Lecture: COLORECTAL CANCER

Epidemiology

Colon and rectum cancer accounted for about 1 million new cases in 2002 (9,4% of the world total), and unlike most sites, numbers were not so different in men and women (ratio, 1,2:1). In terms of incidence, colorectal cancers rank fourth in frecuence in men and third in women.

Epidemiology

In Europe and North-America colorectal cancer is a rather common malignant disease and it ranks with lung, prostate, and breast cancer as being among the leading malignant solid tumours. The incidence is rather low Japan, Asia, Africa and parts of Latin America.

In the Western countries approximately 50% of the patients with a colorectal cancer die from the disease. That makes colorectal cancer the second greatest cause of cancer death, in men second only to lung cancer, and women second only to breast cancer.

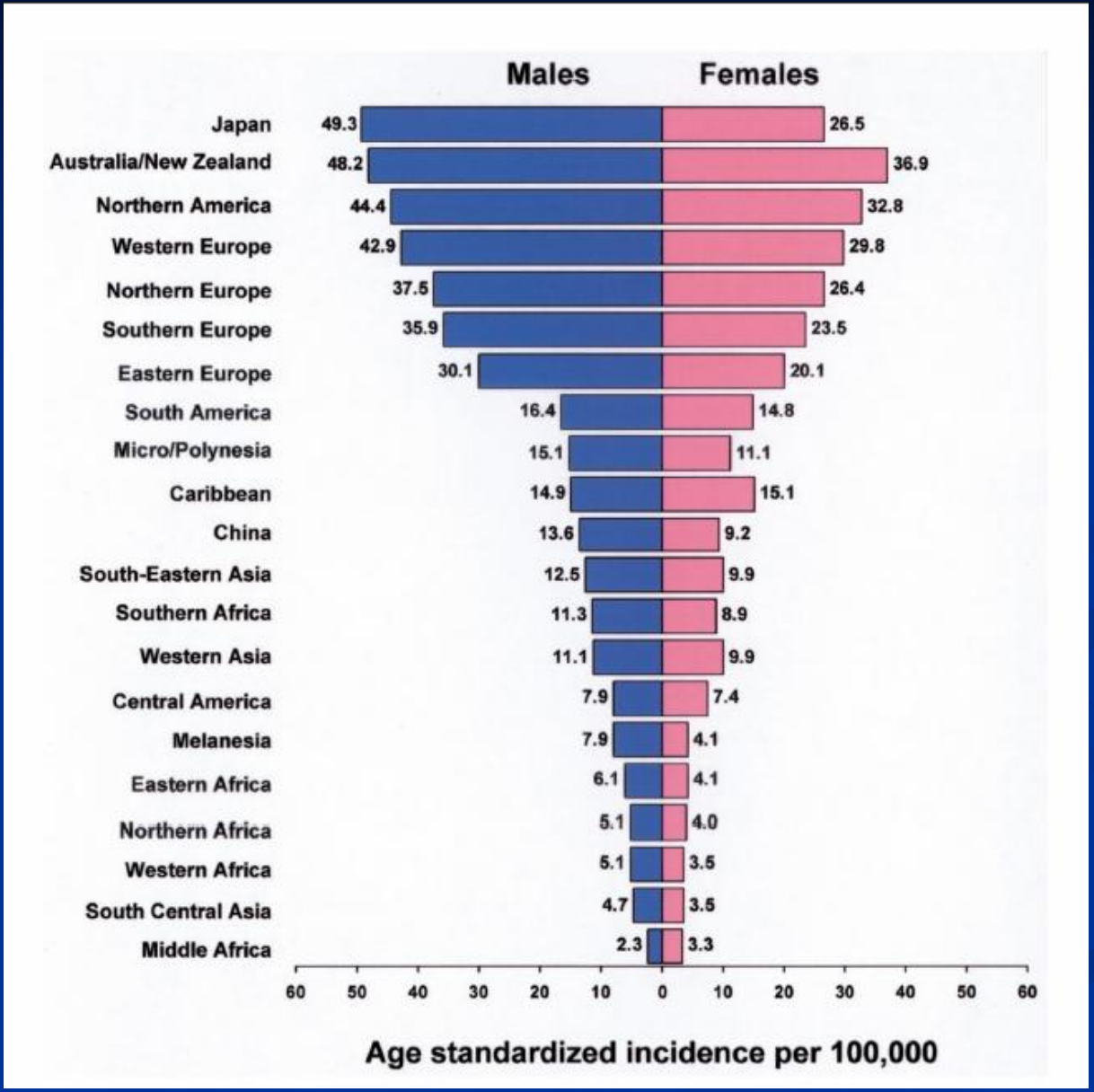
Approximately 85% of the patients with a colorectal cancer are over the age of 50. The incidence increases with age.

Epidemiology

		Men 637.500	Women 647.400		
Lung & bronchus	31%			25%	Lung & bronchus
Prostate	11%			15%	Breast
Colon & rectum	10%			11%	Colon & rectum
Pancreas	5%			6%	Pancreas
Non-Hodgkin lymphoma	5%			5%	Ovary
Leukemia	5%			4%	Non-Hodgkin lymphoma
Esophagus	4%			4%	Leukemia
Liver/intrahepatic bile duct	3%			2%	Uterine corpus
Urinary bladder	3%			2%	Brain/CNS
Kidney	3%			2%	Multiple myeloma
All other sites	22%			23%	All other sites

Figure 27-3 Estimated percentage of cancer deaths for 10 leading sites by sex, United States, 2002. *Excludes basal and squamous cell skin cancers and carcinoma in situ except urinary bladder. Source: American Cancer Society: Cancer Facts and Figures, 2002.

