

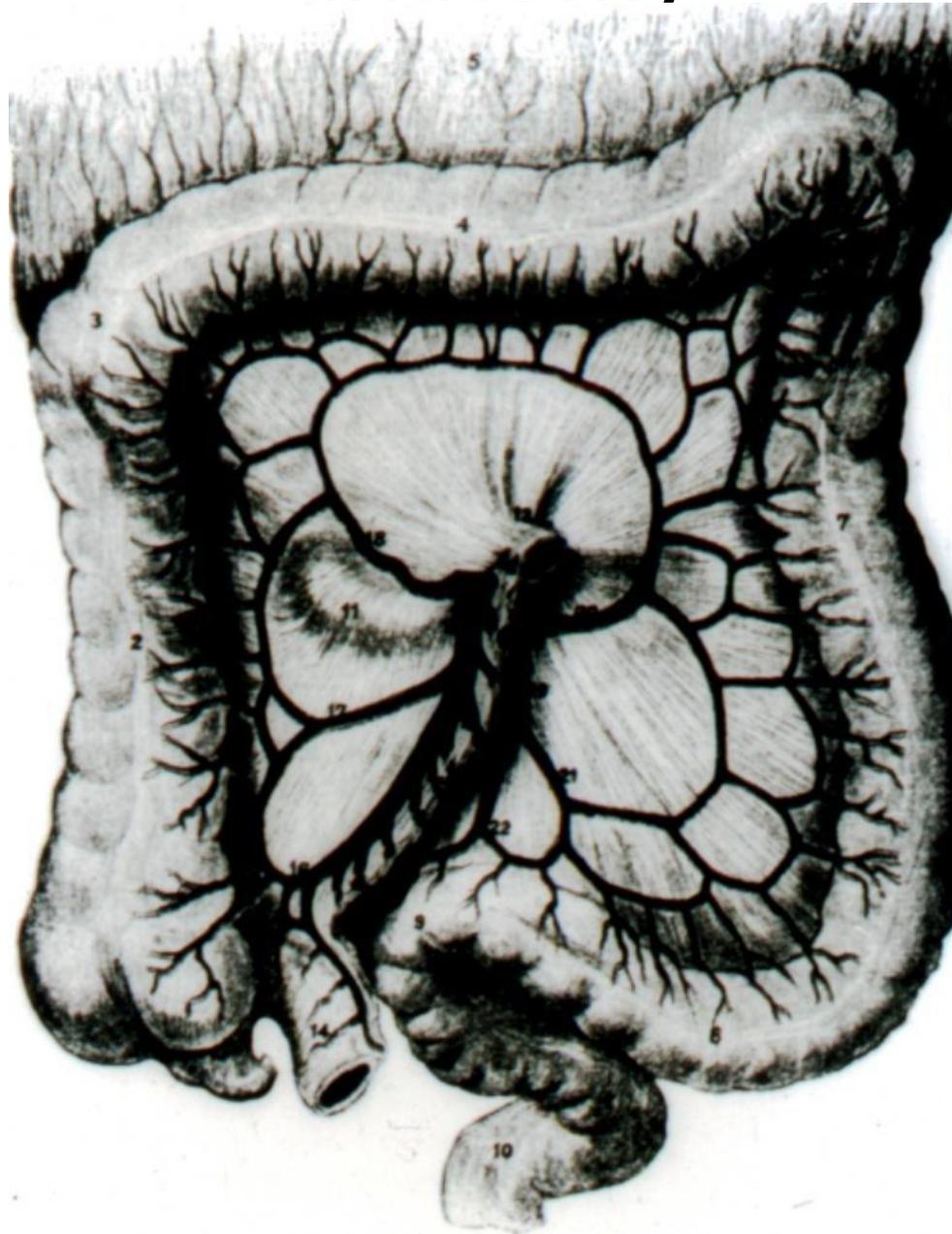
# *Colon diseases*

*professor*

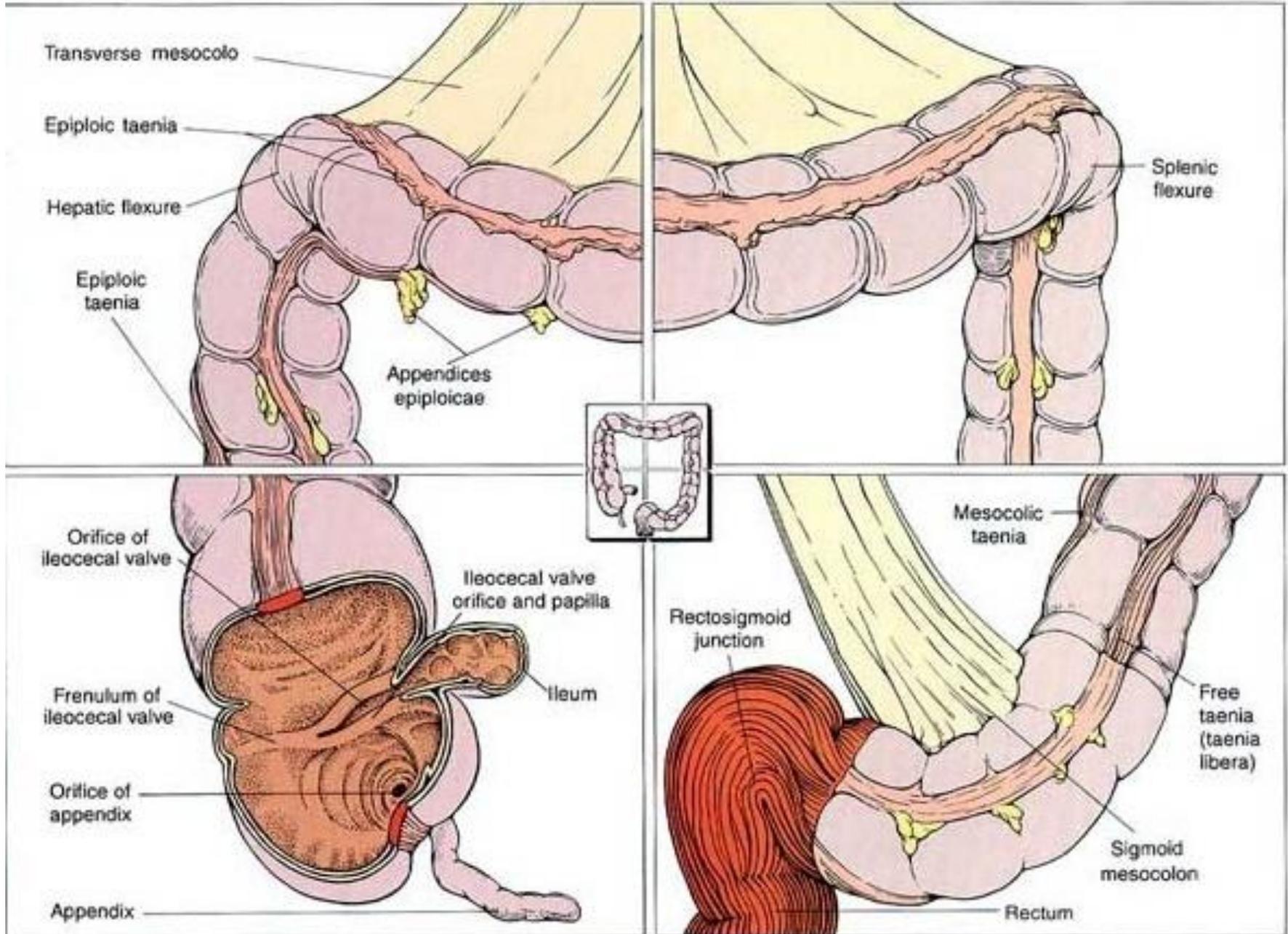
*Youry Vladimirovitch*

*Plotnicov*

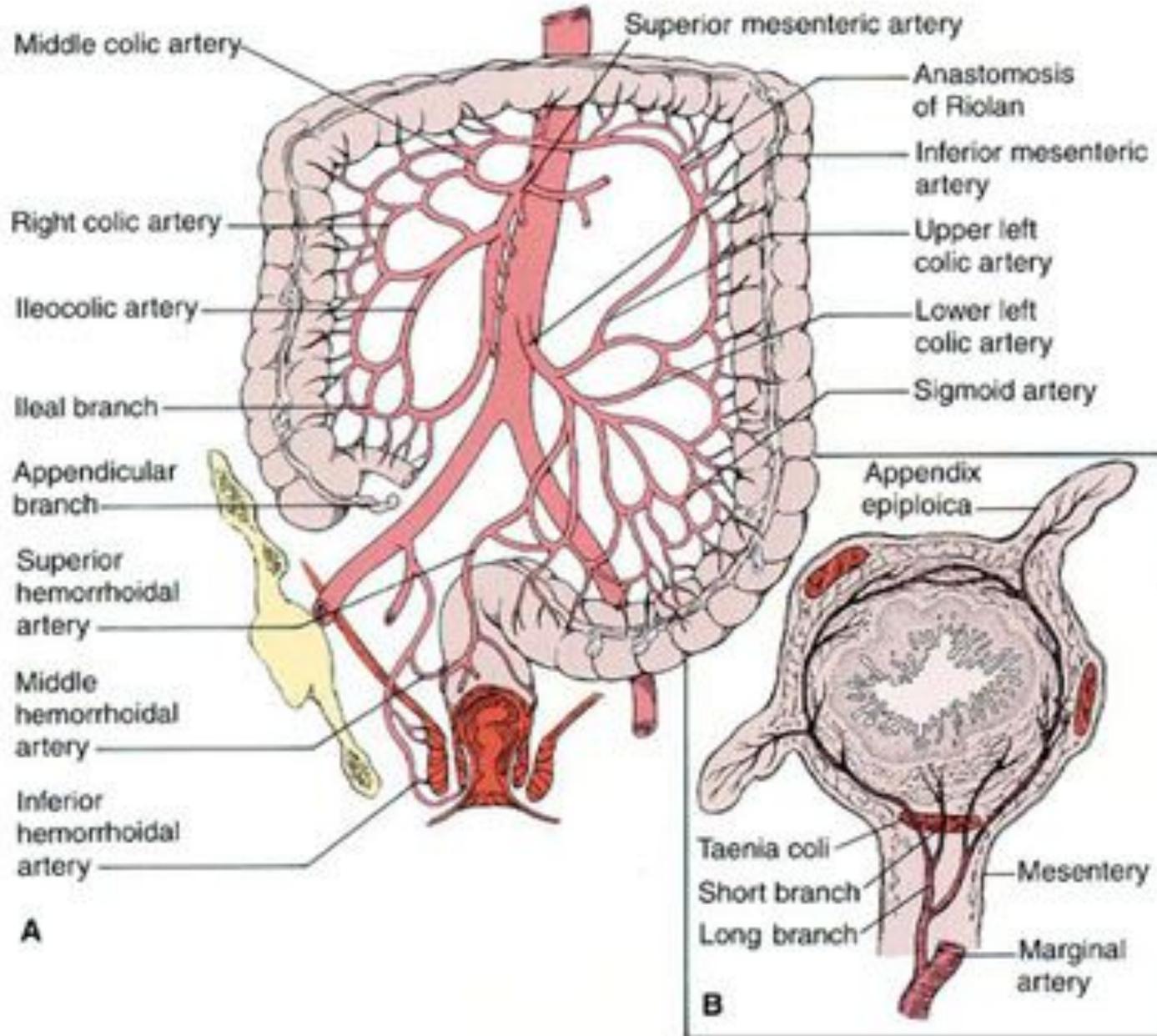
# anatomy



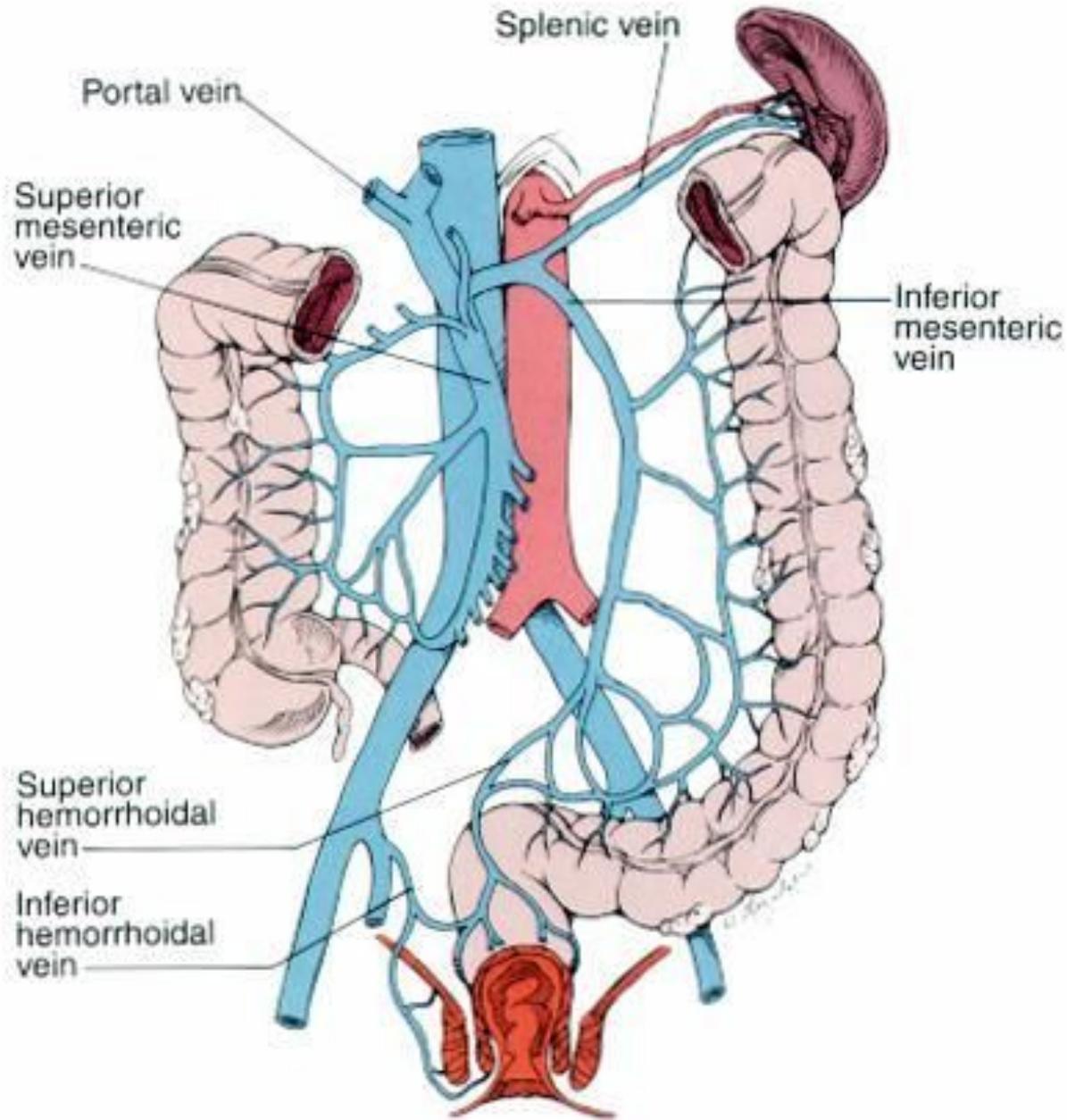
# anatomy



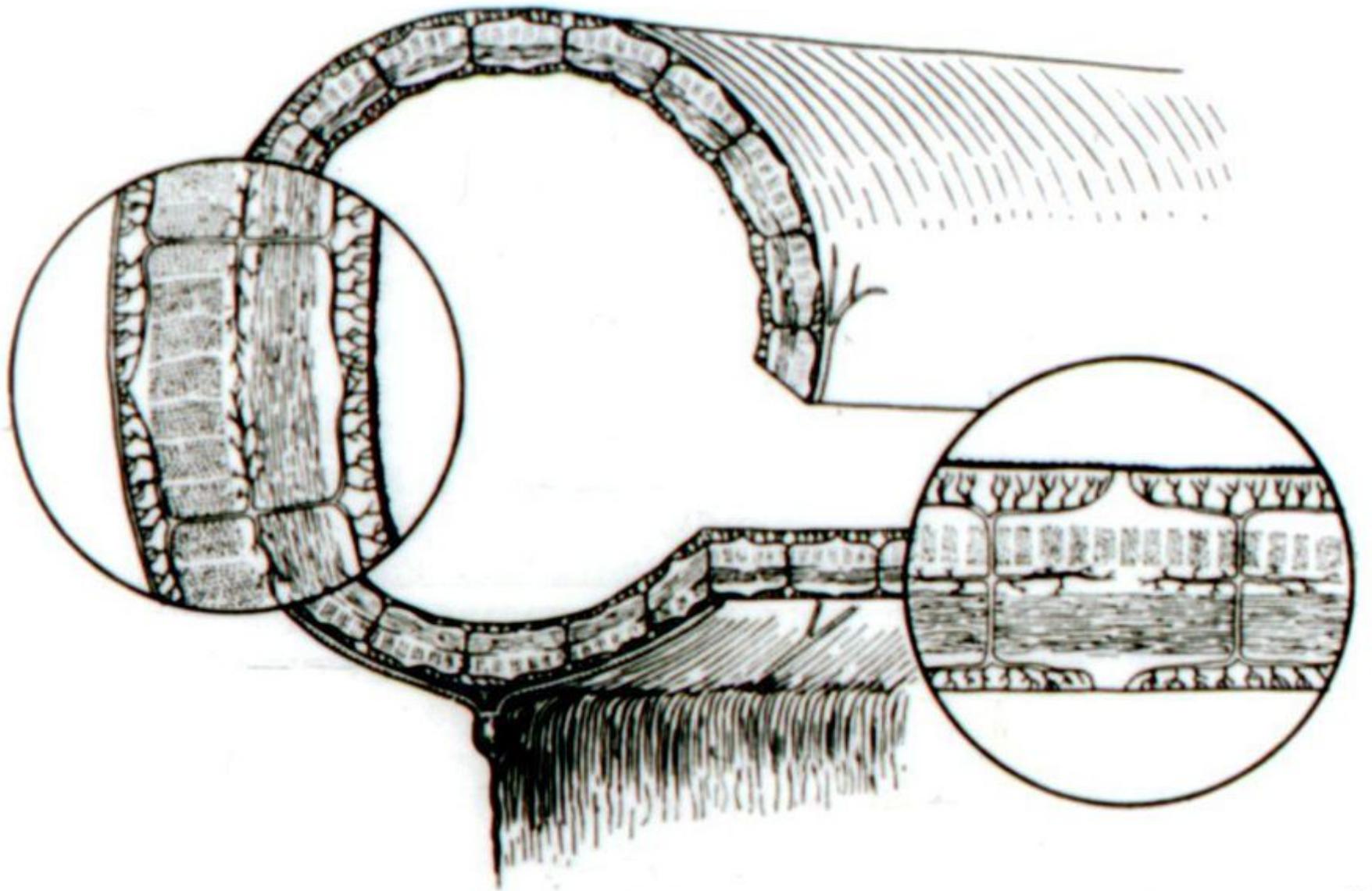
# Arterial blood supply



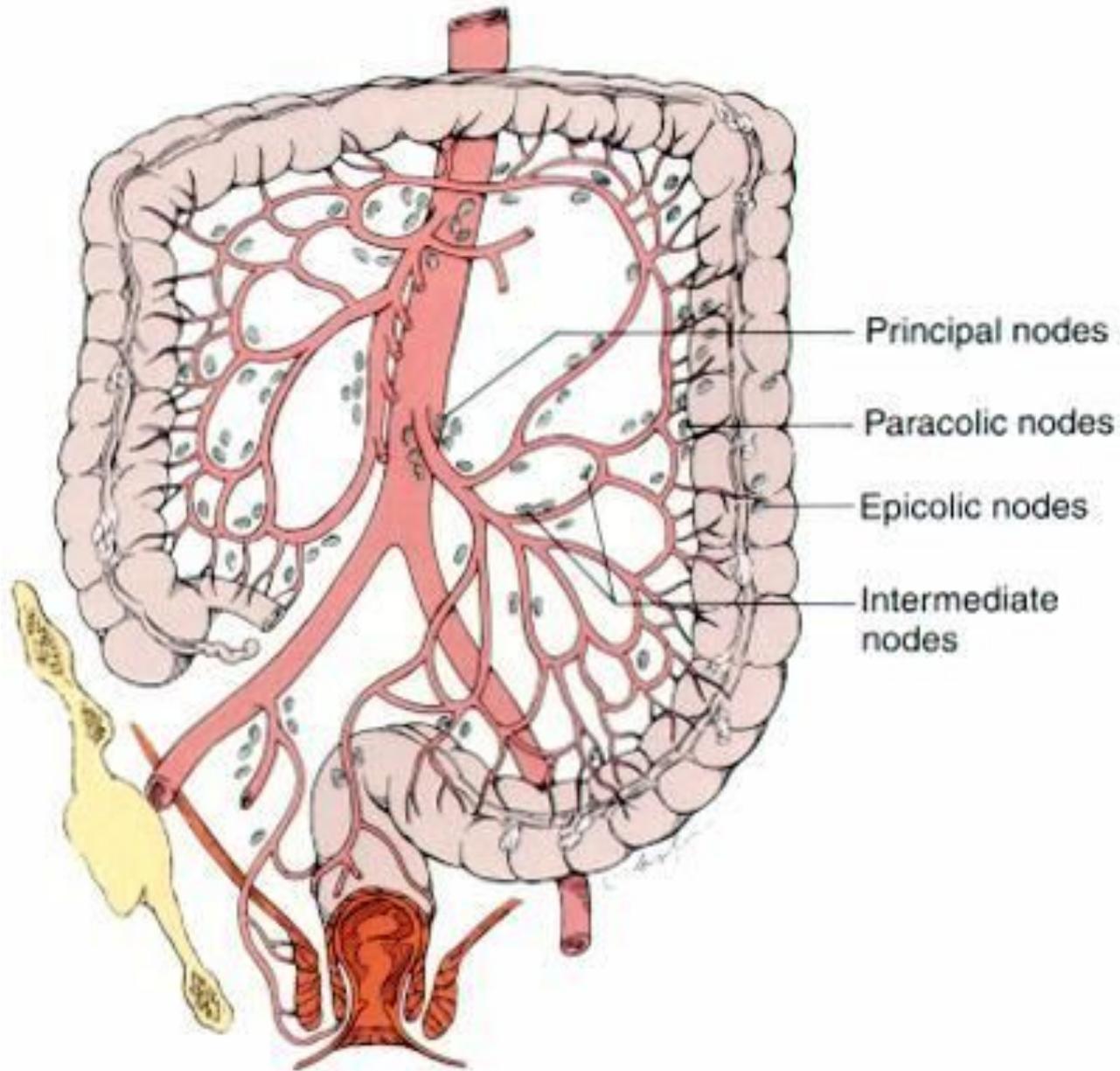
# Venose outflow



# Intraparietal lymphatic vessels



# Lymphatic drainage



# Differences of the right and left half

- **Anatomy: on the right the lumen is wider, than at the left (except for the ileocecal valve)**
- **Contention on the right is liquid, at the left dense**
- **Tumours on the right is more often exophytic, at the left endophytic**
- **Exophytic tumours destroyed with a bleeding more often**

