

LAPAROSCOPY

What is it?

Advantages

How is the operation carried out?

Do all surgeons make it?

What can be operated via laparoscopy?

What is it?

This is a minimally invasive technique that enables almost all the operations formerly carried out only via open surgery. This surgery allows to operate without opening up the patient.

Advantages

Laparoscopic surgery is not as aggressive and does not make the postoperative as painful. Moreover, patients recover earlier. The risk of infection is reduced since the wounds are very small. As the abdomen is not cut open, respiratory infections are very rare. Therefore, patients can be discharged between 24 and 48 hours after surgery.

How is the operation carried out?

In laparoscopic surgery, we make small orifices 5-10 mm deep in the skin and we introduce a mini videocamera into the cavity we want to operate on.

This would be the most basic way to be able to see inside the organism but we have to introduce the optics. To this aim we have the trocars. These are some tubes from 5 to 12 mm thick that contain a valve and enable us to introduce surgical instruments into the organism.

Gaz (CO₂) is insufflated into the peritoneum cavity. This way we get more space into abdomen and we can move around into it, visualise its structures and work on them.

The work instruments are similar to open surgery but they are adapted in order to work from distance. Hands are out and the instrument's tip is inside the abdomen.

When the operation is over, we get gas escaped from the cavity, the latter disappears and everything returns to normality. At the end, there are just from 4 to 6 orifices into the abdominal skin.

Do all surgeons make it?

The technique is difficult the for surgeons trained only in open surgery because they have to learn from scratch the laparoscopic technique and they have to be motivated to make this effort.

It means hard and constant training for many years. For example, in 1990, only 1% of surgeons used the laparoscopic technique while in 2000, 30% of them used the basic technique (bladder).

Only a few of us practise the most complicated surgery (morbid obesity, colon and rectum...).

What can be operated via laparoscopy?

The first operation via laparoscopy was the removal of the gall bladder. This operation has expanded all over the regions and is very common and practised by most surgeons.

Presently, only teams specially trained like us can operate on everything via laparoscopy – such as: gastro-oesophageal reflux, hiatus hernia, colon and rectum cancer surgery, suprarenal glands, liver, morbid obesity...- that used to be operated on only by open surgery.

Diseases or illnesses that are treated via laparoscopy depend on the surgical team's experience and years of training and dedication.

Colon, rectum, anus

Malignant pathology

Colon cancer

What is it?

What are the symptoms?

What does the treatment consist in?

Rectum cancer

What is it?

What are the symptoms?

What does the treatment consist in?

Anal cancer

What is it?

What is the treatment?

Benign pathology

Colon diverticles

What are they?

How are they treated?

Polyposis of the colon

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Haemorrhoids?

What are they?

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Anal fissure

What is it?

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What is it?

How is it treated?

COLON, RECTUM, ANUS

Malignant pathology

Colon cancer

What is it?

Colon cancer is the most common one amongst the digestive tract cancers and one of the most usual in our milieu. Food genetic and environmental factors play an important role. Consumption of animal fat, smoked foods, chemical additives, alcohol and a diet poor in fibre are partly responsible for colon cancer's increase.

Colon cancer consists in the appearance of a tumouration in the digestive tract's internal part. This tumouration tends to grow and spread out to ganglions or create distant (methastasis)

What are the symptoms?

The suspicious and alarming symptoms of colon cancer are: anal bleeding and mucous alone or in stool, changes in defecation rhythm with usual tendencies for constipation, abdominal pain you did not have before or appetite and weight loss.

What does the treatment consist in?

It consists in the removal of the diseased segmen of the colon. Then, both extremities are spliced. Colectomy (colon's removal) is carried out via laparoscopy.

According to the analysis of the piece removed and the number of affected ganglions, a treatment based on chemotherapy might be necessary.

Rectal cancer

What is it?

The rectum is the 15 cm long final part of the large intestine. It is diagnosed by rectal touch (palpation of the tumour with a finger inside the rectum), and colonoscopy with a biopsy.

What are the symptoms?

Bright red anal bleeding, feeling of having a lump, constant need for defecating, defecation difficulties and anal mucous and bleeding in the stool.

What does the treatment consist in?

Only surgery can heal it. Before surgery, preoperative treatment based on radiotherapy and chemotherapy is administered in order to improve the prognosis.