Incidence of colorectal cancer (all countries, 2002)



RISK FACTORS, COLONIC CARCINOMA

- Familial adenomatous polyposis syndrome
- Hereditary factors
- Ulcerative colitis
- Crohn's colitis
- Schistosomal colitis
- Exposure to radiation
- Villous polyps
- Previous surgery
- Ureterocolostomy
- Diet rich in fat & meats
- High calorie intake
- Low dietary calcium intake
- Low intake of fermentable fiber
- Immunosuppression

Familial adenomatous polyposis

Gardner syndrome

LARGE POLYP IN THE SIGMOID COLON

Large polyp in the sigmoid colon.

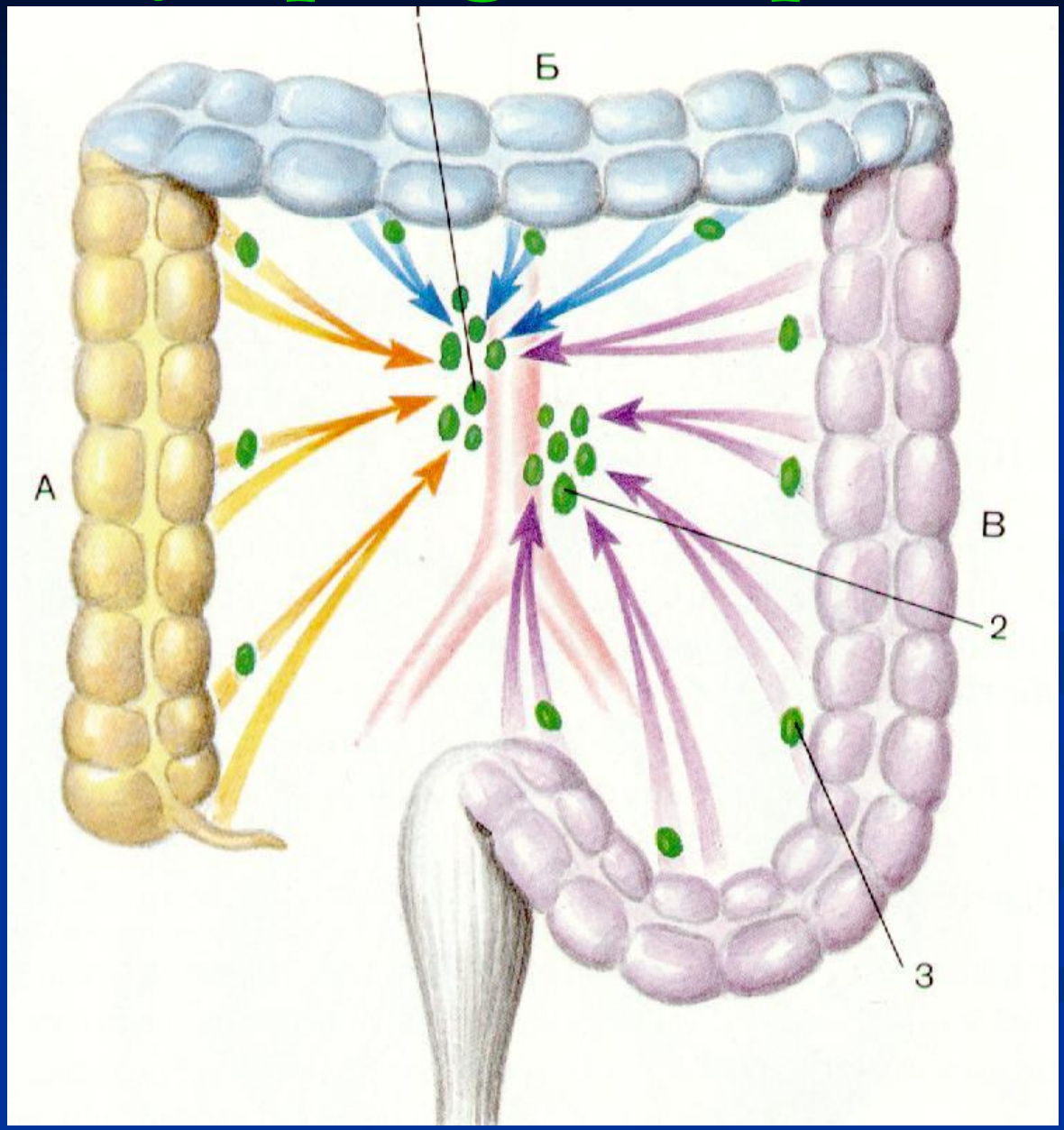
Macroscopic local growth

Cancers of coecum and ascending colon are mainly papillomatous tumors. Because the coecum is wide and the bowel contents are still fluid, definite complaints appear in a late phase. Usually these are preceded for some time (month) by general malaise as a consequence of anemia (due to superficial tumor necrosis and ulceration); or localized vague discomfort in the right lower quadrant.