# Special investigation methods

**1. Physical  
investigation**

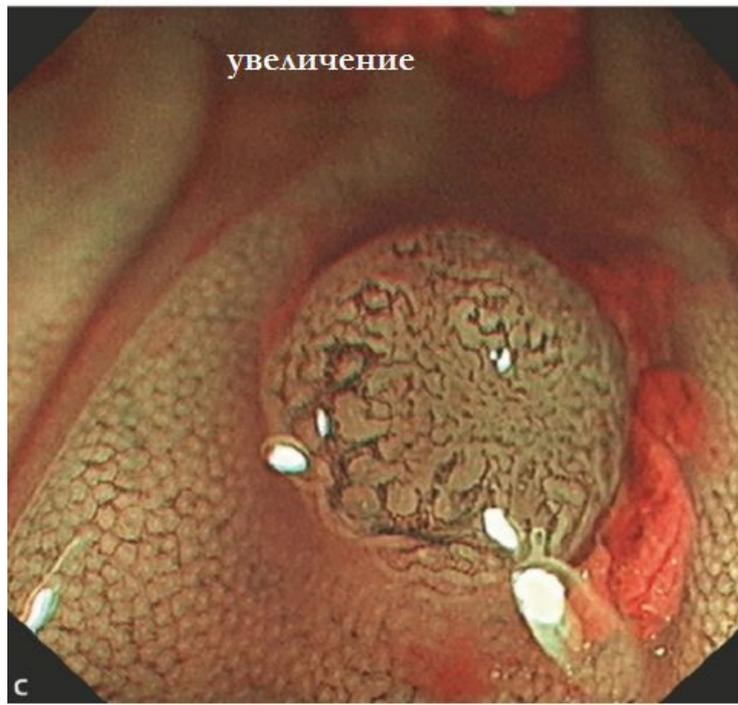
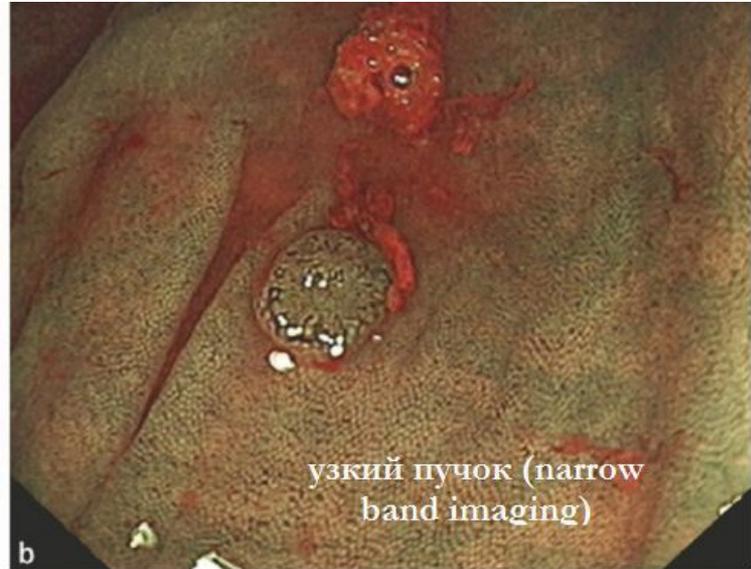
**2. A  
proctosigmoido-  
scopy**

**3. Fibrocolonoscopy**

# Colonoscopy - an initial cancer



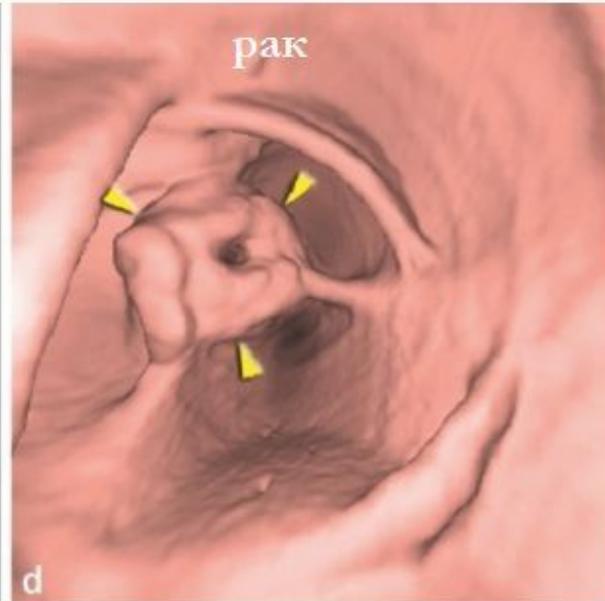
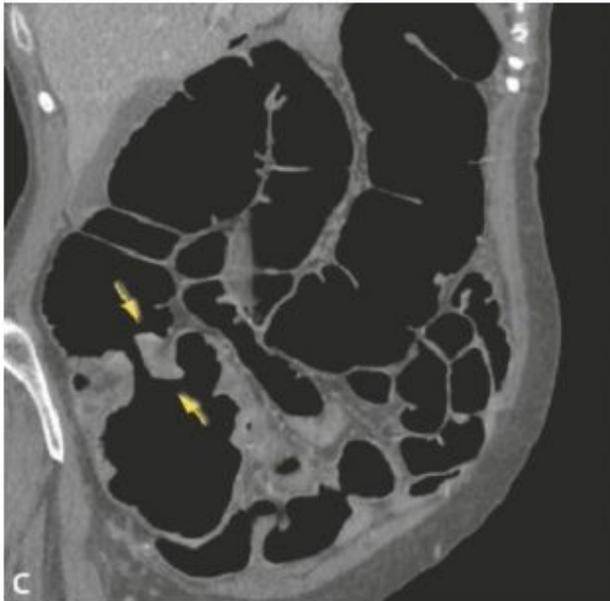
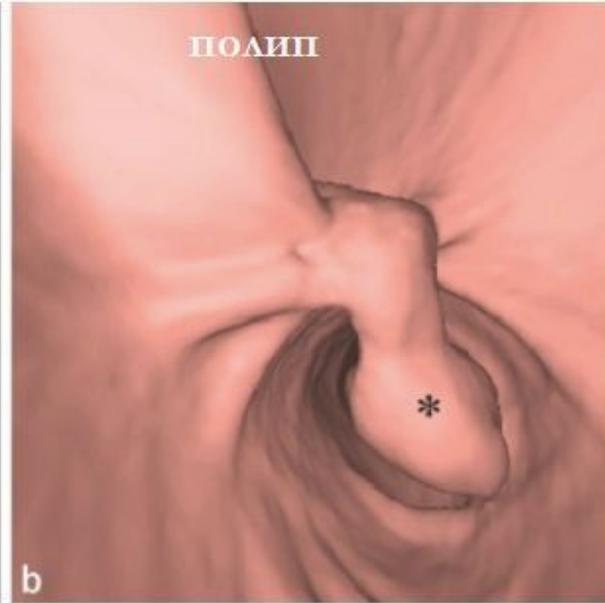
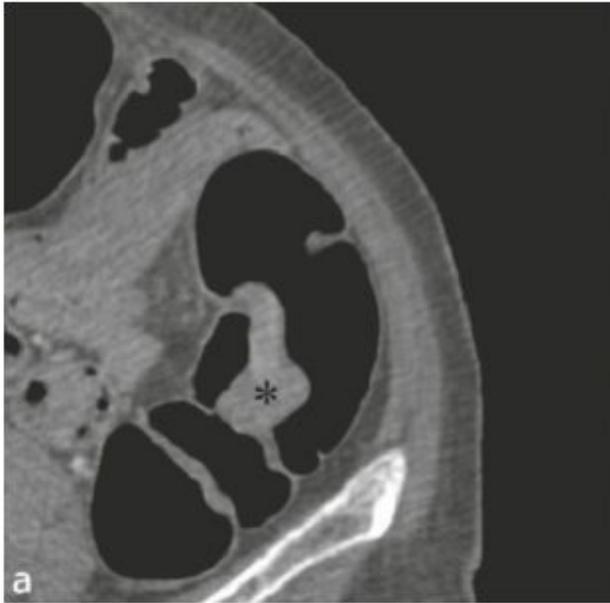
# Modern colonoscopy



## **Special investigation methods**

- 4. irrigoscopy (including virtu-al)**
- 5. abdominal cavity US**
- 6. radial methods (CT, PET, etc.)**
- 7. laparoscopy**
- 8. intravenous urography**
- 9. reactions to an occult blood**
- 10. cancer markers**

