

Insuring stomach and colorectal cancer in 2012

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Introduction

Colorectal cancer is, with breast, lung and prostate cancer, the most common type of malignant tumour. Its incidence around the world varies considerably with, for instance, 10 times more cases of colorectal cancer in the United States than in Africa. Australia, New Zealand, Japan and Western Europe are considered high risk, whereas South America and the rest of Asia are thought to be less affected. To give an idea of what colorectal (or bowel) cancer represents in quantitative terms, there are an estimated 330,000 new cases every year in Europe and 150,000 in the United States.

Colorectal cancer is screened for using a test known as the faecal occult blood test and diagnosed by colonoscopy. Its risk factors, in particular hereditary, are well known and polyps, which are precursors to cancer, are removed when found during colonoscopy. Finally surgery and chemotherapy have improved the prognosis over the last 20 years and cure many cases.

Stomach or gastric cancer is also very common worldwide and represents almost 10% of all cancers. Its incidence varies a great deal from one country to another: it is still very common in South East Asia, in particular in Japan, and in Central Europe whereas in the United States and Western Europe it has become rare and the incidence is constantly falling. In Europe, over 145,000 cases of stomach cancers were diagnosed in 2008, with a strong preponderance of cases in Central Europe.

However there is no mass screening for stomach cancer. It is often diagnosed at an advanced stage by fibroscopy; chemotherapy is less effective and the final prognosis is more guarded.

The difference in the geographic incidences of these two cancers probably reflects differences in diet and possibly particular genetic predispositions.

Colorectal cancer

Colorectal or bowel cancer accounts for half of all digestive tract cancers and, since 1980, there has been a regular increase in its incidence¹. It affects men and women in equal measure and the average age of occurrence is between 65 and 70 years. It is rare before the age of 45, but its frequency doubles with each decade. In two thirds of cases, it occurs in the colon itself and in the other third in the rectum, the bottom part of the colon just above the anus.

Today, this cancer can be cured more easily and more often. **Mortality has been falling regularly for several years.** It was the cause of over 600,000 deaths worldwide in 2008.

The different types of colorectal cancer and the contributing factors

Adenocarcinoma

95% of colorectal cancers are adenocarcinomas of the Lieberkühn crypt, which develop most often from a benign lesion:

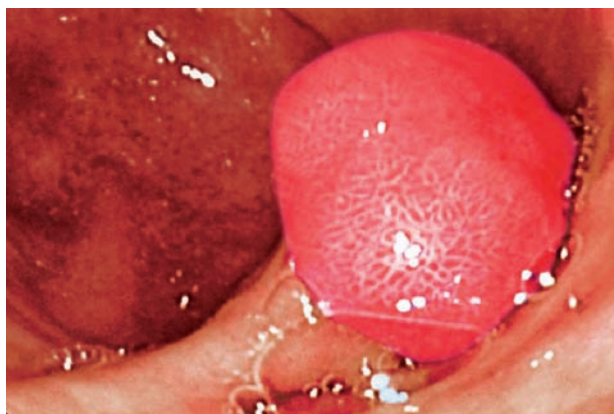
a pedunculated (mushroom-shaped) or sessile (flat) adenomatous polyp. These polyps are usually asymptomatic and are liable to become cancerous within about ten years if not removed at diagnostic colonoscopy (polypectomy).

The second factor contributing to colorectal cancer is chronic inflammation of the bowel wall encountered in chronic inflammatory bowel diseases (IBD), in particular ulcerative colitis and Crohn's disease. After a long period, usually more than ten years, chronic IBD may evolve to colorectal cancer and must therefore be regular followed-up by colonoscopy. Chronic IBD most often affects young subjects, aged 20 to 40 years. However, it only accounts for a very small percentage of colorectal cancers compared to Lieberkühn crypt adenocarcinomas arising from degenerative polyps.

95% of colorectal cancers are sporadic, that is to say not genetically determined.

However, familial predisposition does play a role. For example, if the father or mother has polyps or colon cancer, their children, brothers and sisters also have an increased risk of developing these conditions.

95% of colorectal cancers develop from a polyp



Pedunculated colon polyp



Colon cancer

¹ • Sources: period 1980 to 1985 (Belot A, 2008); period 1990 to 2011 (HCL/InVS/INca/Francim/Inserm, 2011)

On the other hand, 5% of colorectal cancers are associated with a strong genetic predisposition. In these cases, the children have a 50% risk of being a carrier of the mutation that causes the cancer. These hereditary colorectal cancers are grouped into two main syndromes:

- **familial adenomatous polyposis**, representing no more than 1 to 2% of colorectal cancers. From childhood the colon is covered by thousands of polyps, and the transformation of one of them into cancer is inevitable. This disease is now screened for in families that are at risk, using a genetic blood test. The treatment consists of removing the whole of the colon (total colectomy) before the cancer occurs, generally before the age of 20;
- **Lynch syndrome or HNPCC (Hereditary Non-Polyposis Colorectal Cancer)**, representing 4 to 5% of colorectal cancers. In these patients, the cancer occurs at unusually young ages (before 50) with a high risk of a secondary cancer, known as a metachronous tumour, a few years after treating the first. In these families, cancers in other locations than the colon have also been found to be more common than in the general population – uterine, ovarian and stomach cancer for example.