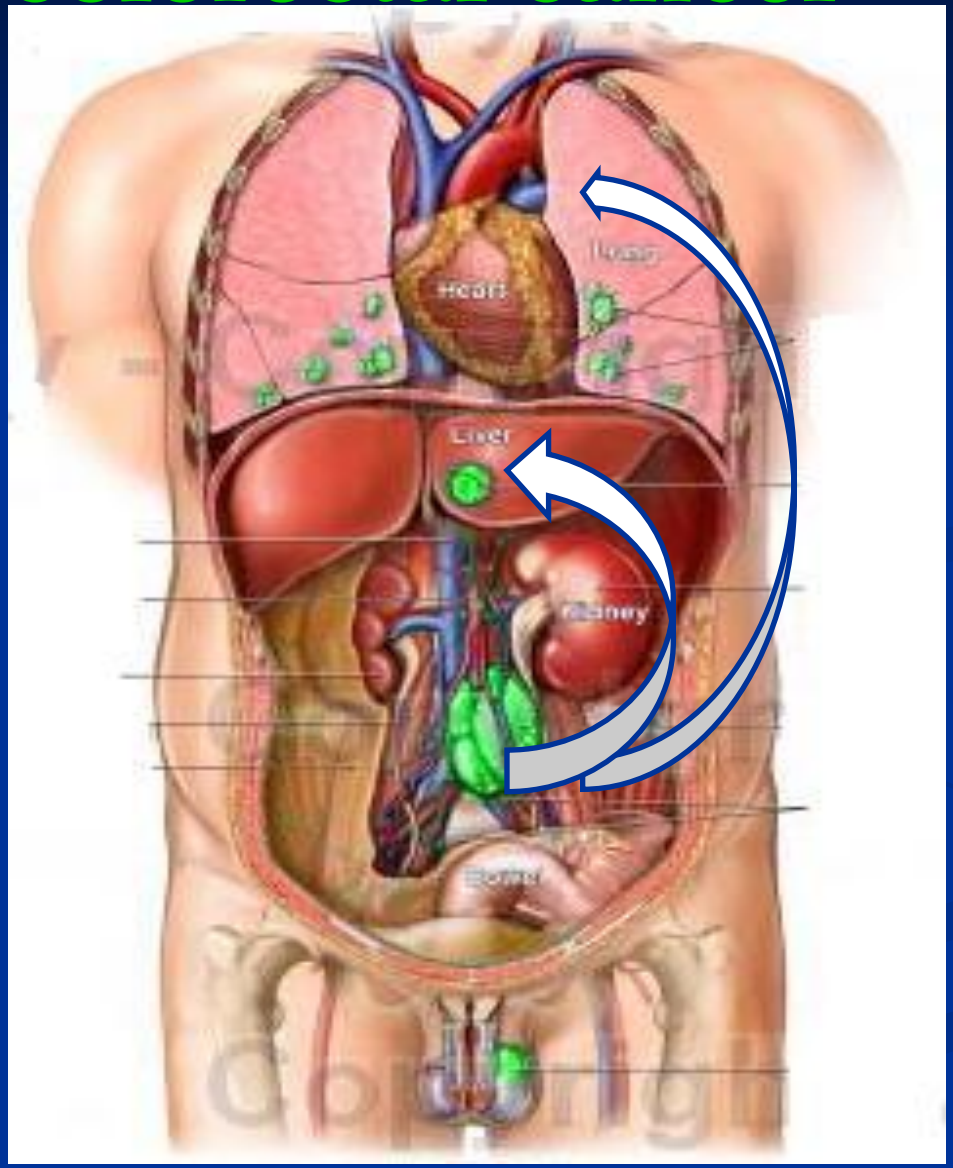
Macroscopic local growth

Cancers of the descending colon and sigmoid usually grow circumferential in the intestinal wall, thus leading to stenosis. Sooner or later this will induce complaints of obstruction, especially because the content in the left part of the colon is more solid.