# Virtual colonoscopy



**At what a cancer localization more  
often**

**an enemy?**

**At what a cancer localization more  
often**

**Visible  
bleeding?**

**AT WHAT A CANCER LOCALIZATION  
MORE OFTEN**

**Disturbance  
of passability**

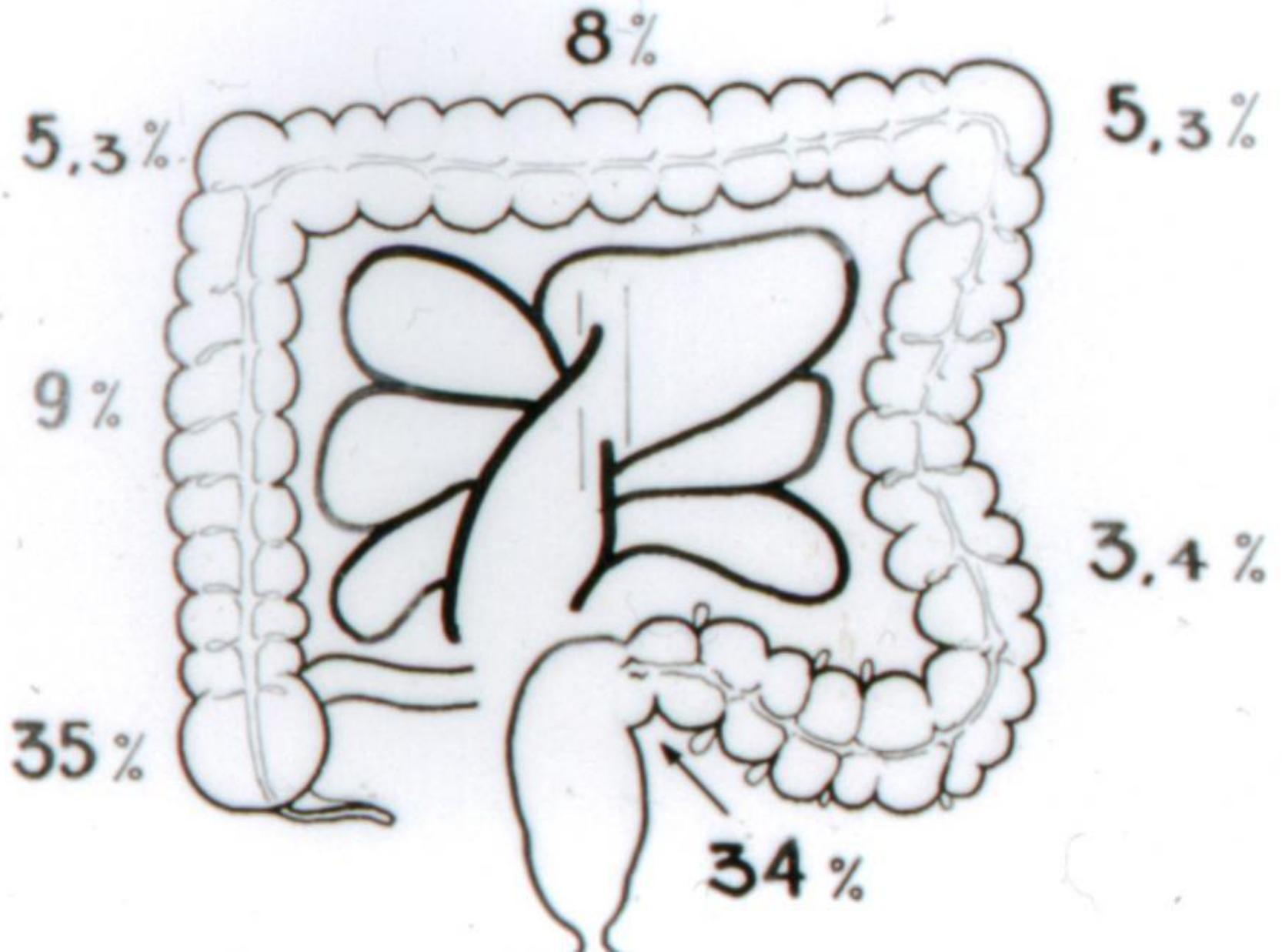
**AT WHAT A CANCER LOCALIZATION  
MORE OFTEN**

**Perforation is  
more  
possible?**

**AT WHAT A CANCER LOCALIZATION MORE  
OFTEN**

**Fistulas,  
phlegmons  
are possible?**

# Colon cancer localisation



# **Cancer clinical signs**

- 1. Functional signs without intestinal disorders (a pain, etc.)**
- 2. Intestinal disorders (diarrheas, con-stipations, alternating)**
- 3. Disturbances of intestinal passabi-lity**
- 4. Pathological discharge**
- 5. Disturbance of the general conditi-on of patients**
- 6. Palpating detection of a tumour**

## **Cancer clinical forms**

- 1) toxico-anemic**
- 2) enterocolitic**
- 3) dyspeptic**
- 4) obturational**
- 5) pseudo-inflammatory**
- 6) tumoral**

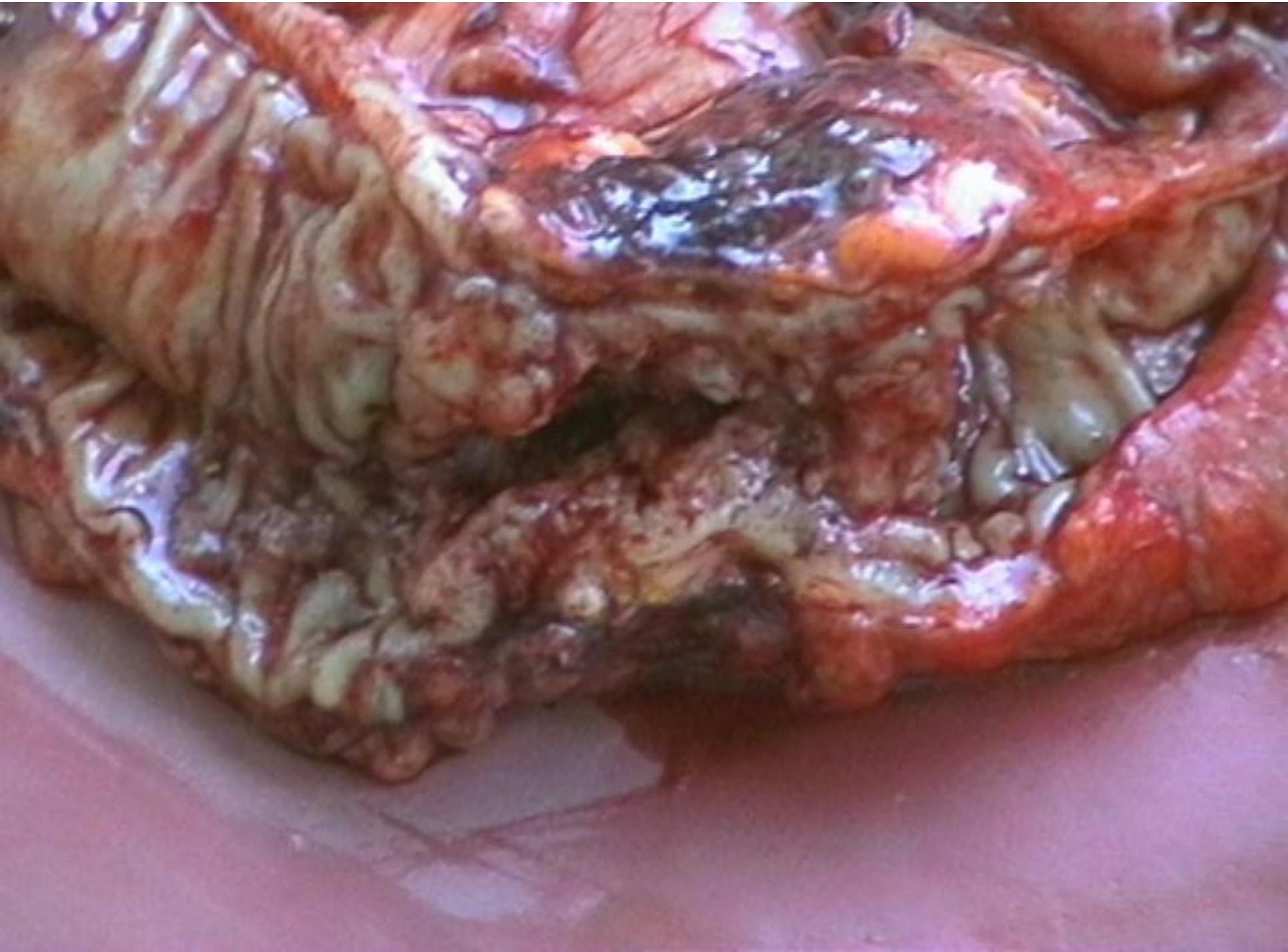
# Colon cancer diagnosis



# Colon cancer diagnosis







# TNM



Поражение  
слизистой и  
подслизистого  
слоя (T1)



Опухоль прорастает  
в мышечную  
стенку (T2)



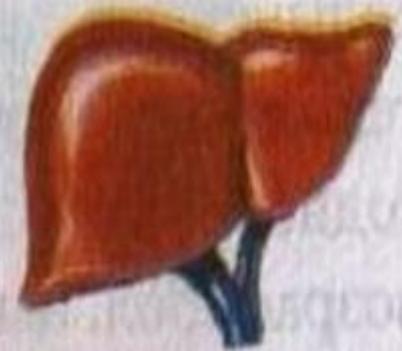
Сквозное  
прорастание  
мышечной  
стенки (T3)



Нормальный  
лимфатический  
узел (N<sub>0</sub>)



Метастазы в  
лимфатических  
узлах (N1)



Нет отдаленных  
метастазов (M<sub>0</sub>)

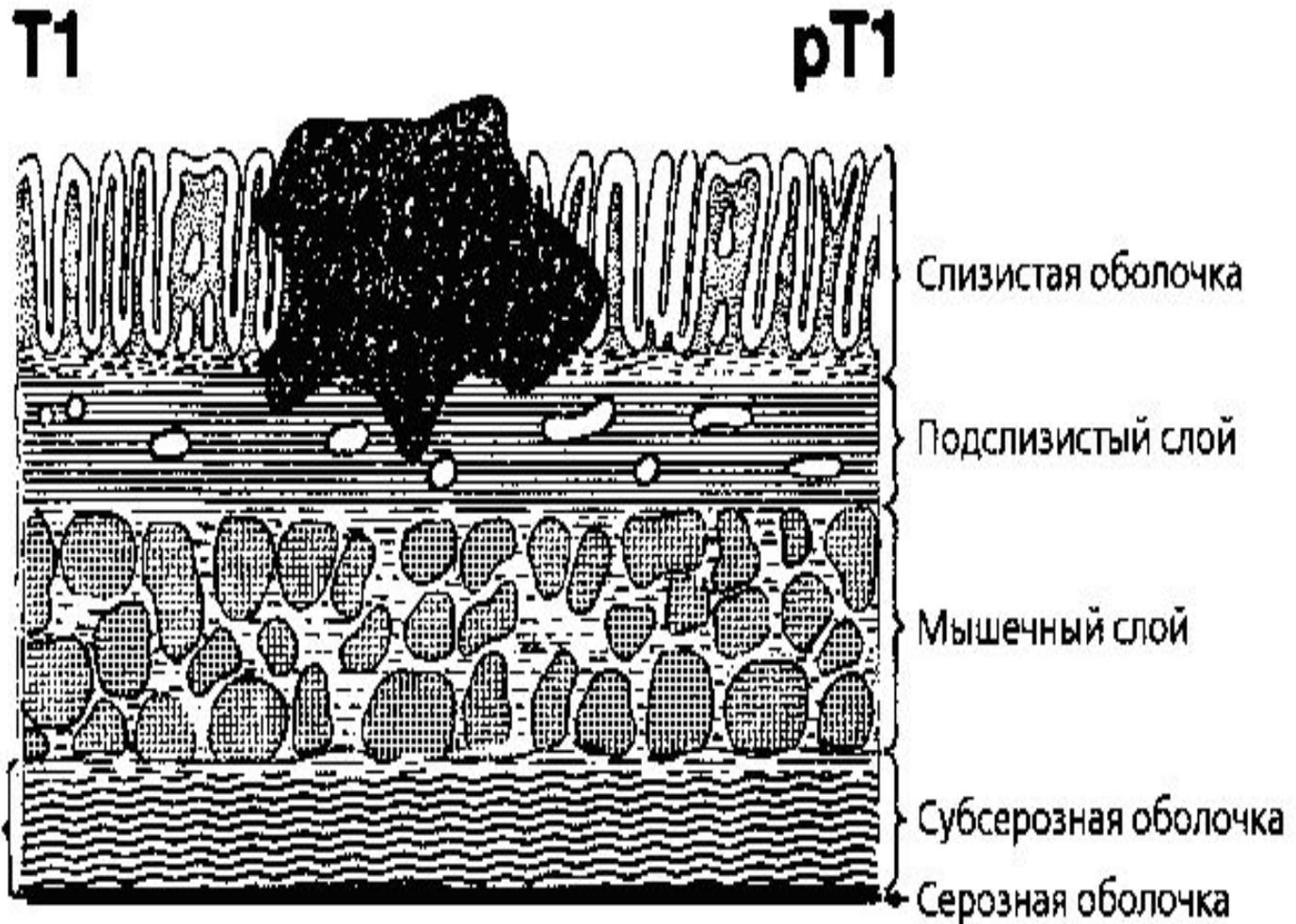


Есть отдаленные  
метастазы (M1)

