

**INCIDENCE OF VESICULAR LITHIASIS IN THE HOSPITAL OF LA AMISTAD JAPAN  
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**ABSTRACT**

Currently in the eastern region of Guatemala, specifically in the department of Izabal, there are no regional statistics on the incidence of cholelithiasis in patients attending this hospital, due to the increase in this pathology, it has become essential to start establish statistics that can function as a starting point for this area of the nation.

**Objective:** To establish the incidence of gallstones by ultrasound, in patients attending the Hospital Nacional de la Amistad Japon Guatemala during the period from January to May 2022. **Materials and methods:** The present study is descriptive of the incidence of gallstones in patients who attended the radiology department of the Hospital de la Amistad Japon Guatemala, during the period from January to May 2022, who underwent an abdominal ultrasound. The Microsoft Excel program was used to tabulate the data. **Results:** we were able to know that the incidence of cholelithiasis in the Izabal region was 15.6%. Of the ultrasounds performed, the predominant sex was female, the age range with the highest prevalence was between 20 and 40 years. 92% had overweight and obesity as the predominant risk factor.

**KEYWORDS:** Cholelithiasis, gallbladder, hepatobiliary ultrasound.

**INTRODUCTION**

Given that cholelithiasis is a pathology of frequent presentation and that it causes multiple complications in patients, it makes it a public health problem. Ultrasound, being the imaging method of choice for the diagnosis of this entity and due to its accessibility, thus helps to establish an accurate diagnosis and begin timely treatment of this entity.

We will define cholelithiasis as the formation of stones in the gallbladder, which can cause obstruction at the level of the cystic duct or migrate to other sites, such as the common bile duct causing choledocholithiasis or the pancreas causing pancreatitis.

Multiple risk factors are defined for this pathology, such as gender, age, obesity, use of contraceptives, hypertriglyceridemia, parity, among others.

It has been described that the prevalence of this entity can vary depending on the regions, approximately 30 to 70% of Americans can suffer from this disease, observing a lower range of affectation at European level with 10-30% and less than 5%. in Asians and Africans.

It is for this reason that cholelithiasis has become an international problem, generating multiple expenses in hospitalization and treatment, with immediate

repercussions on public health in our countries, for this reason it becomes essential to know the incidence of this entity in all the regions of Guatemala.

**MATERIAL AND METHODS**

The present study is descriptive of incidence, which was designed to determine the frequency of presentation of cholelithiasis in patients older than 15 years who presented at the Hospital de la Amistad Japon Guatemala, in the city of Puerto Barrios, Izabal, to whom I order them to perform a liver and bile duct or abdominal ultrasound, referred to the radiology department of this center, during the periods from January to May 2022. The study was carried out in two phases, the first in the collection of the data from the medical records provided by the records, the second phase with the evaluation of the reports made by the radiologist of this center. In total, 383 liver and bile duct ultrasounds were performed in these months, as well as ultrasounds of the upper abdomen, of which 68 patients had gallstones. It was found that 26 patients had biliary sludge and 27 patients had gallbladder hydrops at the time of ultrasound.

To carry out the study and obtain the clinical data, prior authorization was requested from the hospital authorities. The information was documented in the Microsoft Excel program.

## RESULTS

The incidence of gallstones in patients who attended the Hospital Nacional de la Amistad Japon Guatemala is 15.6%. The age range of patients who presented this pathology includes ages between 20 and 40 years.

The female gender is the most affected, presenting 79% of the cases.

92% of patients were overweight or obese as the main risk factor. All patients presented in their clinical history the development of at least one episode of pain at the level of the right hypochondrium, documented by the treating physician.

## DISCUSSION

We will define cholelithiasis as the presence of stones in the gallbladder, which can be formed by cholesterol, pigmented or mixed. The stones can migrate and obstruct the cystic duct and the common bile duct and produce different complications.

Within the risk factors we can mention two types of non-modifiable ones such as gender, age, genetics, resection or disease of the distal ileum. The modifiable are obesity, hypertriglyceridemia, rapid weight loss, drugs that lower cholesterol levels, high-calorie diets, smoking, oral contraceptives and sedentary lifestyle.