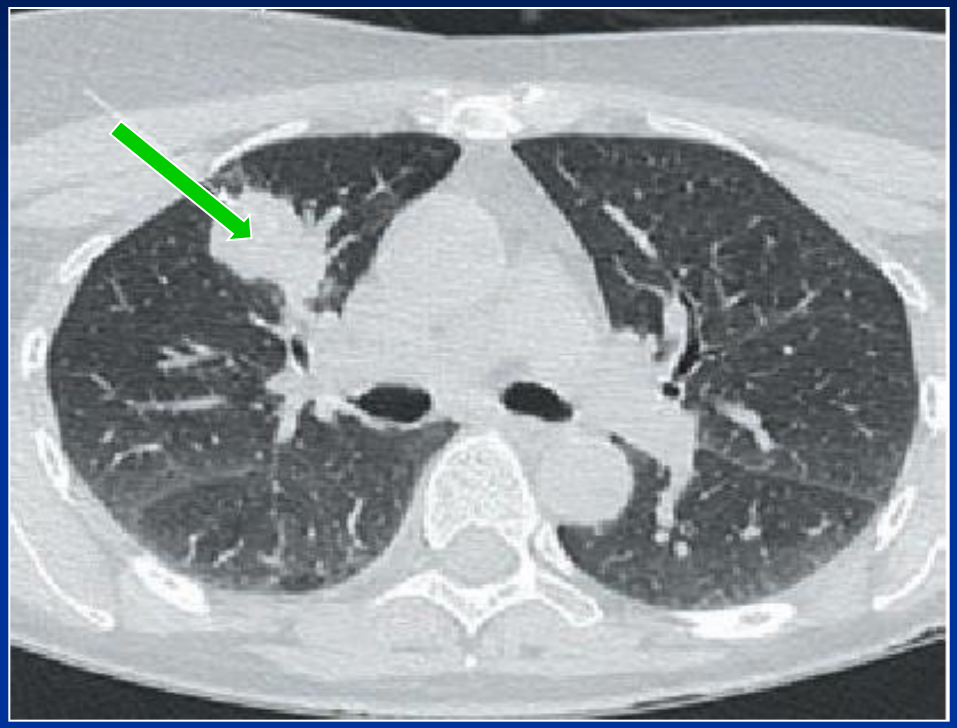
Lymphogenic spread

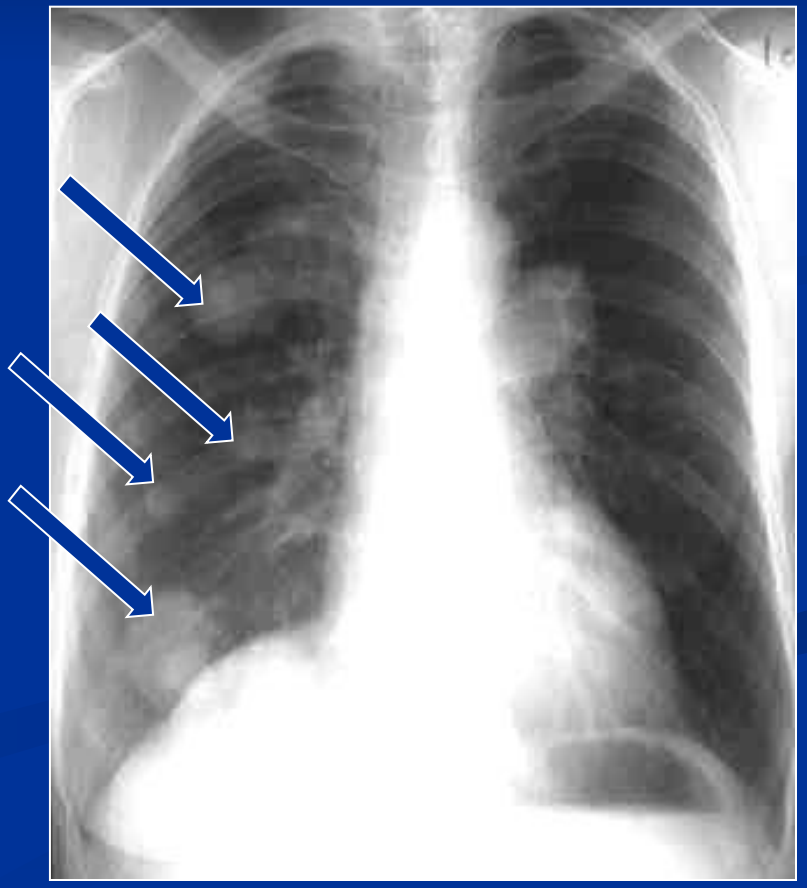


Haematogenic spread of colorectal cancer

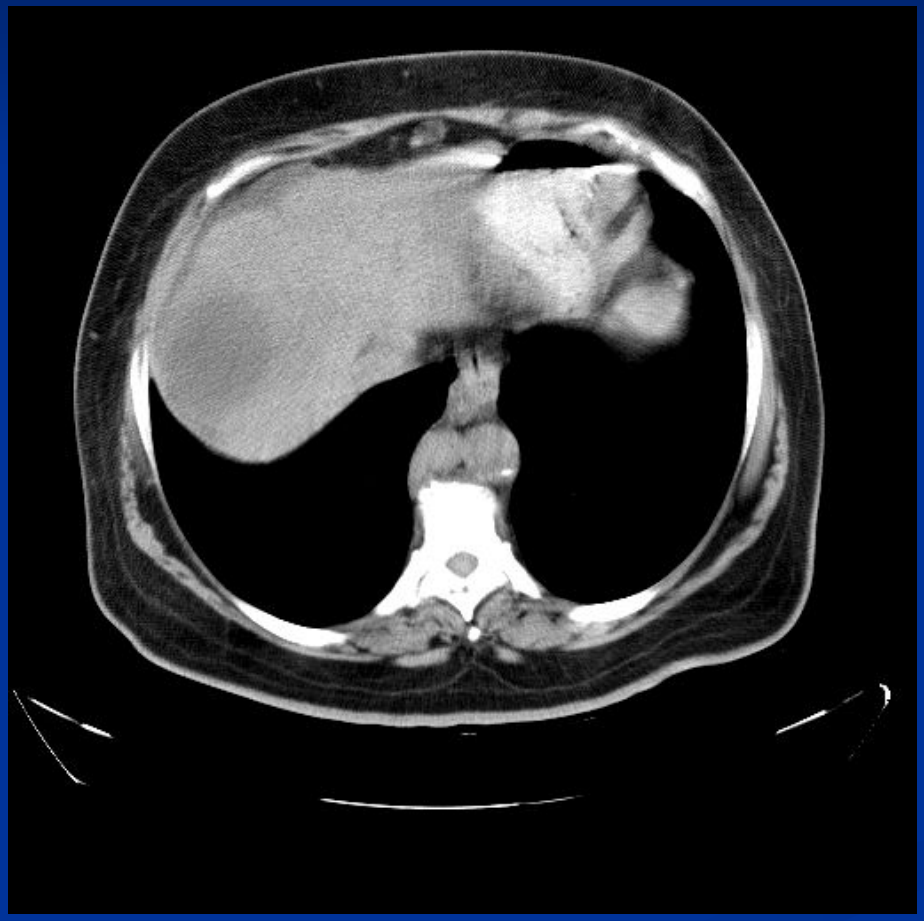


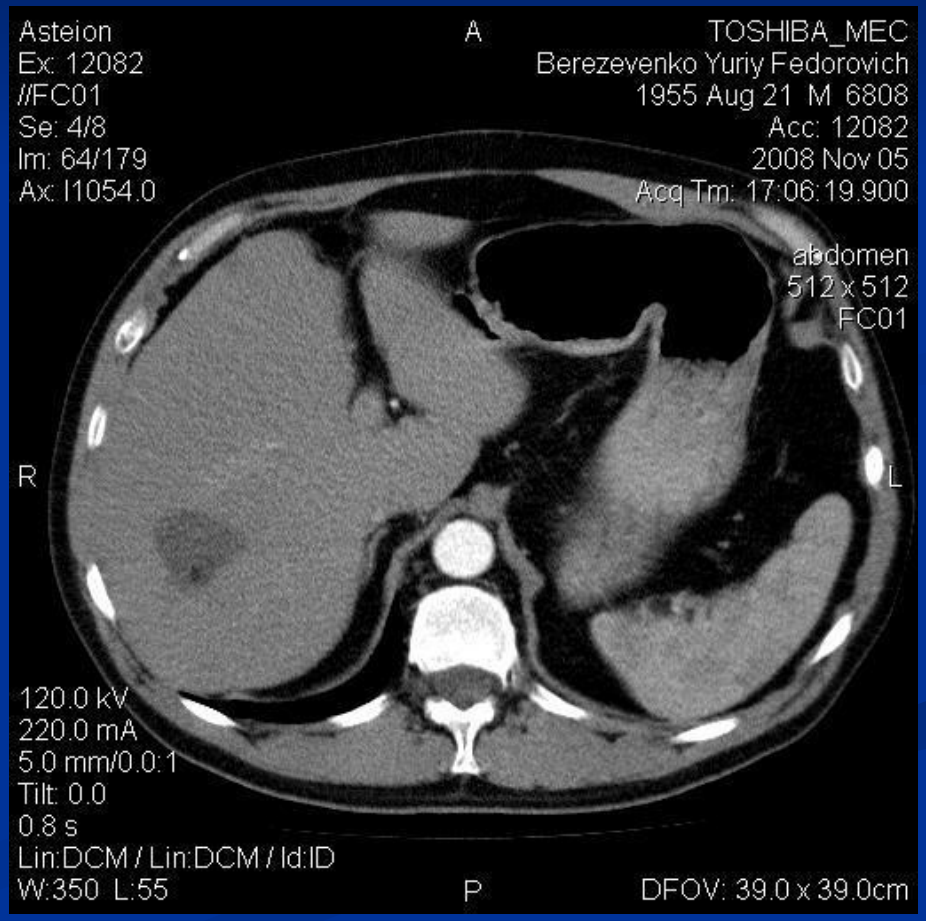
Metastases of colorectal cancer in lung