# TNM - T

- **T<sub>x</sub> - the estimation of a primary tumour is impossible**
- **T<sub>0</sub> - the primary tumour is not found out**
- **T<sub>is</sub> - a cancer in situ: cancer cells find out within the limits of a basal membrane of glands or in own plate of a mucous membrane**

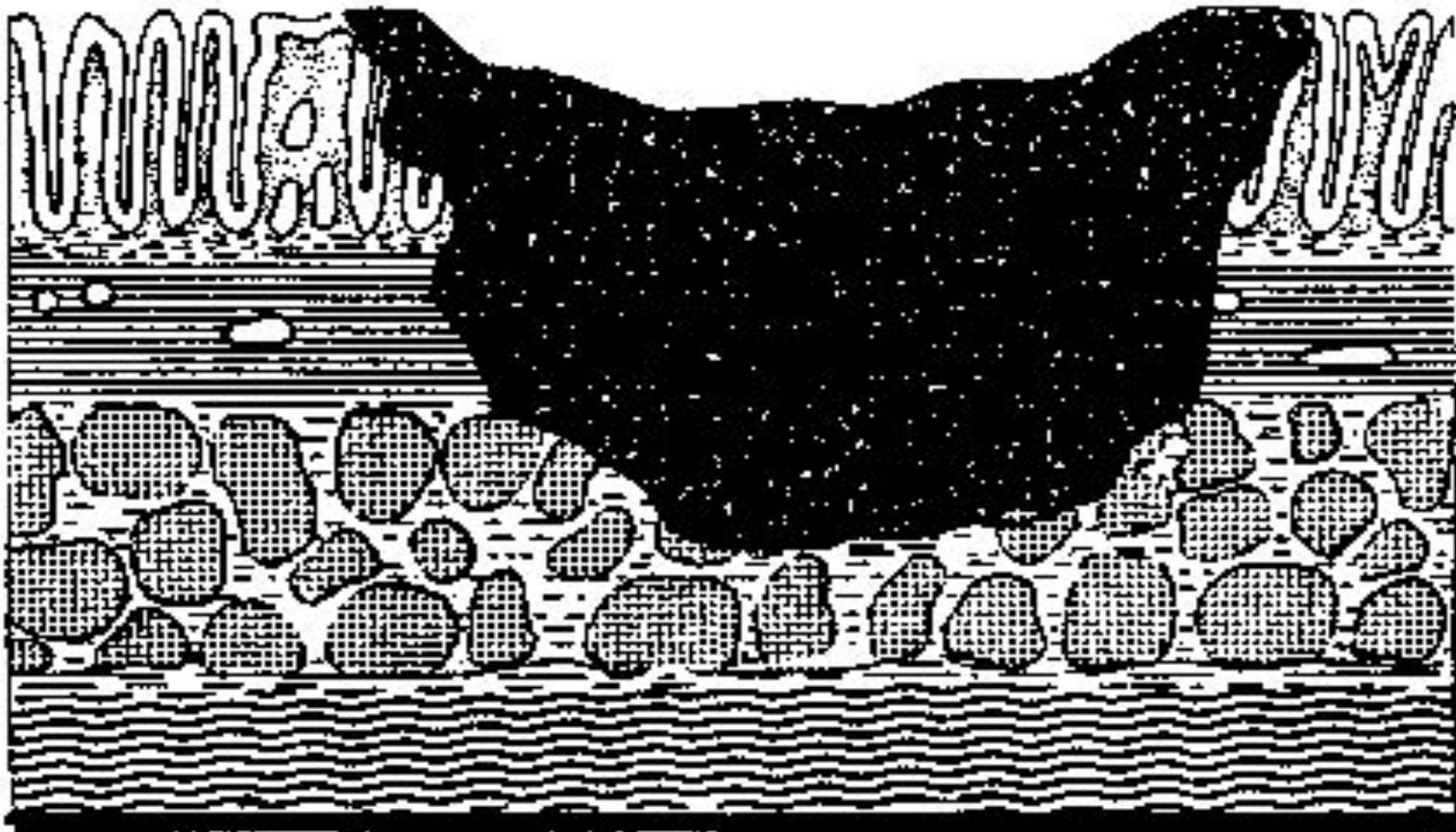
# T1 – The tumour amazes a submucouse layer



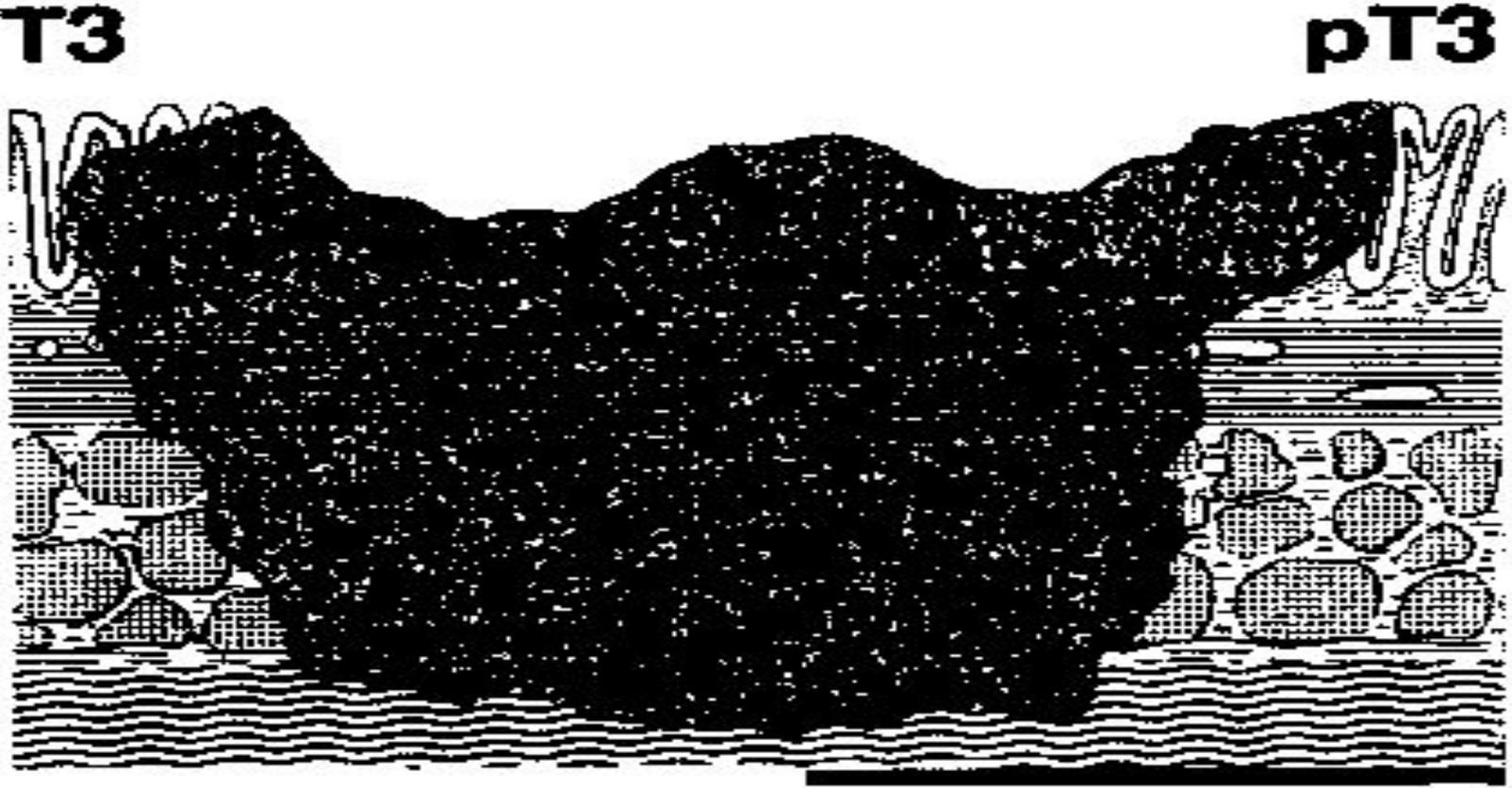
# T2 - the tumour spreads into a muscular layer