Other types of tumours

These are much rarer (5%). They include lymphomas, sarcomas, gastrointestinal stromal tumours (GISTs), or endocrine tumours.

The mainstay of screening: the detection of blood in the faeces

Today, it has been clearly demonstrated that the early detection of colorectal cancer reduces the mortality rate in the general population by allowing earlier treatment. Polyps and colon cancer are usually asymptomatic in their early stages, but in some cases there is slow bleeding.

In 2012, screening aims to detect blood, visible or occult, in the faeces.

Germany was the first country, as long ago as 1977, to offer screening for colorectal cancer. In 2000, the European Commission's Cancer Experts Committee recommended the introduction of colorectal cancer screening in Europe. Progressively, colorectal cancer screening campaigns are being organised:

the United Kingdom and France are currently at the forefront in this field.

In France, since 2009, people aged 50 to 74 have been offered a test named Hémocult® every two years, which aims to detect faecal occult blood². This is a "screening" test because it identifies people at increased risk of developing a polyp or colon cancer. If the test is positive, a colonoscopy must systematically be performed to detect any adenomatous polyps or cancers and allow early treatment. One of the weaknesses of the Hémocult® test is its 50% sensitivity, which means that there is one in two chance of it being positive when the colonoscopy will not reveal either polyps or cancer. The most common explanation for this anomaly is the presence of internal haemorrhoids.

"Interval cancer": this is a cancer diagnosed although a Hémocult® test was negative just a few months before. Out of a series of over 2000 colonoscopies³, thirteen cancers were found during the interval between two investigations. These cancers were due, in 4 of the 13 cases, to an incomplete resection of benign adenomatous polyps and, in another 3 out of the 13 cases, to lesions not spotted during the examination. This incompressible percentage of risk of having an interval cancer suggests that there is a need to continue improving screening tests and the performance of colonoscopy: more effective methods of preparing the colon, improved techniques for viewing the polyps, taking more time over colonoscopies, etc... to achieve optimum diagnostic efficiency.

Currently, the participation of the French population in the Hémocult® screening programme is of the order of 32% whereas, for the test to be effective in mass screening terms (cost covered by the number of lives saved), participation in the test would need to be over 50%.

France is therefore under this threshold, hence the interest of continuing to motivate doctors and the population to take part in this colorectal cancer prevention programme.

2 • Recommendations of the Consensus Conference of 1998, renewed in 2005 (www.has-sante.fr)

3 • Pabby A and al. *Gastrointest Endosc* 2005;61:385-91

These mass screening tests are not aimed at a population with a high risk of colon cancer such as people who have a personal history or family history involving first degree relatives of colorectal cancer, a chronic intestinal inflammatory disease (Crohn's disease, haemorrhagic rectocolitis), recent bowel movement changes, blood visible in the stools, etc. Such people must undergo a colonoscopy, especially after the age of 40...

Other tests will be coming onto the market which will replace Hémocult®. For example, an immunological test should soon be available, which will be more sensitive and need a smaller faecal sample, making it more acceptable to patients.

Other tests are being developed to detect blood in faeces: for example, the detection of gene alterations in faeces, or better still in the blood, or the identification of people with a risk profile for colon cancer. We can certainly predict a bright medical and commercial future for these new screening tests, but not before their scientific validation on a large scale.

Colonoscopy

Colorectal cancer is often asymptomatic. However, it can present with symptoms that unfortunately rarely alert the patient. These include recent change in bowel habit, the presence of blood in the stools (rectorrhagia), iron deficiency anaemia or a deterioration in the general state of health. Colorectal cancer may also be detected during the aetiological assessment of a hepatic or pulmonary metastasis...

In all these cases, colonoscopy is necessary for a positive diagnosis of colorectal cancer.

Colonoscopy is a visual exploration of the colon. In practice, the colonoscopy is done using a flexible tube (an endoscope), about 10 mm in diameter and 1.3 m long, introduced via the anus and advanced towards the other end of the colon, the caecum and the ileo-caecal valve. The endoscope is fitted with a light source at the end and a camera so that the zone being examined can be seen on a screen. The endoscope can also be used to insufflate air to unfold the bowel walls, project water to clean them, allow the passage of forceps or other instruments to take samples of a lesion in the wall (biopsy) or remove polyps.

The colon must be perfectly clean; a preparation is given before the examination to empty the bowel. The examination itself takes about twenty minutes. To improve tolerance of the examination, a general anaesthetic is often offered. In very rare cases this examination can be complicated by the perforation of the colon or by haemorrhage. It must be done in optimal technical, material conditions and under close surveillance. Sometimes, it is very difficult to find polyps or cancer by colonoscopy, especially when the cancer develops from a flat polyp or in the Lynch syndrome, a hereditary predisposition to colon cancer. In some of these cases, a cancer may arise when the mucous membrane seemed normal the year before.

Over the last few years, in some cases, it has become possible to replace colonoscopy by a technique that is constantly evolving: **CT colonography** also known as **virtual colonoscopy**.



colonoscope



video-endoscope

This consists of doing a CT scan of the colon and then using specialised software to reconstruct 3-dimensional views of the colon. It is carried out without a general anaesthetic but with the same preparation of the colon as for a conventional colonoscopy. It can detect polyps and tumours, but does not allow biopsies or their removal.