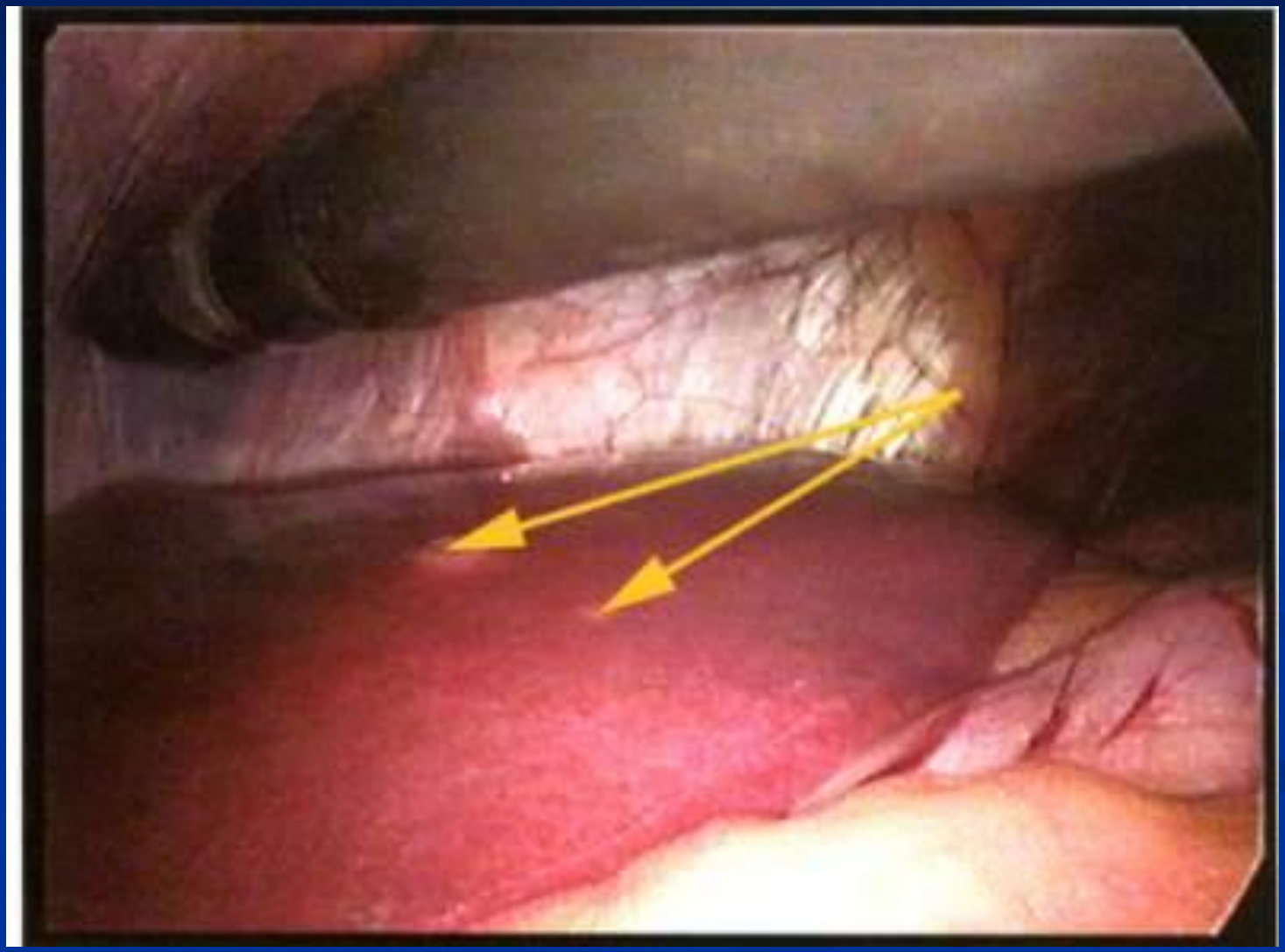


METASTASES COLORECTAL CANCER IN LIVER





METASTASES COLORECTAL CANCER IN LIVER



Presenting problems

In general, complaints caused by a colorectal cancer occur late. The site of tumor in the colon determines the symptoms.