**T2**

**pT2**



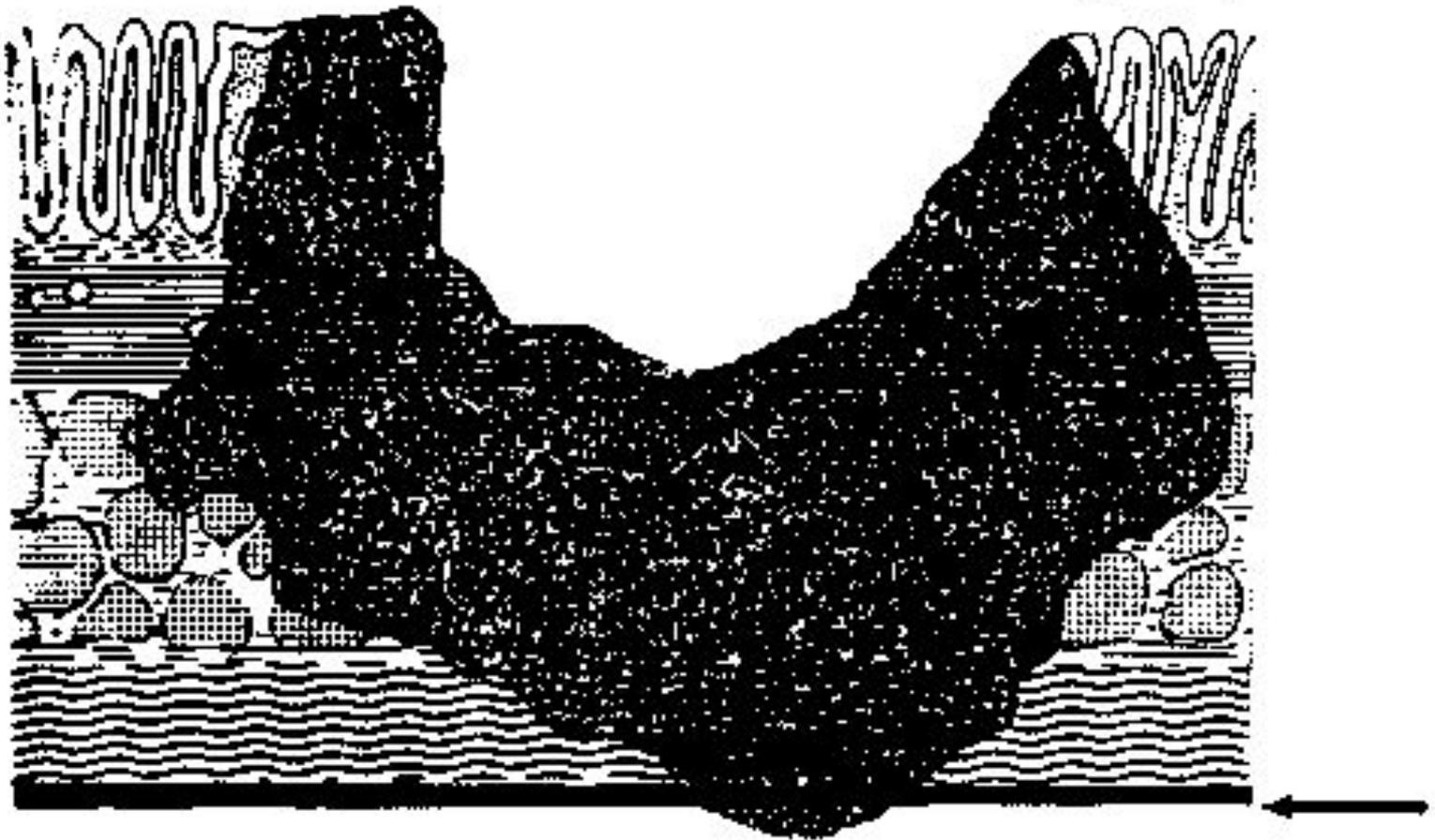
**T3 - the tumour gets into a subserous layer or not covered by a paracolitis and pararectal peritoneum fat**



# T4 - the tumour amazes the neighboring organs and tissues and/or spread through a visceral peritoneum

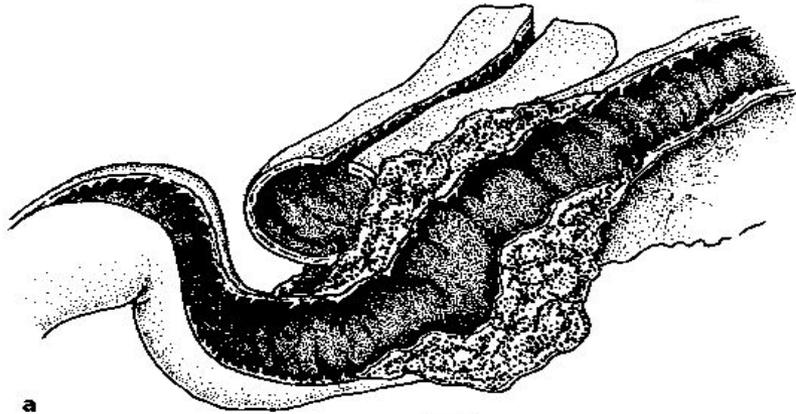
**T4**

**pT4**



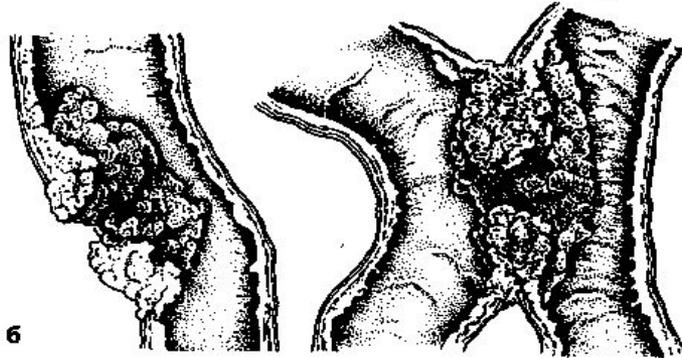
**T4**

**pT4**



**T4**

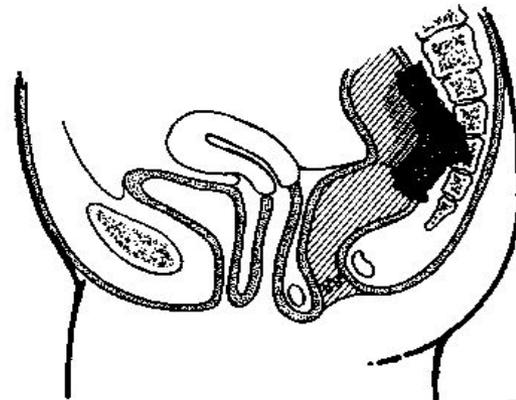
**pT4**



**6**

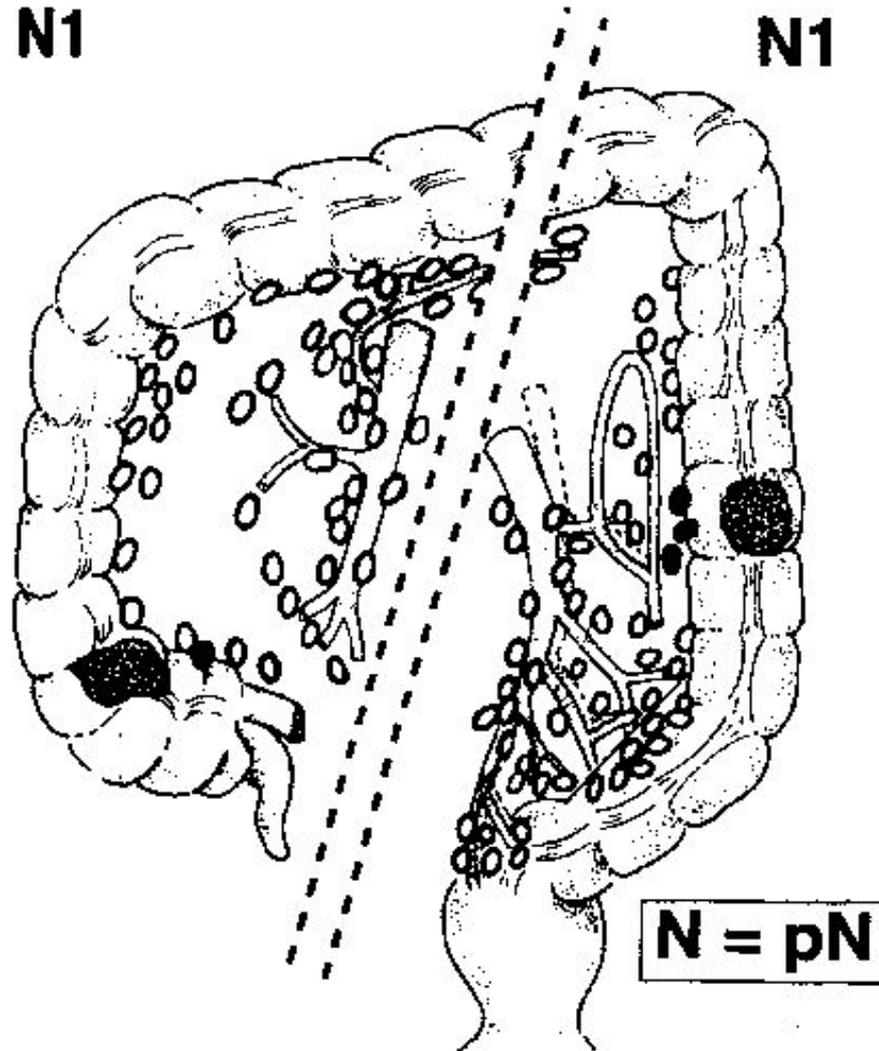
**T4**

**pT4**

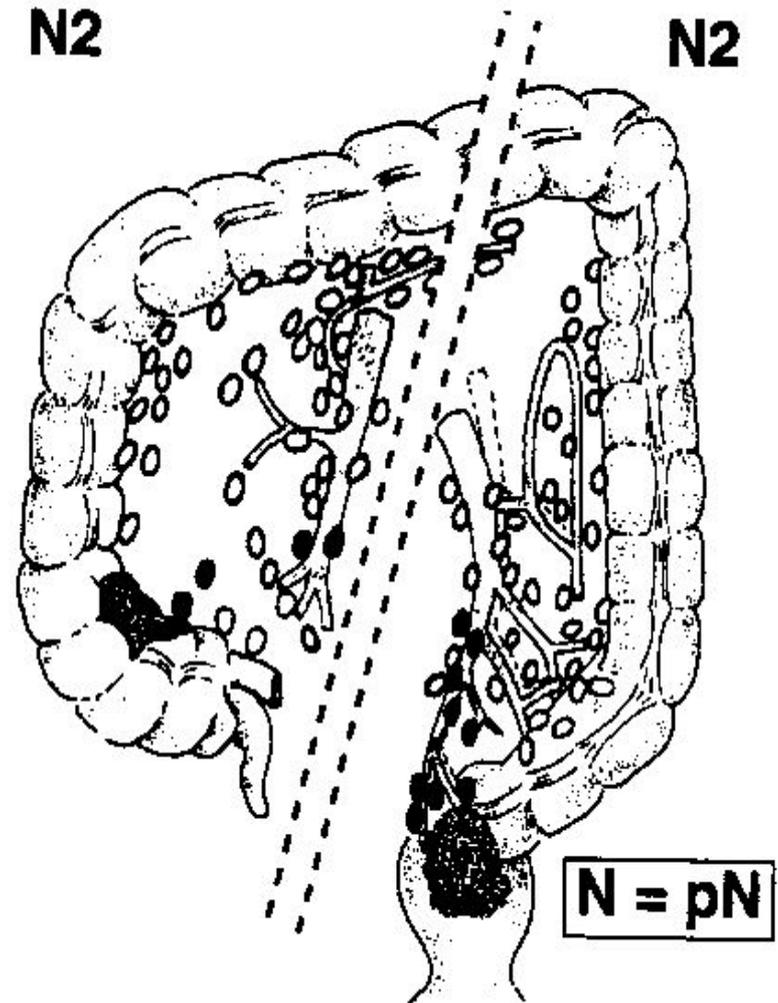
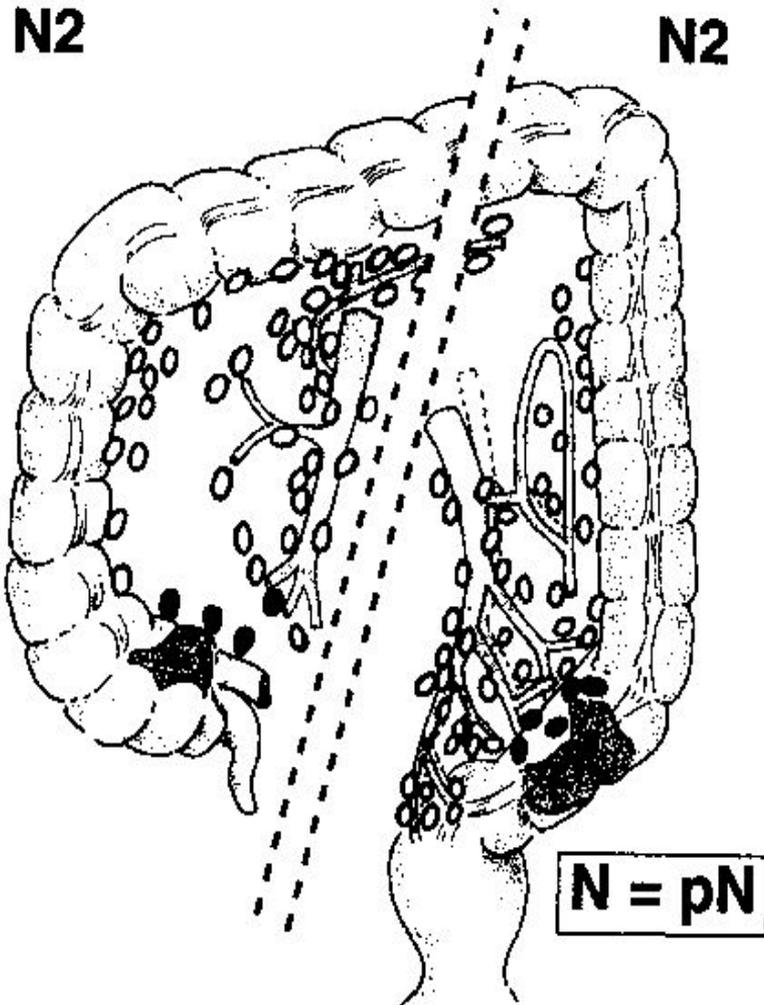