Staging

A colorectal cancer can spread locally through the colonic or rectal wall and then invade neighbouring organs such as the prostate, the uterus or the peritoneum. It can also spread to the regional lymph nodes N(1,2) and, via the bloodstream, to distant organs, particularly to the liver and the lungs, and, less frequently to the bones and brain: these are metastases (M1).

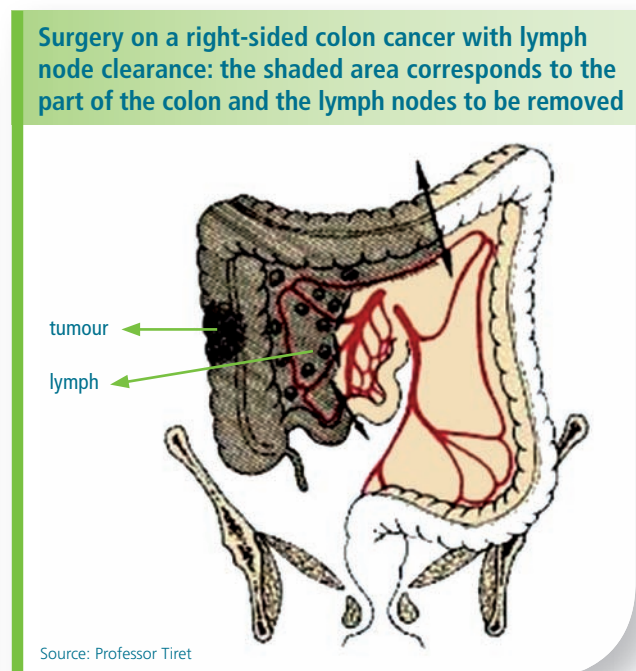
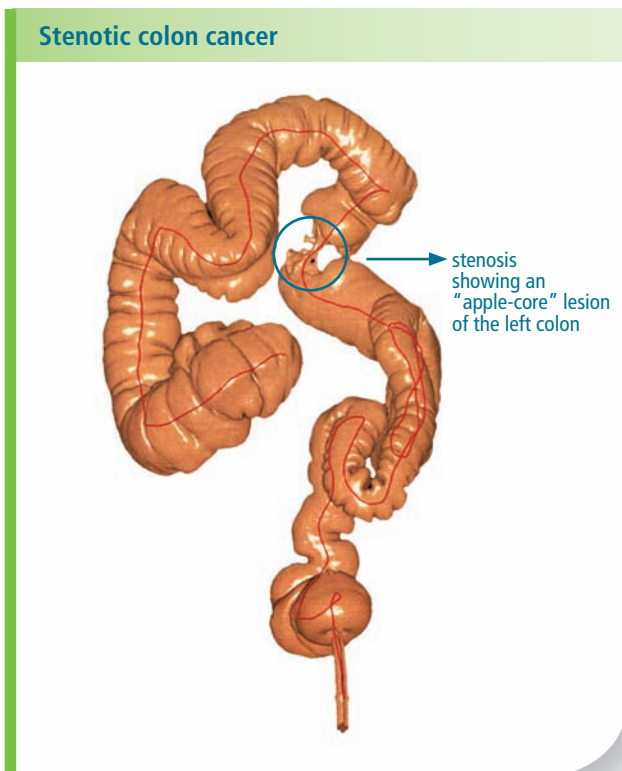
A staging is performed to determine the size of the tumour (T), whether or not it has spread to the lymph nodes (N) and whether or not there are any metastases (M). This data will then serve to decide on the patient's treatment and to assess prognosis.

The staging investigations include a clinical examination, hepatic imaging by ultrasound or CT scanning, a chest X-ray or CT scan. Ideally, a thoraco-abdominal CT scan is performed at the initial assessment to scan the relevant areas of the thorax and abdomen in a few seconds. The PET scan, a relatively recent imaging technique that combines scintigraphy with a CT scan, is not a first-line investigation in the staging investigations for colorectal cancer at present.

Once the staging investigations have been completed, it is possible to classify the colon tumour by its size, lymph node status and any metastases detected using the TNM staging system⁴. This classification will only be final after surgery and the histological analysis of the tumour and lymph nodes.

Surgery

Surgical treatment of colonic cancer consists of removing the section of bowel where the tumour is located (colectomy). Resection margins of at least 5 cm on either side of the tumour are necessary to avoid subsequent local recurrence. Digestive



4 • The TNM staging system (Tumour, Node, Metastasis) takes into account local, regional (lymph node) and metastatic spread

continuity is generally re-established at the same time, thereby avoiding the need for a stoma.

The lymph nodes close to the tumour are also removed during the colectomy: this is known as "lymph node clearance".

The histological analysis of the lymph nodes is decisive for the rest of the treatment. **Schematically, when the lymph nodes are positive, that is to say affected by the cancer, postoperative chemotherapy is required. When not, a regular clinical surveillance is usually proposed.**

Colon surgery is conventionally open surgery but, over the last few years, the laparoscopic method (camera and surgical instruments introduced through small openings in the abdominal cavity) has been developed. A comparison of the results of conventional colectomy and coelioscopic or laparoscopic colectomy does not show any differences in terms of survival, recurrence and quality of life.