With our experience in rectal cancer surgery and laparoscopy, a patient with a rectal tumour at less than 5 cm from the anal margin does not have to undergo total colostomy (placement of a pouch). The tumour and affected rectum can be removed curatively by splicing the healthy colon to the anus safely and preserving the patient's sphincters.

Anal cancer

What is it?

It's not very common but very aggressive. An indurated part appears in the anal area with sometimes red blotches, stinging sensation and ulceration. The most common one is the epidermoid carcinoma.

What is the treatment?

It is locally removed if the lesion is small and doesn't stretch out to the submucous. If the tumour is bigger, it is treated by radiotherapy and chemotherapy. If the tumour recidivates, abdominoperineal

amputation is carried out via laparoscopy with total colostomy (pouch).

Benign pathology

Colon diverticles

What are they?

They are small bags stuck to the colon wall that come from the deepest colonic coats. They are caused by diets poor in fibre, rich in sugar and meat and by constipation. They're usually located in the left colon and sigma.

How are they treated?

In few patients, there might be complications such as anal bleeding or infection of the diverticles (acute diverticulitis) that can provoke perforations of the diverticles and peritonitis.

How are they treated?

The patients who have not suffered from acute diverticulitis are recommended to have a diet rich in fibre and to take spasmolytics when they feel pain.

Surgery is recommended at the second outbreak of acute diverticulitis and consists in the removal of the affected colonic segment via laparoscopy and splicing of both extremities.

Polyposis of the colon

What are they?

They are protuberances that stick out from the intestinal mucous membrane and that are considered as pre-malignant lesions: they can turn into cancer with the passing of time. Though they are usually unique, they can be multiple and appear apart or part of a colonic familial polyposis syndrome.

How are they treated?

Small polyps are removed via endoscopy. When they are big or multiple, the best procedure is laparoscopic surgery by removing the colonic piece affected by the polyps.

Rectal prolapse

What is it?

When making effort in the stool, the final part of the large intestine (rectum) comes out from the anus which causes pain and general indisposition, sometimes the ulceration of the mucous membranes may even bleed. Patients usually have feces or flatulence incontinence. Thus, they have to wear nappies.

How is it treated?

According to the prolapse level, we can carry out the external reparation of the sphincters and pelvic floor, the removal of the prolapsed rectum through the anus or the internal reparation by fixing the rectum to the promontory via laparoscopy.

Haemorrhoids

What are they?

Haemorrhoids or piles are formed by a tissue located in the anal internal part composed of many blood vessels and elastic fibre. Haemorrhoids appear when this tissue goes down outside the anus or gets inflamed.

Haemorrhoids are caused by; constipation, efforts in the stool, pregnancy and delivery, keeping straight for a long time, which provoke their congestion and dilatation and thus help them come out of the anus.

There are many stages which will determine the kind of treatment to use. First, haemorrhoids are not perceptible and the only symptom is bright red bleeding on the toilet paper or with the stool. There might be progressively stinging sensation, burning and itch. In the most advanced stages, haemorrhoids are permanently outside the anus. They are only painful when there are complications such as thrombosis.

How are they treated?

When symptoms are minor, fibre consumption has to be increased in the diet as such as liquids. Avoid caffeine drinks, alcohol and spicy food. Have some few minute long sitz baths of lukewarm water.

In more advanced stages, we recur to techniques at the surgery. The most used methods are; the injection of botulin in order to 'dry' haemorrhoids and the ligation with an elastic banding that produces the strangulation of blood flow to the haemorrhoid which disappears a few days later.

Serious cases require surgery that consists in haemorrhoidectomy or haemorrhoids's removal. This is the most effective technique although it can have very little common complications such as postoperative persistent pain or anal incontinence.

Anal fissure

What is it?

This is a small tearing or wound in the anal part. It may be provoked by constipation, hard faeces passing through the anus or also diarrhea of irritant liquid faeces though in many cases, it is not impossible to determine the accurate cause of it.

It produces strong pain after the stool and may last hours. This pain is provoked by the fissures opening in the stool and by the spasm of the sphincter muscle which also avoids healing. Anal bleeding on the toilet paper is common. In some cases, anal fissure can get infected and discharge pus.

How is it treated?

More than half fissures heal spontaneously or with analgesics, stool softeners and with a diet rich in fibre, water and liquids that avoids constipation.

Chronic fissure does not heal because it maintains the contraction of the sphincter and makes blood supply difficult for the skin. The most usual operation is the lateral sphincterotomy of the internal anal sphincter. It consists in cutting out a small piece of this muscle with a very small incision.