**B**

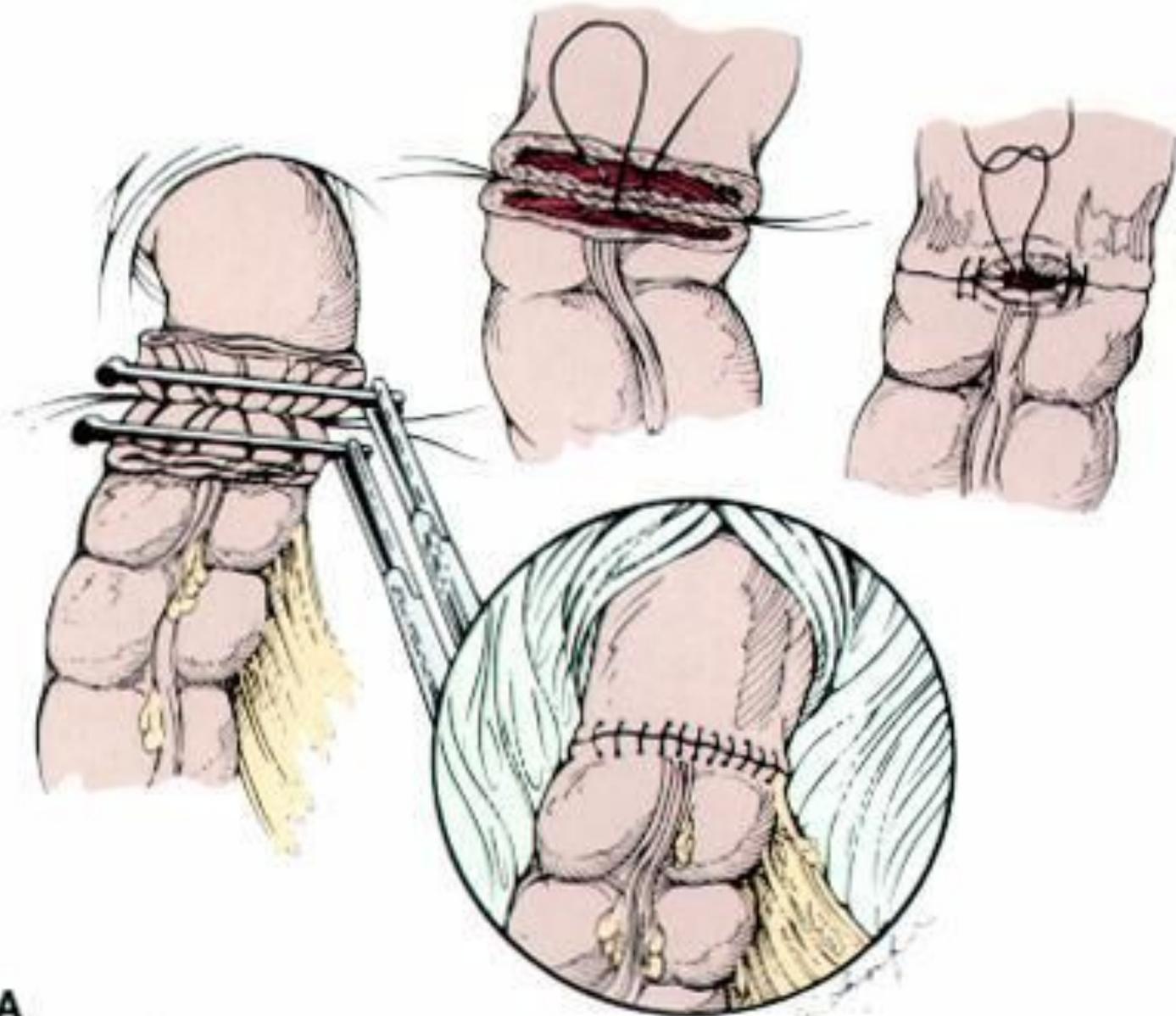
# N1 - it is amazed from 1 up to 3 regional lymphonoduses