However, the postoperative effects are less marked with laparoscopic surgery. It is not as painful and, therefore, needs less analgesia, resulting in a quicker return of bowel function and shorter hospital stays.

Fast-track patient recovery

This is real progress compared with the 2000s in the treatment of colon cancer. It is a multidisciplinary approach that involves surgeons, anaesthetists, physiotherapists and nurses.

The aim is to shorten the treatment time and therefore the length of the patient's stay in hospital.

In practice, the preoperative bowel preparation and premedication are simplified, the volume of the fluids given during the operation is reduced as far as possible, the incisions in the abdominal wall are smaller, stomach drains and urinary catheters are avoided, feeding and mobilisation are re-established earlier...

Operations are less traumatic overall and, in the most favourable cases, patients can leave hospital just three days after an operation for colon cancer.

Complications of colon surgery

Complications are rare, with less than 1% mortality. One example is leakage at the site of anastomosis where the two

ends of the bowel were sewn together, followed by postoperative peritonitis or intestinal fistula.

Thromboembolic complications (phlebitis, pulmonary embolism) are also possible. These can be prevented by anti-phlebotic compression stockings and prophylactic anticoagulant therapy continued for several weeks after leaving hospital.

Chemotherapy

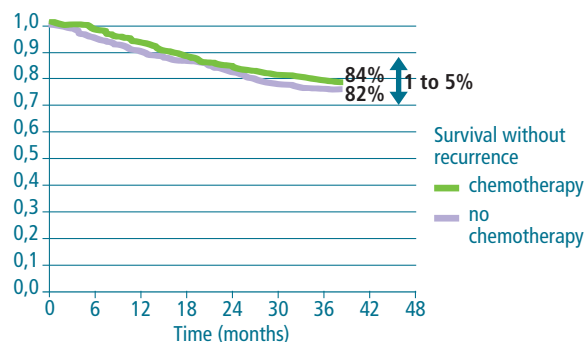
After surgery on the colon, the value of complementary chemotherapy known as adjuvant or preventive chemotherapy will be discussed with the aim of avoiding a relapse.

The decisive factor in deciding on chemotherapy is the presence of regional lymph nodal involvement N(1.2).

Adjuvant chemotherapy for N0 cases?

When no nodal involvement has been observed (N0), the risk of recurrence is still present, but of the order of 20%. However, adjuvant chemotherapy in such cases has few benefits and currently the recommendation is not to systematically embark upon adjuvant chemotherapy if there is no nodal involvement.

Overall survival of the population treated for an N0 colorectal cancer with or without chemotherapy



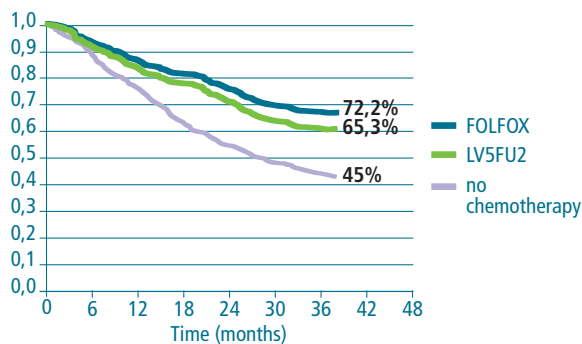
Sources: Michel P. *Gastroenterology* 1999;117:784-93, IMPACT b2. *J Clin Oncol* 1999;17:1356-1363, Gray RG. *Proc Am Soc Clin Oncol* 2004;abs 3501

Adjuvant chemotherapy for N(1.2) cases

When there is nodal involvement (N1.2), the 5FU+levamisole chemotherapy protocols used since the 1990s have proven very effective and have had a significant effect on survival rates. More recently, with the Folfox protocol (5FU – folic acid – Oxaliplatin), the disease-free survival rate has improved by 25%.

Currently, a patient with colon cancer with nodal involvement has a risk of recurrence of less than 30% if he undergoes chemotherapy. However, by increasing the intensity of chemotherapy we also increase the toxicity. Oxaliplatin in particular induces neurotoxicity which can cause sensory dysfunction, or paresthesias, often incapacitating.

Overall survival of the population treated for an N(1.2) colorectal cancer with or without chemotherapy



Sources: Andre T and al. *N Engl J Med* 2004;350:2343-51

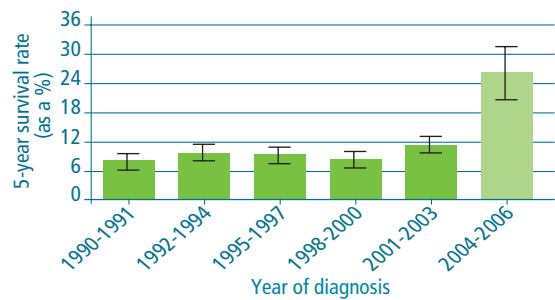
Chemotherapy for metastases... and surgery

Chemotherapies are progressing and leading to slightly better median survival times of the order of 30 months in metastatic cancer which is encouraging but of course still insufficient. The trend is therefore currently towards more and more aggressive treatment of metastases and, for some selected cases, hepatic metastases in particular, surgical resection is proposed and has good results.