As it avoids pain and spasm, it helps healing. Patients are operated on at the surgery and their symptoms improve early.

Anal fistula

What is it?

An anal-rectal fistula (fistula in the anus) is an abnormal tract that goes from the anus or rectum to the skin near the anus, though it might sometimes go to another organ such as the vagina. Fistulas usually start in a deep gland of the rectal or anal wall.

This ailment is more common in people who suffer Crohn disease, diverticulitis, cancer or any anal or rectal lesion.

Fistulas may be painful or discharge pus. They may have one or more openings or may be under the skin.

If a probe is introduced, the depth and direction of the fistula can be determined. The doctor can localise the internal opening through the probe he introduces into the rectum and explores with an anoscope.

Presently, Park's classification is the most used; inter-sphincteric, trans-sphincteric, supra-sphincteric and extra-sphincteric fistulas. The term 'complex fistula' implies the presence of a fistula whose treatment implies a greater number of recidivation or continence.

That is the reason why fistulas caused by diseases – such as inflammatory disease or hidradenitis – have major recidivation than cryptoglandular ones.

Also, the fistulas that have recidivation and the ones that have secondary tracts are considered as complex.

Patients with anal fistulas usually have abscesses drained with or without surgery. Some of them have constant anal fluid with or without pruritus ani. Others refer recurrent abscesses.

How are they treated?

Only surgery is effective.

Antibiotics do not play an important role in the treatment of anal abscesses. Surgical draining is the most effective treatment.

Antibiotics are useful in elderly, diabetics or patients with cardiac prosthesis.

Perianal and abscesses are drained under local anaesthesia at the surgery. Draining always has to be substantial. The alternative treatments of anal-rectal fistulas are fistulotomy and fistulectomy.

The fistula's resection or fistulectomy is the opening of the fistulous tract without cutting it out. It is recommended in intra-sphincteric fistulas. If the external sphincter may be affected significantly, the surgeon has to make elastic ligature of it to delay the resection, which avoids incontinence.

Oesophagus, stomach, bladder

Oesophagus

Achalasia

What is it?

How is it treated?

Stomach

Stomach cancer

What is it?

How is it treated?

Hiatus hernia and gastro-oesophageal reflux

What are they?

How are they treated?

Bladder

Biliary lithiasis

What is it?

How is it treated?

Oesophagus, stomach, bladder

Oesophagus

What is it?

This disease is characterized by the hypertony (excessive muscular tone) of the lower oesophageal sphincter that is located in the union of the oesophagus with the stomach. As this muscle does not relax when foods pass, patients can hardly swallow, vomit foods and white saliva, regurgitate them and with the passing of the years, it may turn into cancer.

How is it treated?

It is operated via laparoscopic surgery which consists in making Heller myotomy that is to say cutting out the fibres of the lower oesophageal sphincter that prevents aliments from passing to the stomach.

Stomach

Stomach cancer

This is a slow and silent disease that appears with some complications such as pain or bleeding.

It provokes appetit loss and tiredness. It is diagnosed via endoscopy and a biopsy.

How is it treated?

When the cancer can be healed since most of them are diagnosed in advanced stages, normal surgery is the best. The stomach and lymphatic ganglions that develop the tumour are removed (gastrectomy). This operation can be made via laparoscopy but it requires a specialised equipment.

Hiatus hernia and gastro-oesophageal reflux

What is it?

At the final extremity of the oesophagus, there is the lower oesophageal sphincter that prevents the acid content of the stomach from going up to the oesophagus. When this mechanism fails, there is gastro-oesophageal reflux (GOR).

Hernus hiatus occurs when a part of the stomach loses its location within the abdomen and goes around. There is gastro-oesophageas also.

The main symptom is a pain in the middle of the breast. It's diagnosed by an endoscopy, PHmetry and manometry. The complications of the gastro-oesophageal refux may be serious such as oesophagitis, Barret oesophagus or haemorrhagies.

How are they treated?

In order to control the symptoms, there is a a series of diet and position advice such as medication:

- don't lay or bend down just after eating
- don't wear belts, girdles or tight clothes
- sleep with the head up 10-15 cm

- lose weight
- avoid foods such as coffee, chocolate, cacao, alcohol and tobacco.
- Have some medication against acidity or that increase the peristaltism of the oesophagus that favours the acid elimination.

