 1000 pregnant women, the total sample was of 3,621 pregnant women [15].

In a study of healthy pregnant women 276 was followed up by trimester as well as 2-4 weeks post-partum; among the results was found an incidence of gallstones and gallbladder sludge of 14.4% and 6.67% respectively, the prevalence increases with gestational age and 2 to 4 weeks post-partum disappearance of gallstones estimates by 15%, while the biliary sludge disappeared in 38.7% [16-22].

In Mexico the maternal mortality by indirect causes is 26%, and among them we can mention the complications of biliary pathology [23]. The Family Medicine Unit No. 53, León Guanajuato (Gto) serves a population of 3744 pregnant women per year, which means, according to the references, that it is likely that approximately 230 patients who are pregnant have asymptomatic cholelithiasis and are exposed to complications, hypothesis that motivated the conduct of this research.

Material and Methods

Descriptive cross-sectional study involving IMSS patients, assigned to the Family Medicine Unit No 53, with diagnosis of pregnancy of any gestational age, who attended the service of ultrasound to perform obstetrical ultrasound. We excluded patients with diagnosis of biliary tract pathology, patient carrier of gallbladder and biliary tract surgery and who did not accept to participate in the study. The sample size was calculated using the formula for finite populations according to the prevalence reported in the literature of 10% choledocholithiasis, whereas security of 95% and an accuracy of 3%. Estimated sample was 348 patients. The sampling was not probabilistic by consecutive cases. Patients were tracked of liver and bile by ultrasonografic, using ultrasound equipment Mark Logiq 200 Alpha TM and convex transducer with a frequency of 3.5 MHZ, Getting images in flat cross, longitude and sub costal angle in right upper quadrant, requesting the patient a deep breath for as long as it is possible for her, additionally in patients who needed it, the projection was realized at the right half axillaries line in the coronal plane, and solicited the patient place on left side ulna position, placing the transducer in the right sub costal medium clavicle line to obtain images in the longitude plane of the gallbladder causing movement of the gallstones with change of position.

Results

Ultrasonographic studies were performed to 348 pregnant patients, 66% (36) corresponded to the age group of 20 to 29 years, with an average age of 26.5 years (Figure 1). Most were primigravid and secundiparous (Figure 2) and in the gestational age, the third trimester predominated (Figure 3). In 39% of cases the body size was thin, normal at 30% and overweight and obese at 30%. The 66.6% (36) did not have work activity.

16% (54) of the patients presented sonographic data of cholelithiasis (Figure 4). Multiple gallstones were found in 74% of cases; in 19% only one gallstone and 7% identified polyps. In 94% of cases (51) the gallstones had a diameter equal to or greater than 5 mm and the wall was less than 5 mm to the same proportion.

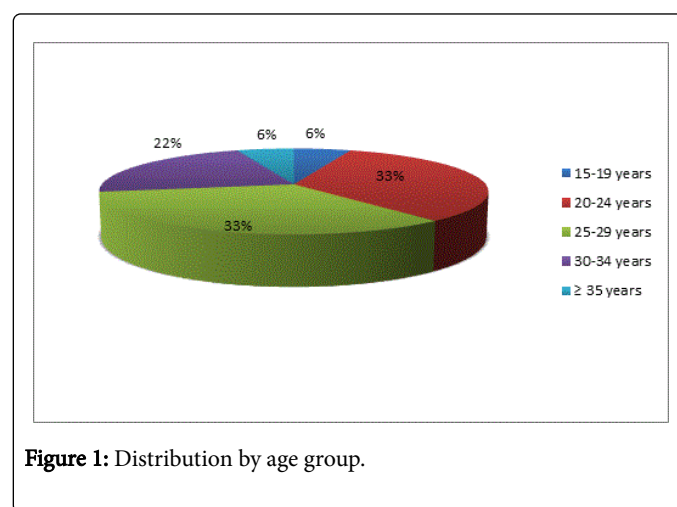


Figure 1: Distribution by age group.

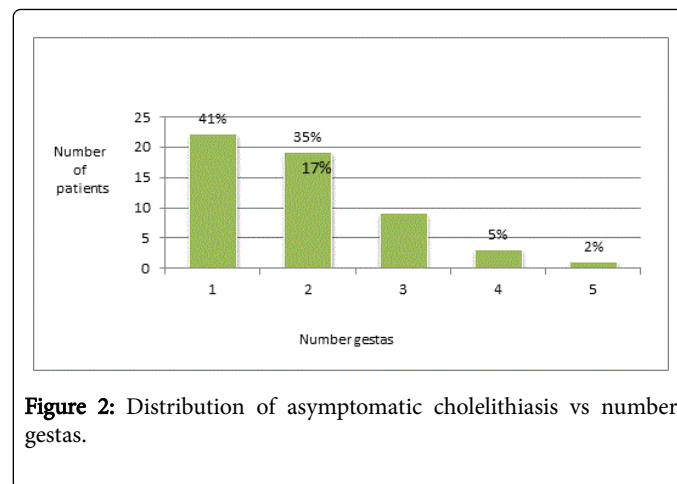


Figure 2: Distribution of asymptomatic cholelithiasis vs number gestas.

Discussion

The frequency of cholelithiasis in pregnant women is greater in our population in comparison with the reports of other researchers. Perez [3] reported 2.3 percent of positive cases in a study of 1260 women. Corteguera [14] found 5.4% of positive cases in a research study conducted with a sample of 198. Cunningham and Murillo's studies reported a rate of 10% [4,5]. In general, epidemiology does not exceed 11% of cases of cholelithiasis in pregnancy without considering clinical data.