Today, 20% of patients undergo surgery for metastases and some of them will already have had preoperative chemotherapy to reduce the volume of the metastasis so that it can be surgically removed⁵. Studies⁶ show a non-negligible disease-free

survival rate at five years in patients considered not so long ago as incurable.

Overall 5-year survival of the population treated for colorectal cancer with metastases according to year of diagnosis



Sources: Kopetz S and al. *J Clin Oncol* 2009; 27:3677-83

Decision-making at multidisciplinary meetings (MDMs)

In all cases the decision to give adjuvant chemotherapy will be taken after discussion at an MDM between all the professionals concerned, the decisive factor being nodal involvement. However, there are also minor recurrence risk factors such as late surgery when bowel obstruction or peritonitis has already occurred, perineural invasion, the presence of lymphatic or vascular tumour emboli... as well as other new prognostic criteria which we will detail below, which must be discussed at the MDM before deciding on the optimal therapy.

Prognosis

One important prognostic factor in colorectal cancer, to judge whether or not the patient will still be alive after five years, is the recurrence of tumour three years after surgery. Several studies have shown a very good correlation between disease-free survival at three years and overall long-term survival.

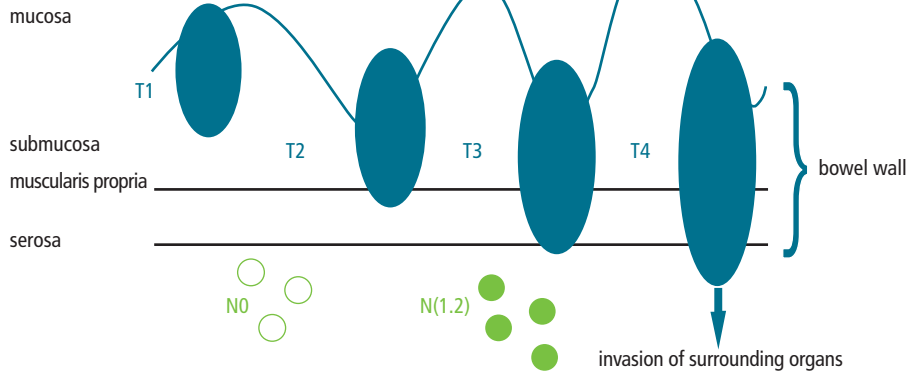
Statistically, colorectal cancer has good survival; the global five-year survival rates are 65% in women and 61% in men.

5 • D Smith and al. *JFHOD* 2010;4569

6 • Masi G and al. *Ann Surg* 2009; 249: 420-5. Adam R and al. *J Clin Oncol* 2009;27:1829-35. Goéré D and al. *Ann Surg* 2010; 251:686-91

TNM staging for colorectal cancer

T = Tumour, N = Node, M = Metastasis



N0 = no cancer in nearby lymph nodes, **N(1.2)** = cancer cells found in nearby lymph nodes, **Nx** = undetermined
M0 = no metastases, **M1** = metastases present (liver, lungs...), **Mx** = undetermined

Source: SNFGE (French National Society for Gastroenterology)

The TNM stage

The TNM stage of the tumour is obviously the decisive prognostic factor: 90% survival at five years for early stages without lymph node involvement (N0), but only 5 to 15% in metastatic disease M(1.2). It is obvious that early diagnosis is essential. The circumstances of the diagnosis, such as following a bowel obstruction or peritonitis, or the presence of vascular tumour emboli visible in the anatomical pathology analysis of the tumour are also negative prognostic factors. In addition to the TNM staging system, new prognostic criteria are being developed and could soon change the way colorectal cancer is managed.

MSS and MSI status

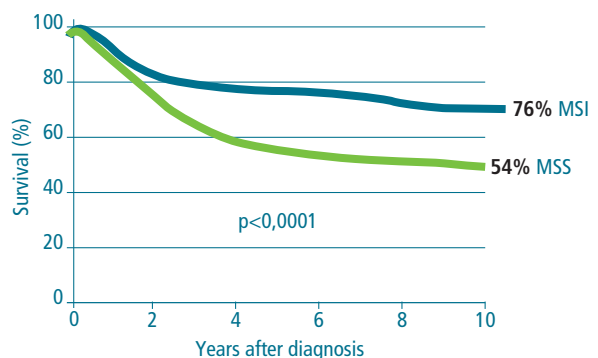
At cellular level, colonic cancer is associated with two major biological mechanisms: the most commonly (85% of cases) observed is an accumulation of chromosomal mutations related to various types of aggression to the colonic cells and natural copying errors during the cell replication that constitutes tissue renewal. This type of tumour is known as "MSS" for microsatellite stable. In the remaining 15%, the cancer is associated with defects in the chromosomal repair process, which is known as microsatellite instability. Here the tumour will be called "MSI" for microsatellite instability.

MSI tumours have a better prognosis than MSS tumours as they are associated with a lower risk of lymph node

and distant metastases. The prognostic assessment of N0 colorectal cancer will also require the MSI or MSS status of the tumour.

As well as the added prognostic value, knowing the MSS/MSI status also has therapeutic implications: MSS tumours respond better to chemotherapies than MSI tumours, in particular when the treatment is only 5FU based.