Patients have to be operated on when complications appear and when despite an adequate diet, position and medical treatment, they have still symptoms.

Laparoscopic surgery consists in closing the pillars of the diaphragm placing the cardia in an intra-abdominal position and creating a consistent anti-reflux mechanism by making a kind of tie with the stomach around the oesophagus (Nissen).

Bladder

This is a pouch-shaped organ, where the bile produced by the liver, is stocked. When eating foods, the bladder is stimulated and tenses up throwing out its content to the main biliary tract that comes out into the duodenum where bile is mixed up with foods and allow their absorption.

Biliary lithiasis

What is it?

Bladder cholelithiasis, calculi or stones is the result its biliary precipitation and cristallisation. It affects 10% of the population, 50% out of them have complications because of these stones such as bladder's inflammation, hepatic colic, acute pancreatic and even bladder cancer.

When stones form in the bladder, surgery is necessary.

What is the treatment?

The best treatment is the removal of the bladder via laparoscopy.

Other operations

What is it?

What are the related diseases?

What is the treatment?

Intestine inflammatory disease

Ulcerative colitis

What is it?

What is the treatment?

Crohn's disease

What is it?

What's the treatment?

Hernia

What is it?

How is it treated?

What is it?

This is 100-gramme solid organ that is located on the left side of the stomach and below the diaphragm. Its function is the destruction of old or damaged red corpuscles and of the rest of the blood elements (white corpuscles and platelets).

The increased function of this organ (hyperesplenism) provokes anemia, leucopeny and thrombopeny.

What is the treatment?

The treatment is the laparoscopic removal in patients who suffer from haematological anemia, ITP or idiopathic thrombotic purpura or TTP thrombocytopenic thrombotic purpura.

Intestine inflammatory disease

Ulcerative colitis

What is it?

This is an intestine inflammatory disease that only affects the colon not the small intestine. It forms in the colonic mucous membrane. It

is more common in young people aged 15-30 and adults over 60. The cause of this disease is unknown.

The main symptoms are the appearance of bleeding diarrhea, high temperature, tiredness, general discomfort and anal mucous. The complications might be serious haemorrhagies, toxic megacolon, rectal vaginal fistulas, colon cancer and other alterations such as articulation inflammation and cutaneous alterations.

What is the treatment?

The treatment of light or moderate ulcerative colitis is medical. Patients should avoid fruit, raw vegetables and milk. Medication against diarrhea should be used with caution. Sulfasalazine is the most effective.

Ulcerative colitis requires an urgent surgical treatment in case of massive haemorrhagy, fulminating toxic megacolon and colon's perforation. The effective surgical treatment is the laparoscopic the removal of the whole colon and the most usual techniques are the colectomy with ileorectostomy and the proctocolectomy with an ileoanal reservoir.

Crohn's disease

What is it?

This is an unspecific inflammatory chronic disease that usually affects the colon and the small intestine though it can be located in any segment of the small intestine and digestive tube from the mouth to the anus. It appears in patients aged 20 sometimes up to 40.

The symptoms are: chronic diarrhea, abdominal pain, high temperature and tiredness. It can cause digestive haemorrhagy and even perforation.

The formation of intestine fistulas, intra-abdominal abscesses, inflammatory abscesses and perianal fistulas is typical.

What is the treatment?

There is no specific curative treatment. The treatment of Crohn disease is the one of acute outbreaks. The use of antibiotics such as

metronidazole is profitable when there is affection. In acute stages of the disease, corticoids and immunosuppressive medication are used.

Laparoscopic surgery is only necessary in case of complications such as intestinal obstruction, abscesses or fistulas.

Hernia

What is it?

This is the protusion of an abdominal viscera through a weak point of the abdomen wall. The most common hernias are inguinal but there are others such as umbilical, incisional ...

The increase the abdomen pressure is the main cause of hernias. They appear as a lump or tumour where the hernia is located usually in the groin. Patients usually feel pain when they lift up something heavy, cough or make efforts in urinating or defecating.

In some cases, hernias might have serious complications. The strangulation of a segment of the intestine may require urgent surgery. If you think you have a hernia, consult your doctor urgently for a medical assessment.

How is it treated?

Surgery is the only treatment. There are different surgical techniques apart from the reparation mentioned above; the preritoneal technique and the laparoscopical one with a meshwork in order to repair the hernia defect.

You will be able to return to your normal activities 3-4 weeks after surgery and if you are operated on via laparoscopy, you will recover earlier.