Cholesterol and mixed stones are composed of crystalline cholesterol monohydrate with a mixture of calcium salts, proteins, bile pigments and fatty acids, they represent approximately 80% of all stones in the gallbladder and the pigmented ones are mainly composed of bilirubinate of calcium and little cholesterol, represent approximately 20% of cases.

Gallstones are more frequent as age increases, however a predilection for patients over 40 years of age has been observed.

This entity presents a more precocious development in the female sex with an approximate trend of 3:1 with the male sex.

Within its form of clinical presentation we must mention that it can be asymptomatic and symptomatic.

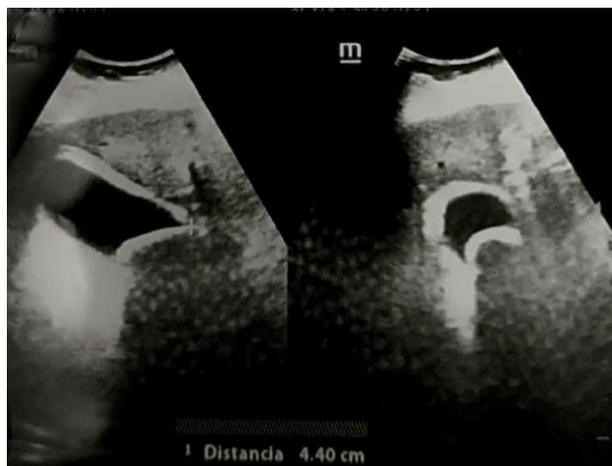
Patients with asymptomatic lithiasis only require surveillance. In the past, prophylactic cholecystectomies were performed, which over time proved not to be highly recommended, since only 1 to 2% of patients had complications.

Symptomatic lithiasis presents biliary colic as its main symptom, this tends to develop from 15 minutes to 1 to 2 hours of food intake, preferably those with high fat content, highly seasoned or dairy products. Biliary colic manifests as localized pain in the right hypochondrium that can radiate to the back and does not decrease with mobilization.

Sometimes the pain can be accompanied by sweating, nausea or vomiting. This usually subsides over time, however on some occasions the pain can last longer and be accompanied by fever, in this case the suspicion of acute cholecystitis should always be present.

To diagnose this entity, a correlation between the patient's signs and symptoms must be made, supported by laboratory studies such as complete blood count, bilirubin and alkaline phosphatase levels, associated with imaging studies.

Ultrasound is the fundamental imaging study for the detection of gallstones, secondary to its high sensitivity and specificity, easy performance, lack of contraindications and easy access.



**Fig 1.** Ultrasound section showing the gallbladder with the presence of a hyperechoic image inside, which emits posterior acoustic shadow, measuring 4.4 cm.



**Fig 2.** Macroscopic piece of stone, obtained after cholecystectomy of the patient in figure one.

Abdominal radiography is not a method currently used in most centers due to its low sensitivity and specificity, it can detect stones, if they have the adequate concentration of calcium that achieves these radiopaque images. In some cases when emphysematous cholecystitis is suspected, this type of imaging study can provide some help.

Although methods such as tomography and magnetic resonance imaging are effective, especially abdominal computed tomography, their high costs and poor accessibility in public hospitals mean that these studies are not requested in these patients.

Endoscopic retrograde cholangiopancreatography (ERCP) is a diagnostic and therapeutic method, which requires the use of high-tech equipment and qualified and experienced personnel for its performance; however, this method becomes extremely important when there is stone migration. to the bile duct.

Cholecystectomy is currently the surgical procedure of choice in patients with symptomatic cholecystitis. In our times, the preferred approach is laparoscopic, since it has a lower rate of complications and decreases the length of hospital stay.

## CONCLUSIONS

Vesicular lithiasis has become an important public health problem at the international level, with this study we understand that the Izabal region in Guatemala is not the exception in incidence of this pathology. It is important to focus our gaze not only on the clinical surgical treatment of these cases, but rather on the nutritional approach as the main risk factor and the development of prevention measures to try to raise awareness about this pathology and its risks in the general population.

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