5-year overall survival of the population treated for colorectal cancer according to the MSI or MSS status of the tumour



Source: Gryfe. *N Engl J Med* 2000;342:69-77

And the future?

Other factors also have a profound effect on the classic prognostic classification of colorectal cancer. For example, a study published in 2005 showed that peritumoural infiltration by lymphocytic immune cells was a major prognostic factor in colorectal cancer.

A patient with a not very advanced TNM stage cancer could finally have a poor prognosis should there be no peritumoural lymphocytic infiltration. The converse has also been verified.

Other tests for the prediction of the prognosis of colon cancer and for its treatment are already on the market in some countries even though they have not been firmly validated in large population studies. They should be treated with caution.

Rectal cancer

The specific issue with this cancer concerns the sparing of the sphincter. When it is not possible to save the sphincter, the patient requires a permanent colostomy. But there are also other important features which distinguish it from colonic tumours, such as the possibility of accessing the tumour with a very simple clinical examination, the digital rectal examination, and being able to use endoscopic ultrasound and rectal MRI scanning to assess locoregional metastasis. Rectal cancer also differs in that some tumours can be treated initially by radiotherapy or radio and so-called neoadjuvant chemotherapy combined, with surgery performed at a later date. In some well selected cases, these preoperative treatments reduce the size of the tumour to facilitate the surgeon's job. The aim is above all to reduce the risk of local recurrence in half.

The surgeon must remove the tumour with resection tumour-free margins of more than 1 cm to limit the risk of local recurrence. Modern surgical techniques can spare the sphincter in 80 to 85% of cases, with or without a temporary colostomy. The functional result after surgical reconstruction of the area is an essential consideration because surgery can cause intestinal disorders or bowel incontinence of a disabling nature. When the tumour is in contact with or invades the anal sphincter, it cannot be spared (15% of cases). A permanent colostomy is then indicated, the "artificial anus" so feared by patients. And yet this issue can be perfectly accepted by patients if they learn to manage the emission of faeces with regular cleansing enemas.

A survey done in 2009 showed that the permanent colostomy rate depended on how experienced the surgeon was: the more

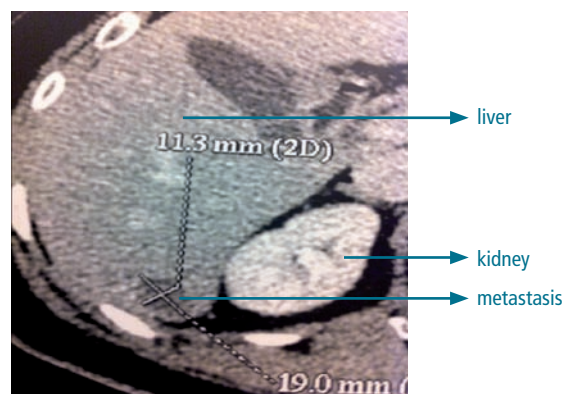
experience the surgeon had of this type of operation, the fewer permanent colostomies were performed. Finally patients operated on for colorectal cancer should be informed of the possibility of sexual dysfunction (impotence, ejaculation disorders). Preoperative radiotherapy is associated with a higher incidence of sexual dysfunction.

The effectiveness of postoperative chemotherapy for rectal cancer has never been demonstrated and yet it is often proposed by assimilation with the data on colon cancer. For patients with a complete response to neoadjuvant radio-chemotherapy, the current tendency is not to propose postoperative chemotherapy.

Post-treatment surveillance

The aim of this surveillance is to detect local recurrences or distant metastases as early as possible: hepatic (80% of cases) or pulmonary, more rarely in the bones or brain. The surveillance of a colorectal cancer will be clinical, radiological with abdominal

Hepatic metastasis of a colon cancer (CT scan)



ultrasound scans or thoraco-abdominal CT scans and biological with CEA blood testing (carcinoembryonic antigen). Providing there are no distant metastases, this follow-up is performed every three to four months for the first three years, then every six months for another two years. **After 5 years there is no further specific surveillance** except for a colonoscopy every

5 years. At the moment, PET scans are not recommended for systematic surveillance but may be used to search for metastases when the other conventional examinations are inconclusive (such as the isolated elevation of the CEA tumour marker).

Stomach cancer

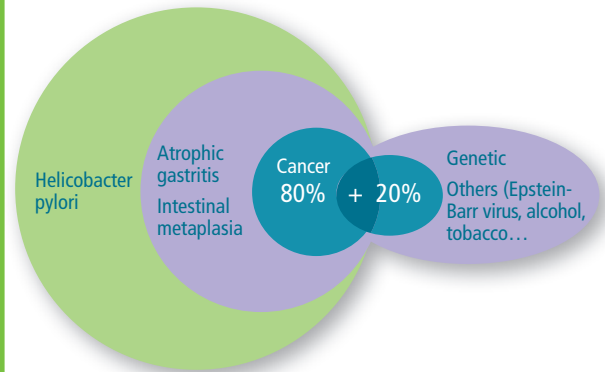
Stomach, or gastric, cancer is, due to its frequency, a public health issue in some parts of the world, for example in Asia and in Eastern Europe. Paradoxically, in most other countries the incidence is low and constantly falling. It comes far behind colonic cancer in terms of frequency. Everywhere in the world, there is a high male preponderance in this cancer.

