

SURGICAL PROCEDURES:

COLECISTECTOMY LAPARASCOPY

GALL BLADDER AND BILIARY DUCT LAPAROSCOPIC SURGERY

* The gall bladder is a dilation, a pouch of the external biliary duct. It is located in the inferior face of the liver. It is divided in three parts. The vacinete, body and neck. Through a fine duct, the cystic is joined to the main duct or coledocum. The gall bladder, when it contracts expels bile to the main duct and to the duodenum. The gall bladder has a capacity of about 50cc. and allows the bile to accumulate between meals.

1. - WHAT IS COLELITIASIS?

It is the formation of biliary stones in the gall bladder or its ducts; this is called "colelitisias"

The stones are formed from the elements that compose the bile; mainly cholesterol and biliary salts. This illness, colelitisias, is one of the most frequent illnesses in women that multiple pregnancies and are over nourished. Generally, the illness appears from after the age of 40. In developed countries and better-nourished population it is calculated that about 20% of the women over 50 have stones in the gall bladder. The stones remain during many years without symptoms. Once the symptoms appear, the natural history of the illness evolves presenting complications some of them very serious.

2. - WHAT SYNTOMS CAUSE COLELITIASIS?

Much of the colelitisias have no symptoms (the patient does not know it has them) on other occasions the symptoms are not specific (heart burn, abdominal distress, bad digestion, head aches)

- The main symptom is the biliary colic, also called liver colic or hepatic colic. In these cases the patient notices a severe pain in the right part of the abdomen, it is accompanied by a general distress, nausea and vomiting. If the process continues an infection to the biliary gall bladder can appear, this is called acute colelitisias. This circumstance has a severe complication that needs urgent treatment, there is a risk that the gall bladder might become perforated and peritonitis can originate.

3. - HOW TO DIAGNOSE COLELITIASIS AND OR COLECICTITS?

The most common manner is with an abdominal echo sonogram. This test allows us to identify the biliary stones and its possible complications. In complicated cases it might be necessary to perform an axial tomography or CAT SCAN.

4. - WHEN TO OPERATE

The moment symptoms appear, if we wait it is very possible that complications might arise (colecistitis, peritonitis, pancreatitis..)

5. - WHAT DOES A BILIARY GALL BLADDER LAPAROSCOPIC SURGERY ENTAIL?

It consists in operating without opening the abdomen, working through small openings of about 5 to 12 mm, in which we insert a camera and the necessary instruments to operate; all this will permit us to visualize everything that we do through the monitor. During the intervention the damaged biliary gall bladder and the stones are removed. This type of surgery requires a highly technical expertise from the surgeon (precise professional formation) and special technology from technical center. (Automatic sutures, harmonic scapel, and technical instruments etc.)

6. - WHAT ADVANTAGES DOES LAPAROSCOPIC SURGERY HAS?

When small incisions are made, the pain is less. Consequently, the recovery is much faster, improving movement and the general state and behavior of the patient preventing or decreasing potential complications (thrombosis, embolism, pneumonia and respiratory complications, etc) Since the incisions are so small the possibility of infection barely exists, the same goes for hernias in the operated wound. In a normal operation these might have an incidence of 40% or more, therefore they disappear in laparoscopic surgery. The delicate handling of the intestine with thongs allows fast recovery and the patient will be able to eat and tolerate food faster. In summary:

- LESS PAIN, LES VOMITING AND LESS FASTING PERIOD AFTER SURGEY.
- FEWER COMPLICATIONS OF TROMBOSIS
- LESS WOUND INFECTIONS
- LESS EVENTRATIONS
- LESS SCARING, BETTER ESTHETIC RESULTS
- LESS ADHESIONS, BETTER RECOVERY PERIOD
- FASTER RETURN TO NORMAL ACTIVITY

7. - WHAT STEP SHOULD I TAKE TO OPERATE MY BILIARY GALL BLADDER?

1.- **Pre-op:** You must be examined by a doctor, who will perform a complete clinical history. The test previous to the operation will be: Ecosonogram, conventional pre-op (analytical x-ray of the thorax and an electrocardiogram) If you are taking medication on a habitual manner, your doctor will tell you if you should continue taking them or stop before the surgery.

2.- **Intervention.** You will enter the hospital 2 hours prior to the operation in order to be prepared. The operation has a variable duration of 20 minutes to 2 hours depending on the patient. Nonetheless, the correct insertion and preparation of the patient in the operating room as well as the anesthetic and stabilization of the patient take time. Family members must not worry if the stay at the operating room takes longer. Such surgery must be done step by step without any hurry. Six hours after the surgery, the patient begins to ingest liquids, if no complications arise, the patient may leave the hospital 12 to 48 hours after the post op period.

3.- **Leaving the hospital:** If no complications arise the patient can leave the hospital after 12 to 48 hours after the surgery.

8.-WHAT HAPPENS AFTER LEAVING THE HOSPITAL?

When you arrive home you rest, it is advisable to take short walks around the house. There are few complications; therefore we do not prescribe analgesics after leaving the hospital. You can take a bath the day after arriving home.

Ten day after the surgery you must return to your surgeon, who will remove the sutures from your skin. You will probably return to your normal activities within a week, even go back to work if there is no physical activity entailed, (otherwise we advise to slowly increase your working hours). The presence of abdominal pain, fever, nausea and/or persistent vomiting or oozing from the wound might indicate a complication. In this case you must contact your surgeon immediately.

9.- ARE THERE ANY RISKS RELATED TO THE LAPAROSCOPIC SURGERY?

Any operation as simple as it might be has a certain level of risk, the majority of patients operated by laparoscopic procedures experience few or no complications and quickly return to their normal activities.