In terms of the age of presentation the age range coincides with the study of Corteguera Fonte performed in Havana, in asymptomatic patient's and far from a study of 2014 submitted by Rajesh performed in the United States 307 patients with a clinical picture of a biliary pathology that merited hospitalization, where the age range varied from 20 to 48 years, with an average of 31.

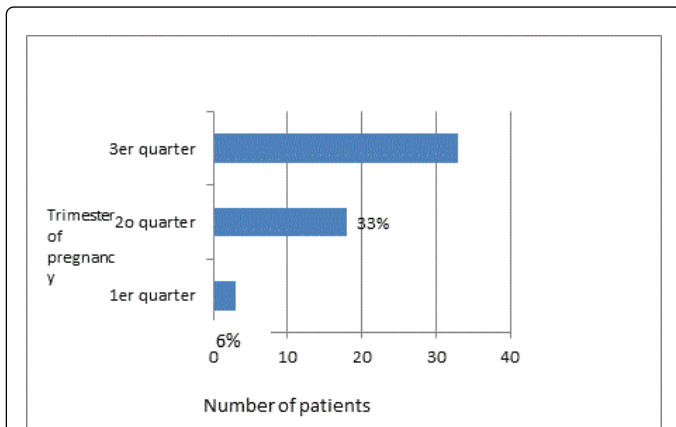


Figure 3: Distribution by trimester.

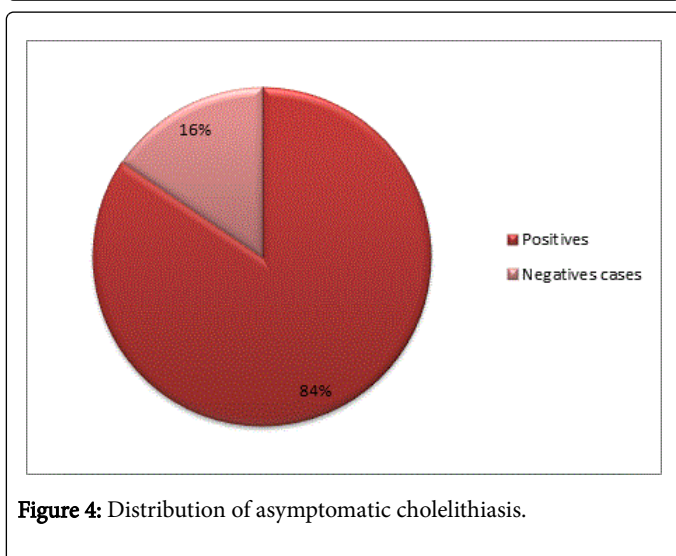


Figure 4: Distribution of asymptomatic cholelithiasis.

In relation to the gestational age is described that physiologically there is duplication of gallbladder volume in fasting as in residual volume after the contraction in response to food and of a 42.9% expected cholecystitis in the second quarter data; in relation to this variable Dr. Pinilla in 2014 [17] describes the presence of more than 50% of presentation in the second quarter, from a study conducted in 614 patients hospitalized by lithiasic gallbladder disease; in the same year, Rajesh [20] coincides with the second trimester in asymptomatic patients. Bibliographic history shows, symptomatic patients that differ to the third quarter reported in the present study, where it is likely that the opportunity of the diagnosis has been postponed of the opportunity to realize the obstetric ultrasound.

In a study by Dr. Richa, pregnant women with asymptomatic cholelithiasis in 2010 sets that the wall thickness is greater than 5 mm in 14.4%, a higher value than found in the current study as well as the

presence of acute symptoms of biliary tract was not found at the time of study.

In a study conducted by Ornela of Bari in 2014 where the incidence of calculations ranges from 2-11%, being a prospective study to 272 asymptomatic pregnant women with predominance of biliary sludge, which differs to 74% and absence of bile sludge in our study and in which predominated the presence of multiple lithiasis.

28% developed at least one clinical picture of pain during pregnancy the frequency of multiple lithiasis is greater than the 4.8% reported by Corteguera Fonte in his study [14].

In relation to the diameter of the gallstones, the incidence for the larger than 5 mm is 94%, this is very important, since documented cystic duct diameter is 2-3 mm, and even with the condition that the common bile duct light is described generally from 6 to 10 mm, leading to acute episodes by occlusion and complications to other organs such as the pancreas [12]. Between the results was observed the presence of polyps by 7%, in comparison to the study of Dr. Corteguera where the frequency was less than 1% [14], the importance of this result is that polyps are lesions of risk for the development of cholangiocarcinoma in a 15% if found on the inside of the vesicle and 28% if they are located in the common bile duct [6]. Asymptomatic cholelithiasis was more frequent in patients of thin complexion, contrary to the theory that obesity and overweight are at major risk factors in the general population to any bile condition. However, as mentioned by the Association of obesity, pregnancy and asymptomatic disease a 49 percent [1-3,9,24-26].

After an epidemiological review of maternal mortality and abortion in 2012, mentioned the gallbladder disease between the indirect causes of maternal death, which usually equals a 19 percent. Murillo refers to acute cholecystitis as the second cause of non-obstetric surgical emergency followed by acute appendicitis; that can complicate the course of pregnancy.

The relevance of this study in turn is for the asymptomatic population contrary to the emphasis of research related to this pathology seen as a target to the symptomatic population.

The results of this and other research should be considered as a justification to include the study of ultrasound of the biliary tract as part of the prenatal control since the complications of such pathology like pancreatitis and acute cholangitis are the second cause of non-obstetric emergency in pregnancy.

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