The different types of stomach cancer and the contributing factors

Adenocarcinoma

95% of stomach cancers are adenocarcinomas, and **the major risk factor is the infection of the gastric mucosa by a bacterium: *Helicobacter pylori* (HP).**

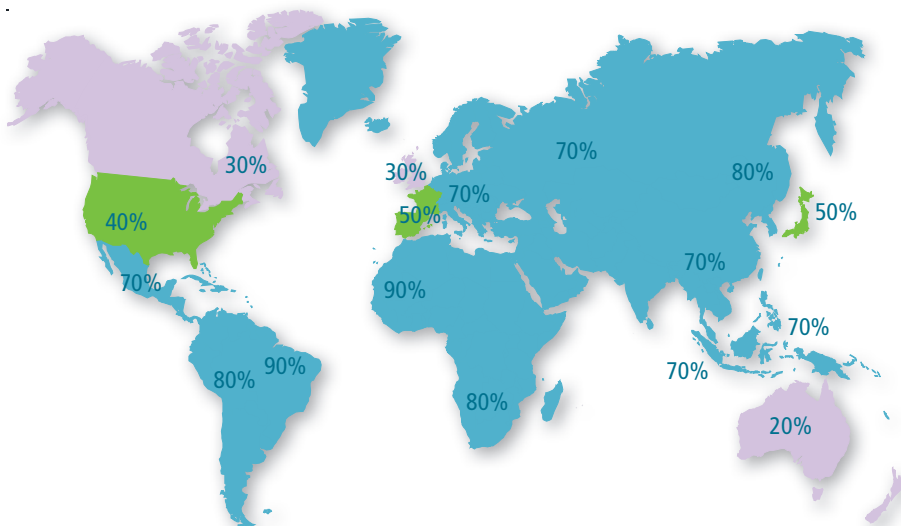
Risk factors for stomach cancer



Sources: Figueiredo C. and al. *J Natl Cancer Inst* 2002;94:1680-7 - Talley NJ. *Lancet* 2008;372:350 - Murphy G and al. *Gastroenterology* 2009; in press

This is one of the most common chronic infections in the world: from 20 to 90% of adult individuals are infected depending on the country. This infection, usually acquired in childhood, is directly linked to the level of socio-economic development of a country – the worse the conditions of hygiene, the higher the proportion of the population infected by *Helicobacter pylori*.

Percentage of the population infected by HP according to region of the world



Source: the Helicobacter Foundation

Infection by *Helicobacter pylori* causes inflammation of the inner lining of the stomach or gastritis. In some cases this *Helicobacter pylori* gastritis becomes chronic and leads to intestinal metaplasia. Combined with co-factors such as alcohol, tobacco consumption, diet, infection by Epstein-Barr virus (EBV) or a genetic predisposition, this metaplasia can transform into stomach cancer. Infection by *Helicobacter pylori* alone is not enough to cause cancer, and in fact only 3% of people infected by *Helicobacter pylori* will develop a stomach cancer. As with most other cancers, the cause of gastric cancer is therefore multi-factorial, a delicate balance between innate and acquired elements...

The systematic treatment of *Helicobacter pylori* carriers with antibiotics is still hotly debated today because of its cost-effectiveness and the real risk of developing antibiotic resistance. On the other hand, there is a very strong recommendation to eradicate *Helicobacter pylori* in first degree relatives of patients with stomach cancer.

Addison's disease, 2/3 gastrectomies, Ménétrier's disease and benign adenomas can also, more rarely, be conditions that contribute to gastric cancer.

There is a rare form of poorly differentiated adenocarcinoma that invades the different layers of the stomach lining without destroying them. This form of gastric cancer is known as **linitis plastica**. It is problematic because biopsies done during fibroscopy are normal and this can delay and mislead the diagnosis.

Lymphomas

3% of malignant gastric tumours are lymphomas. They can be of two types:

- **gastric MALT (mucosa associated lymphoid tissue) lymphoma**, small cell and low-grade: the development of this lymphoma is linked, like adenocarcinoma, to the inflammation of the stomach lining caused by *Helicobacter pylori* infection;
- **high grade large B-cell lymphoma**: this presents in the form of a tumour that is generally voluminous and most often ulcerated in endoscopy.

Gastrointestinal stromal tumours or GISTs

GISTs are rare digestive tract tumours which most often develop in the stomach lining. In the past, frequently confused

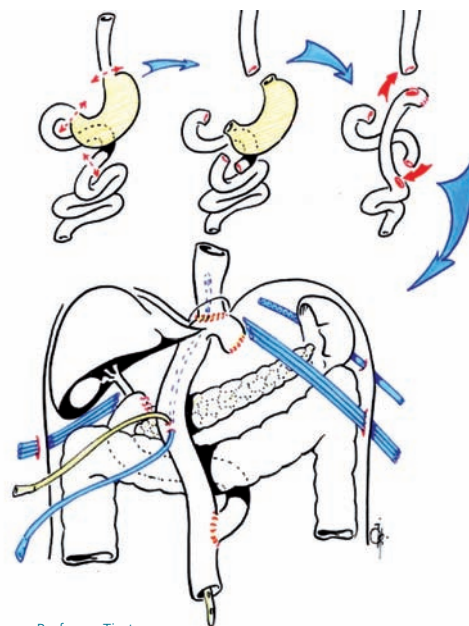
with leiomyomas or schwannomas, these tumours began to be better known and individualised from the 2000s. About 1/3 of patients suffering from a GIST develop a malignancy with recurrences or tumour spread (metastases).