Complaints and symptoms due to cancer of the coecum or the ascending colon may comprise:

- fatigue and general malaise associated with an unexplained iron-deficiency anemia;
- sometimes vague discomfort in the right lower abdominal quadrant;
- palpable mass;
- usually no obstruction.

Successive complaints and symptoms due to cancer of the colon descendens or a sigmoid cancer are:

- initially vague abdominal complaints which can be the first manifestation of a small cancer not yet having induced obstruction;
- development of a change in bowel habits: usually constipation alternating with mucous diarrhea;
- increase of obstruction leading to bouts of abdominal cramps caused by peristaltic waves attempting to push the faecal mass through the obstruction;
- when the obstruction increases, there will mainly be constipation and an increasing production of mucus, sometimes mixed with blood; gradually the abdomen will distend, and abdominal pain becomes continuous;
- when the obstruction is complete a colonic ileus starts: a painful distended abdomen, initially without vomiting.

When there is suspicion of a sigmoid cancer it is important to ask if there has been:

- A slow change in bowel habits
- Decrease of stool calibre ('pencil stools'), possibly with mucus and/or blood.

When there is any suspicion for a rectal cancer it is important to ask if there has been:

- blood on the stools
- False defecation urge
- Sometimes a feeling that after defecation the rectum is not yet empty.

The latter two symptoms are due to the fact that the intestinal wall cannot differentiate between the tumor and the stools and consequently keeps on constricting to push the "content" downward.

Rectal loss of blood is an important sign that may indicate the presence of a recto/sigmoid cancer. Most treacherous is the co-existence of hemorrhoids! The existence of one of more hemorrhoids, especially also when bleeding, does not exclude the existence of a rectosigmoid cancer! On the contrary, straining due to an obstruction caused by rectosigmoid cancer, can be the cause of the development of hemorrhoids.

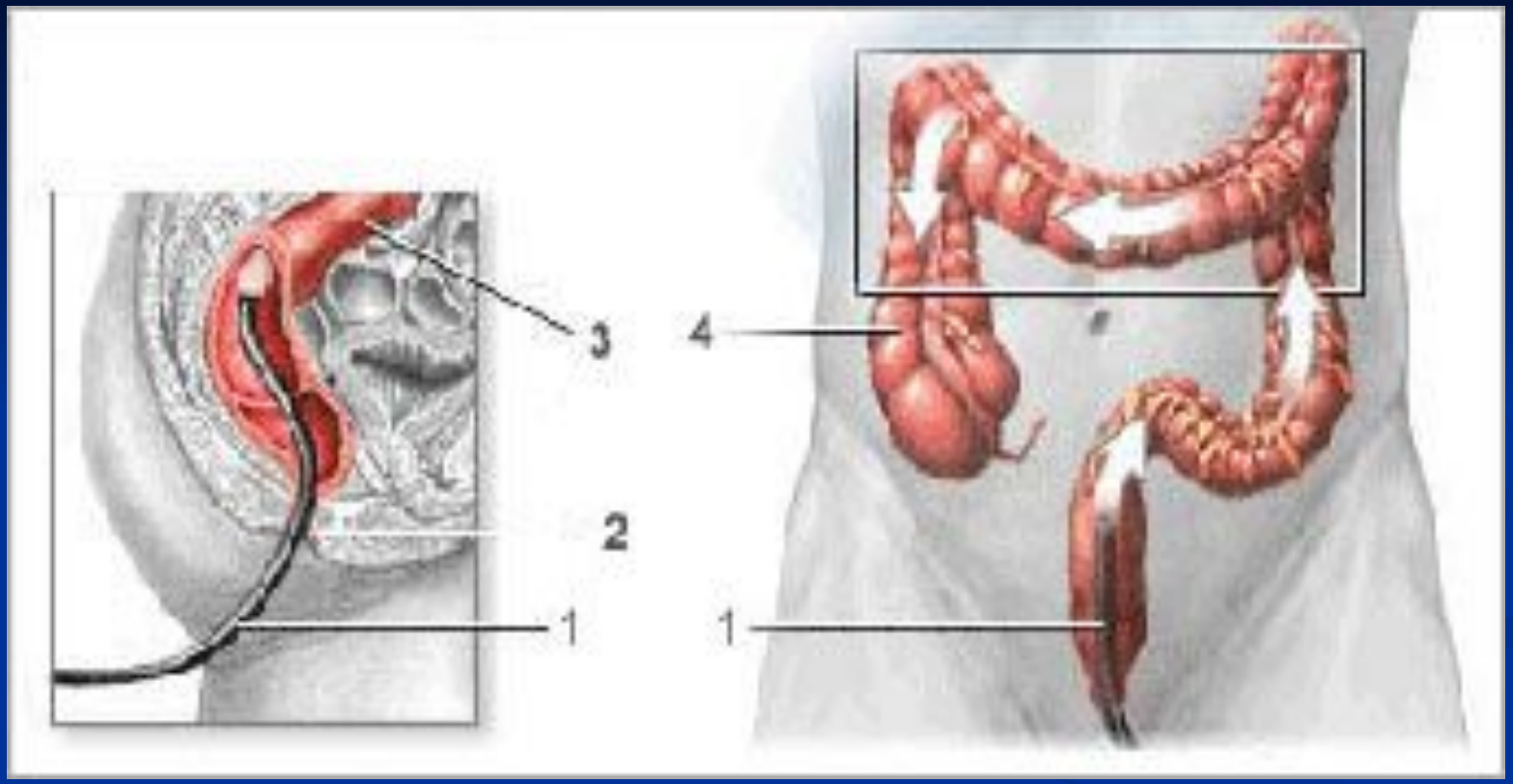
DATA FORM FOR CANCER STAGING - COLORECTAL
PRIMARY TUMOR (T)