- Complications after laparoscopic surgery might include: subcutaneous emphysema, Hemorrhaging, wound infection, post-op pneumonia, deep vein thrombosis and/or pulmonary embolism etc. The percentage of complications does not add up to 1% in laparoscopic surgery.
- Among the most specific complications of this type of surgery we can cite a biliary fistula (oozing of bile from the biliary ducts) and injuries to the biliary ducts. We must consider that when the surgeon indicates the need for this procedure, it is because the risk of the operation is less than a non-treated pathology.

10.- WHAT IS COLEDOCOLITIASIS?

The biliary ducts begin at the liver. Progressively they become thicker forming outside the liver main stems. The right hepatic duct collects the bile from the right hepatic lobe, and the left hepatic duct from the left hepatic lobe. The union of the two ducts from a thicker trunk, of about 8 cm long and 10 mm in diameter, it is called the common duct or coledocoum. This duct ends in the second portion of the duodenum called papilla of Vater. This papilla has a muscle that works as a sphincter. The Oddi sphincter. The bile, once it has arrived at the duodenum, facilitates digestion and the absorption of nutrients. Coledocolitiasis is the presence of stones (lithiasis) within the biliary ducts. In the majority

Of the cases these stones proceed from the biliary gall bladder through the biliary ducts through the cystic duct.

11.-WHAT SYNTOMS DOES COLEDOCOLITIASIS CAUSE?

The symptoms may vary; typically, it is associated with a severe pain on the right side of the abdomen, fever or ictericia. Ictericia is the yellowing of the skin and mucous membranes. Fever is very intense with drastic increase and decrease in temperatures accompanied with chills.

12.- HOW IS COLEDOCOLITIASIS DIAGNOZED?

Coledocolitiasis can be diagnosed with an ecosonogram, a CAT Scan or colangioresonance. A very interesting exam is the CRE (endoscopic retrograde colangiopancreatography). A flexible endoscope is introduced through the mouth up to the duodenum. This will allow us to examine the condition of the biliary ducts, even remove stones, thus curing coledocolitiasis.

13.-WHEN TO OPERATE?

Due to the complications that coledocolitiasis might produce (ictericia, severe duct infection, and pancreatitis.) the procedure to follow is: 1.- First: we must remove the stones through CPRE (no need for general anesthetic) and then proceed with the laparoscopic colecystomy, to prevent the stones that remain in the gall bladder to pass again to the biliary ducts. If the stones cannot be removed with the CPRE, we can remove them by opening the biliary ducts through laparoscopic surgery; we must add that the post op recovery is a bit longer.

14.- WHAT DOES LAPAROSCOPIC SURGERY OF COLEDICOLITIASIS CONSISTS OF?

In most cases a laparoscopic colecystectomy is performed if the stones have been previously removed by CPRE. If stones persist in the biliary ducts, we make a small incision and remove them with special instruments. In some cases the ducts are so dilated that it is necessary to deviate them with sutures to other digestive organs for proper functioning. (Duodenum or yeyuno).

15.- WHAT ADVANTAGES DOES COLEDICOLITIASIS LAPAROSCOPIC SURGERY HAVE?

The same as in the colelitis case.

16.-WHAT STEPS SHOULD I TAKE FOR BILIARY DUCT LAPAROSCOPIC SURGERY?

The process is similar to the laparoscopic colecistectomy. **1.- Pre-op:** You must be evaluated by your surgeon; he will examine you and study your complete medical history. Before the operation you will need the following test: Ecosonogram, conventional pre-op exams such as thorax x-rays and electrocardiogram. If you are taking medication on a habitual basis, the surgeon will indicate you if you must continue taking it or stop before the surgery. **2.- Surgery:** You will enter the hospital 2 hours before the operation to be prepared. The operation has a variable duration depending on each patient. Nonetheless, the correct preparation for the OR, the anesthetic procedure, the stabilization and recovery take time. Your family members should not worry if the stay in the OR is long. This type of surgery must be done step by step without hurry. Six hours after the operation the patient may start to drink liquids if no problems arise. The patient may leave the hospital 48 hours after the post-op period. If anastomosis has been done between the biliary ducts and other organs such as the jejuno and duodenum, liquids should start 48 hours after the operation and the patient will leave the hospital 4 days after the operation.

17.- WHAT HAPPENS AFTER LEAVING THE HOSPITAL?

You must rest after you arrive home from the hospital; it is advisable to take short walks around the house. The complications, are few, we do not prescribe analgesics after leaving the hospital. If you have drainage tubing, the surgeon will explain what to do with it and how to take care of it. You may take a bath the day after arriving from the hospital. Ten days after the operation you will go to the doctor's office, who will remove the sutures from the skin. It is very probable that within a week you may return to your normal activities; even go back to work if it does not entail strenuous activities. The presence of fever, abdominal pain, nausea and /or persistent vomiting or oozing from the wound indicates there are complications. You must contact your doctor immediately.

18.- ARE THERE RISKS RELATED TO LAPAROSCOPIC SURGERY?

Any operation as simple as it might be entails a certain degree of risk. The majority of laparoscopic patients experiment few or no complications and quickly return to their normal activities. Complications after the surgery might include: subcutaneous emphysema hemorrhaging, wound infection, post-op pneumonia, deep vein thrombosis and/or pulmonary embolism. Globally the sum of all the complications does not reach 1% of the laparoscopic procedures. Coledocolitiasis surgery might cause biliary leak in some cases (leakage of bile through the drain tubing) you must keep in mind that when the surgeon recommends a surgical procedure it is because the risk is less than a non treated pathology.