Treatment and prognosis

Stomach cancer is often diagnosed at a late stage, following the investigation of anaemia, a deterioration in the general state of health, non-specific digestive pain or disorders, or finally in the aetiological assessment of a lymph node, hepatic or pulmonary metastasis. The tumour very often has the time to quietly develop in the stomach. When the diagnosis is made by fibroscopy, a large tumour is discovered... difficult to treat and with a guarded prognosis.

Gastric adenocarcinomas must be treated surgically because it is the only chance of a cure. This consists of a partial or total gastrectomy depending on where the tumour is located. Only part of the stomach is removed when the cancer is located in the lower part of the stomach. Total gastrectomy is required for tumours located in the vertical or upper part of the stomach.

Total gastrectomy



Source: Professor Tiret

5-year overall survival of a population treated for stomach cancer according to TNM stage

TNM	Cancer 2000, United States
T1N0M0	78%
T1N1M0 T2N0M0	58%
T1N2M0 T2N1M0 T3N0M0	34%
T2N2M0 T3N1M0 T4N0M0	20%
T3N2M0	8%
T4N1,2,3M0,M1	7%

Source: Professor Michel

The total removal of the stomach or resection leaving only a small remanant gastric pouch is not without consequences for the patient. Gastrectomy is always followed by weight loss of about ten kilos, and the patient must eat several small meals spread throughout the day. Furthermore, vitamin B12 injections are required every four months to compensate for its insufficient absorption in the stomach.

Recovery from gastric adenocarcinoma treated surgically remains modest with about a 30% survival at 5 years only for a tumour classified T3N0.

In some cases, pre and postoperative chemotherapy, plus radiotherapy are also proposed... but the gains in overall survival are still minimal.

When there are one or more distant metastases, in particular in the liver or lungs, the results are even worse. The median survival time is less than one year whatever the chemotherapy. Medical research is actively seeking to adapt chemotherapies according to the presence of certain receptors on the surface of tumour cells (for example HER2 receptors present in 15% of stomach cancers), but the results in terms of improved survival are only counted in months.

Gastric MALT lymphoma is a particular and remarkable form of stomach cancer. If *Helicobacter pylori* is eradicated by antibiotic therapy, a cure can be obtained in 80% of cases, and the prognosis is then excellent... A cancer that is not cured by chemotherapy then, but by antibiotics!

The other lymphomas are either indolent or aggressive. They respond well to chemotherapy and are not generally life-threatening.

Gastrointestinal stromal tumours or GISTs. Prognosis and treatment will depend on 2 essential parameters: the size of the tumour, which can reach 15 to 20 cm, and the mitotic index, in other words the number of dividing cells in the tumour. The risk of recurrence is very low for a GIST measuring less than 2 cm with a low mitotic index (<5), and simple surveillance will be required.

On the other hand, a large GIST or a high mitotic index (>10) with a high risk of recurrence must be treated by surgery and an adjuvant therapy taken orally every day: imatinib (Glivec®) for three years.

Rating of stomach and colorectal cancers

It is the final TNM stage, obtained after surgery, that will form the basis of the risk assessment, the lymph node status N being a major prognostic factor in the rating.

Colorectal cancer (adenocarcinoma)

Tumours without nodal involvement can be underwritten one year after diagnosis, whereas tumours classified N(1.2) must be deferred for 5 years.

Then, depending on the stage, the risk is rated or accepted without an additional premium after 5 or 10 years disease-free survival.

Cases of tumours with locoregional recurrence or distant metastasis, may, if they are in remission and after at least a 5-year interval, be considered on an individual basis.

Stomach cancer (adenocarcinoma)

Prudence is the rule for this tumour whose prognosis in 2012 is still very reserved.

In most cases, tumours without nodal involvement are rated after a 7-year deferral period and tumours classified N(1.2) are declined.

Conclusion



Anatomical drawing of the intestines, Trong Jim Tchou King, by Dr Orang Oé-té.
Ms chinois 5341, BN, Paris

classification that is at the centre of the risk assessment of both these tumours... In this field nothing is fixed, new prognostic factors are emerging (MSS and MSI status, peritumoural infiltration by lymphocytic cells for colorectal cancer)...

It is up to us all to keep up with these developments and convert them into meaningful decisions in the Life Insurance field.

In 2012 colorectal and stomach cancers have benefitted from significant medical advances in the fields of endoscopy, medical imaging (CT, MRI, PET scanning), genetics, surgery, chemotherapy and radiotherapy techniques. Less spectacular yet essential progress has also been made with the generalisation of multidisciplinary care for patients suffering from cancer.

In most countries, there is now cooperation between different specialists to arrive at a consensus on the best medical and surgical treatment for each case. Patients suffering from cancers of the digestive tract benefit fully from what are commonly known as MDMs due to the complexity of the treatment of their illness.

What we should remember is that colonic cancer has a better prognosis overall than stomach cancer and that it is the TNM

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