- TX - Primary tumor cannot be assessed
- T0 - No evidence of primary tumor
- Tis - Carcinoma in situ: Intraepithelial or invasion of lamina propria
- T1 - Tumor invades lamina propria or submucosa
- T2 - Tumor invades muscularis propria or subserosa
- T3 - Tumor penetrates serosa (visceral peritoneum) without invasion of adjacent stuctures
- T4 - Tumor invades adjacent structures

STAGE GROUPING

AJCC/UICC				DUKES
Stage 0	Tis	N0	M0	
Stage I	T1	N0	M0	A
	T2	N0	M0	A
Stage II	T3	N0	M0	B
Stage II	T4	N0	M0	B
Stage III	T1, T2	N1	M0	C
Stage III	T3, T4	N1	M0	C
Stage III	Any T	N2	M0	C
Stage IV	Any T	Any N	M1	D

Colonoscopy



Polyp on stalk - polypectomy

Colonic adenocarcinoma at 20 cm, Grade II, arising in an adenomatous polyp

Rectal cancer

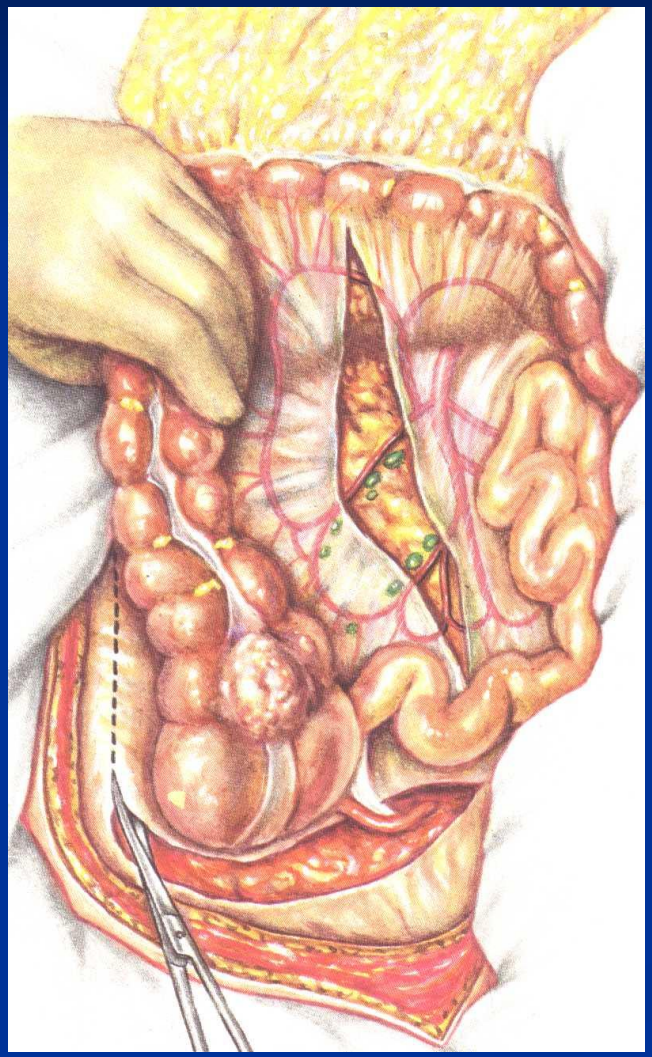
Treatment of colorectal cancer

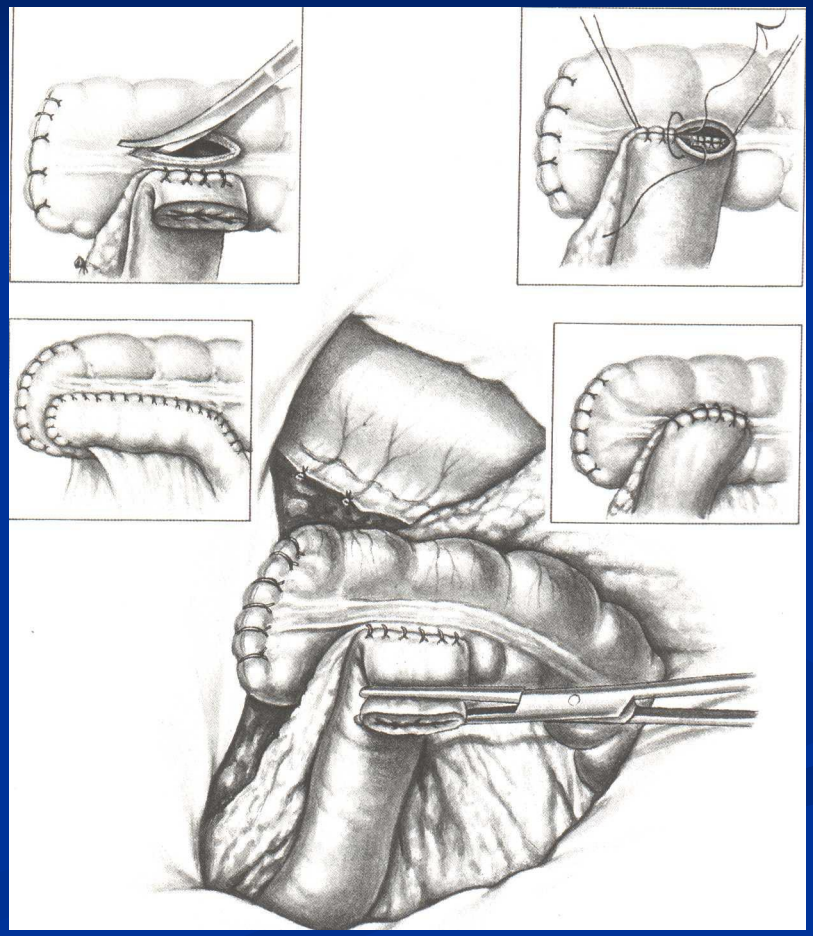
The treatment of choice is surgery for treatment with curative intent of a patient with a colorectal cancer, The regional lymph node areas are always removed en-bloc with the tumor

Surgery with curative intent for colon cancer can be:

-right hemicolectomy
-transverse colectomy
-left hemicolectomy
-Sigmoid resection

RIGHT HEMICOLECTOMY

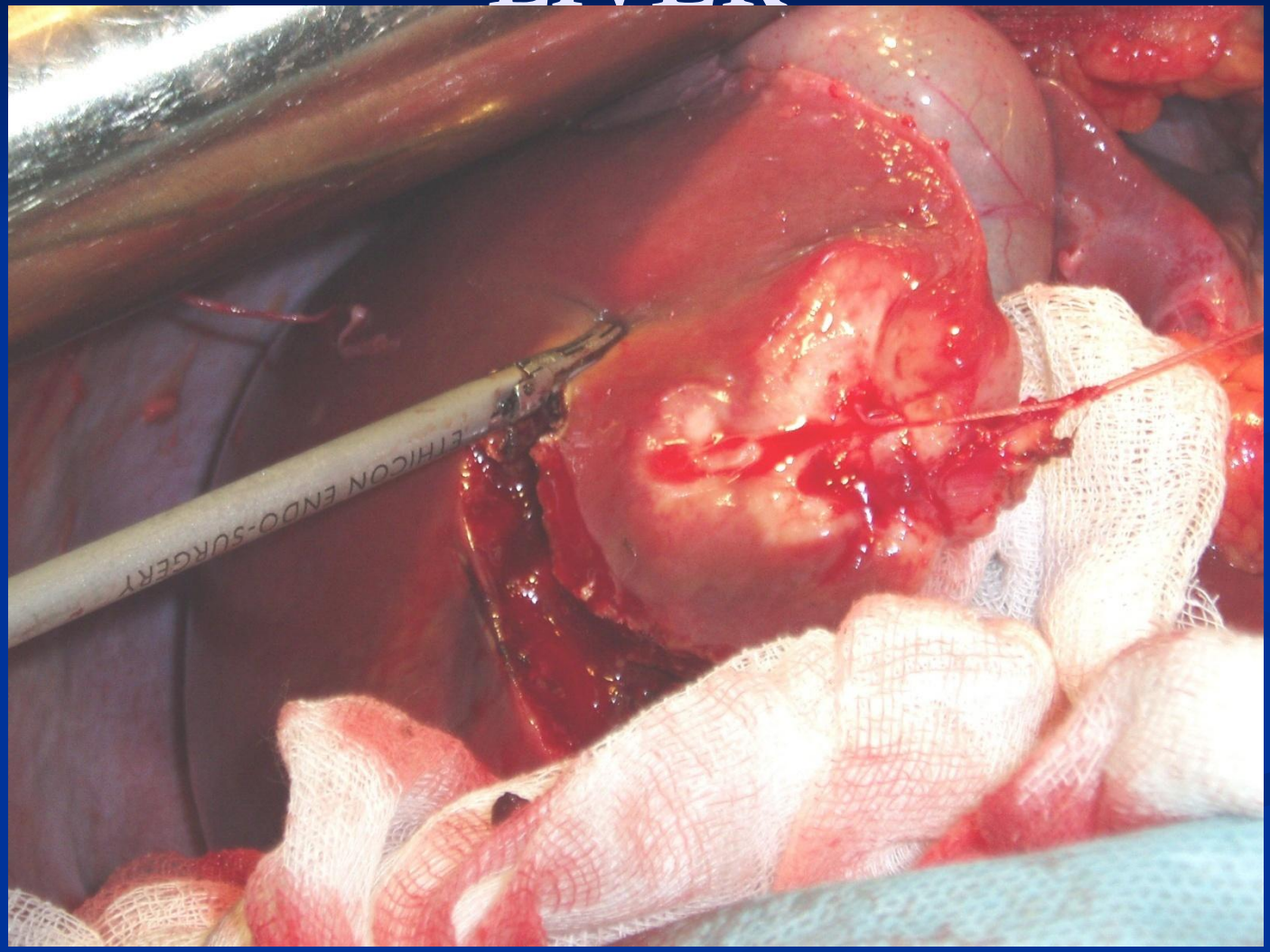




In surgery for rectal cancer there is is always the question of whether the anus can be preserved. If not this means a permanent colostomy for the patient.
The two
main surgical procedures for rectal cancer are:
-an abdominoperineal resection
-a low anterior resection

The choice depence, among other things, on the site of the tumor in the rectum.

RESECTION OF COLORECTAL CANCER'S METASTASIS IN LIVER



Palliative care of colorectal cancer