# N2 - it is amazed 4 and more regional lymphonoduses

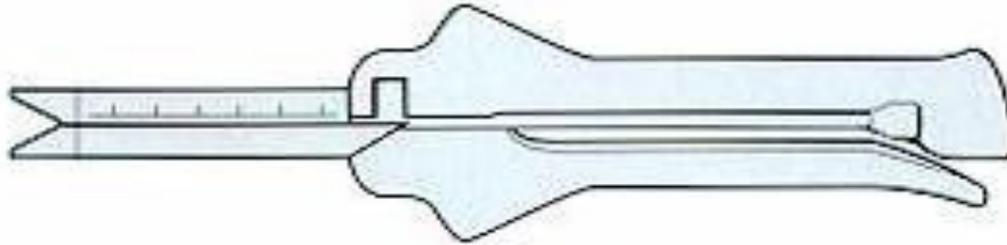


# Manual suturing of an intestine

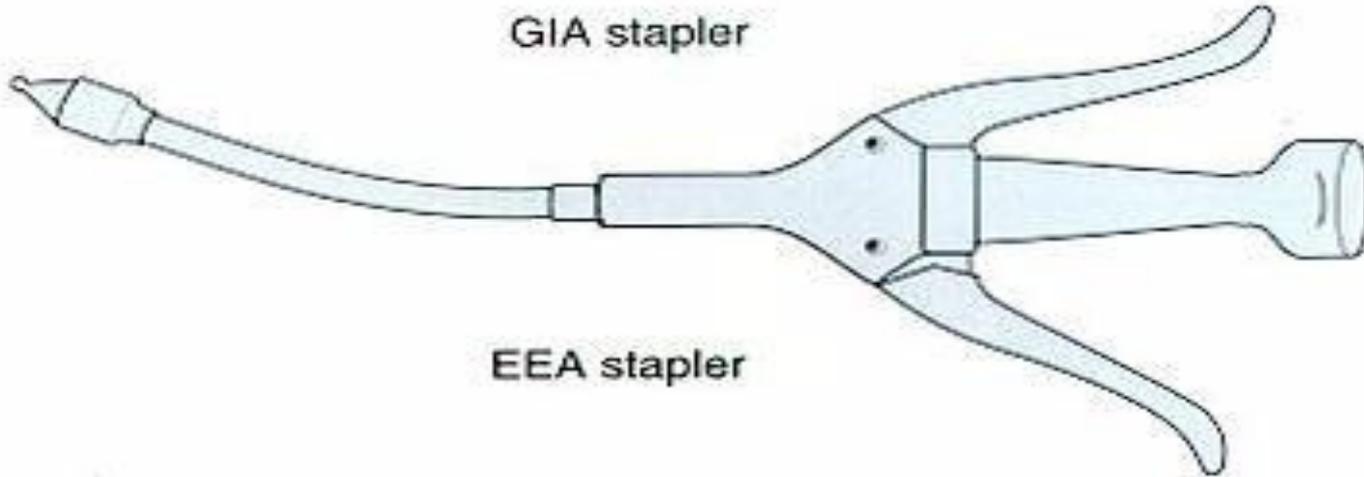


A

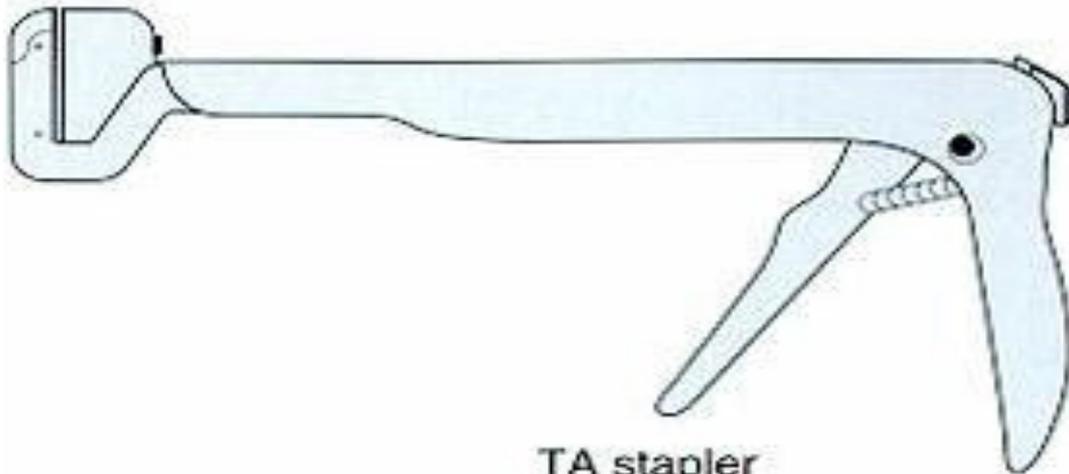
# Staplers



GIA stapler

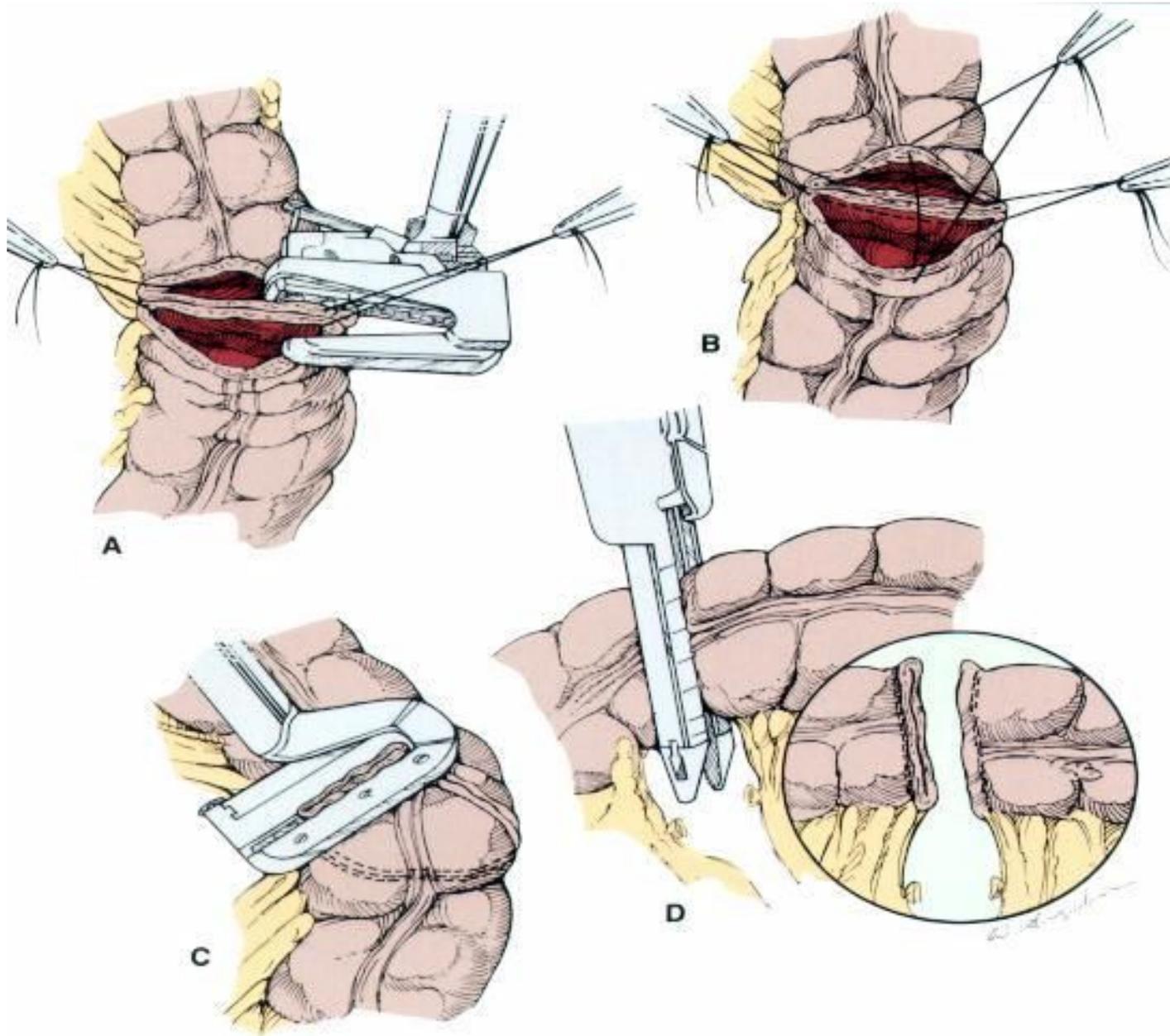


EEA stapler

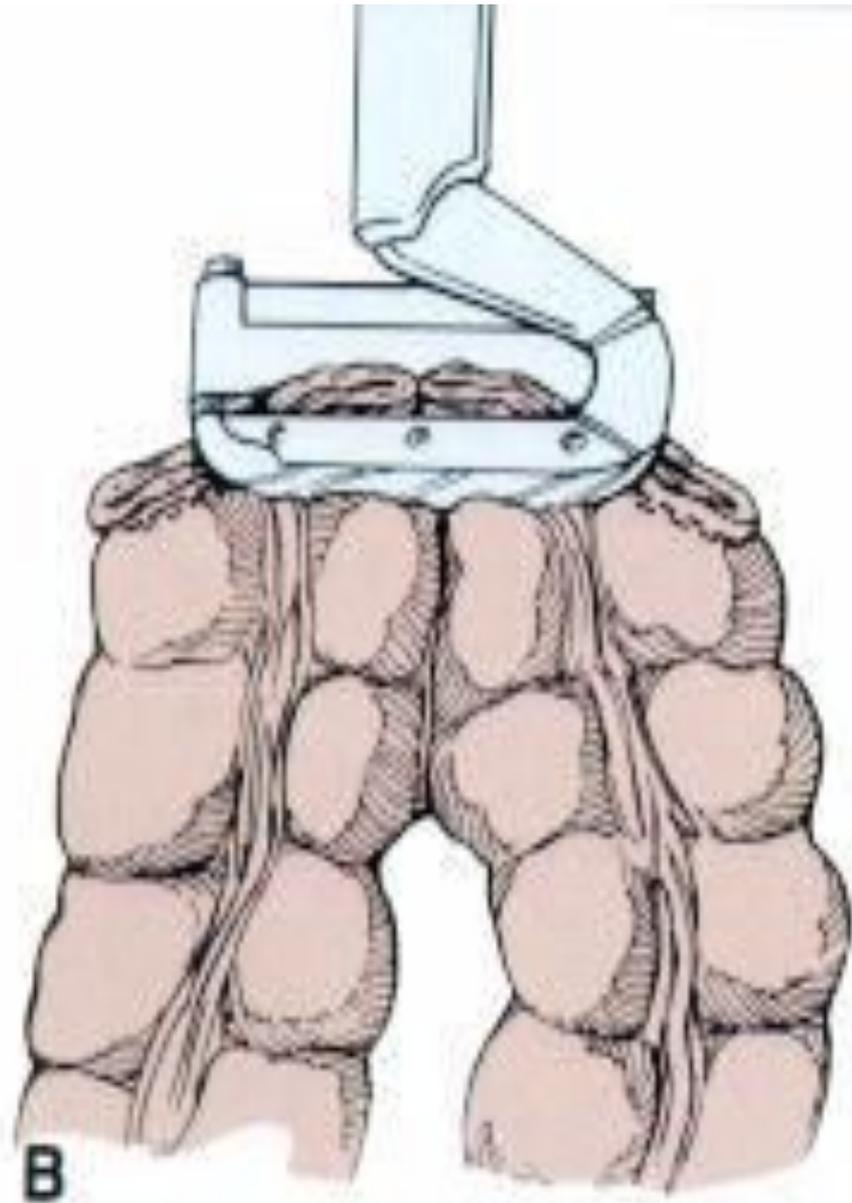
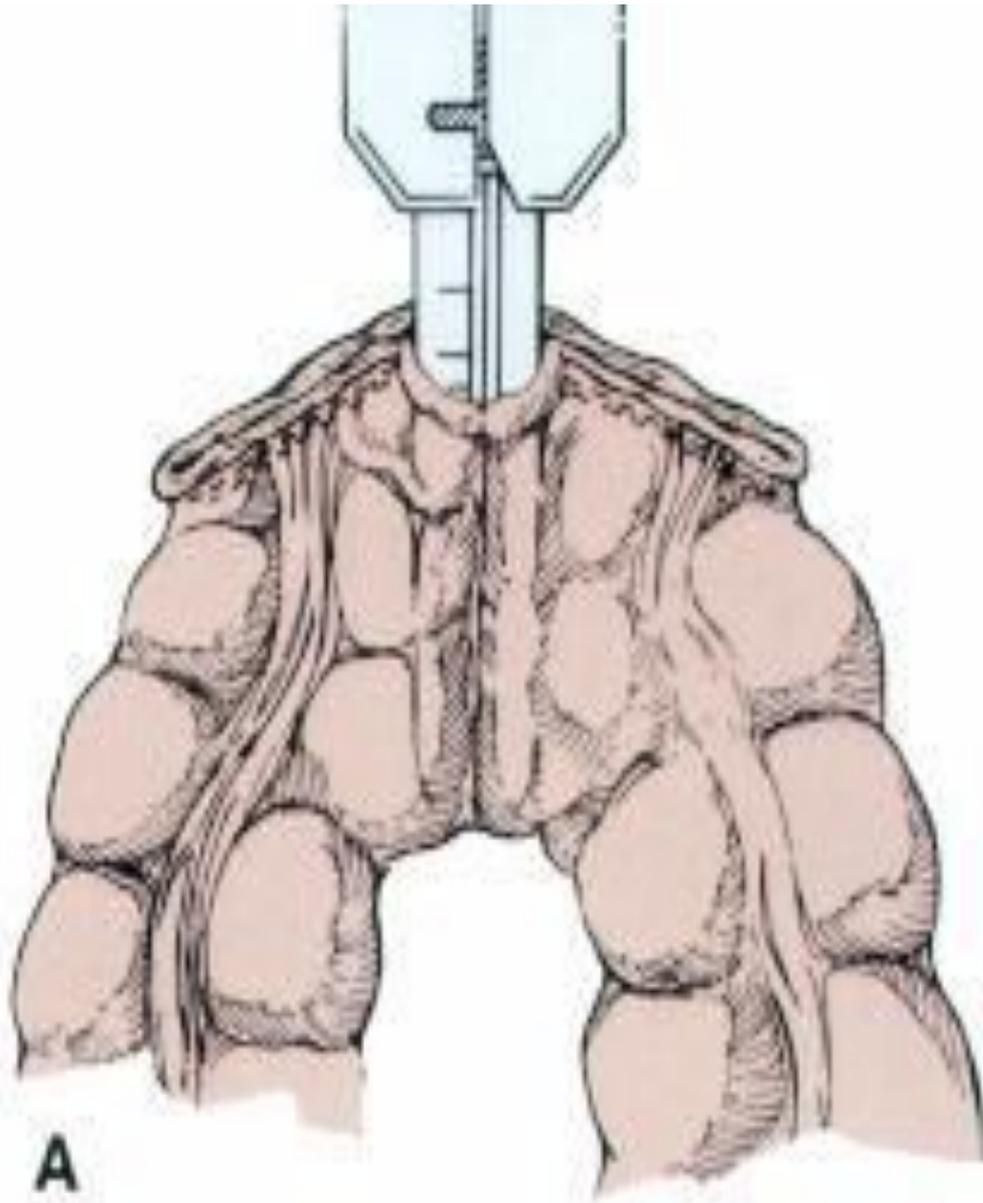


TA stapler

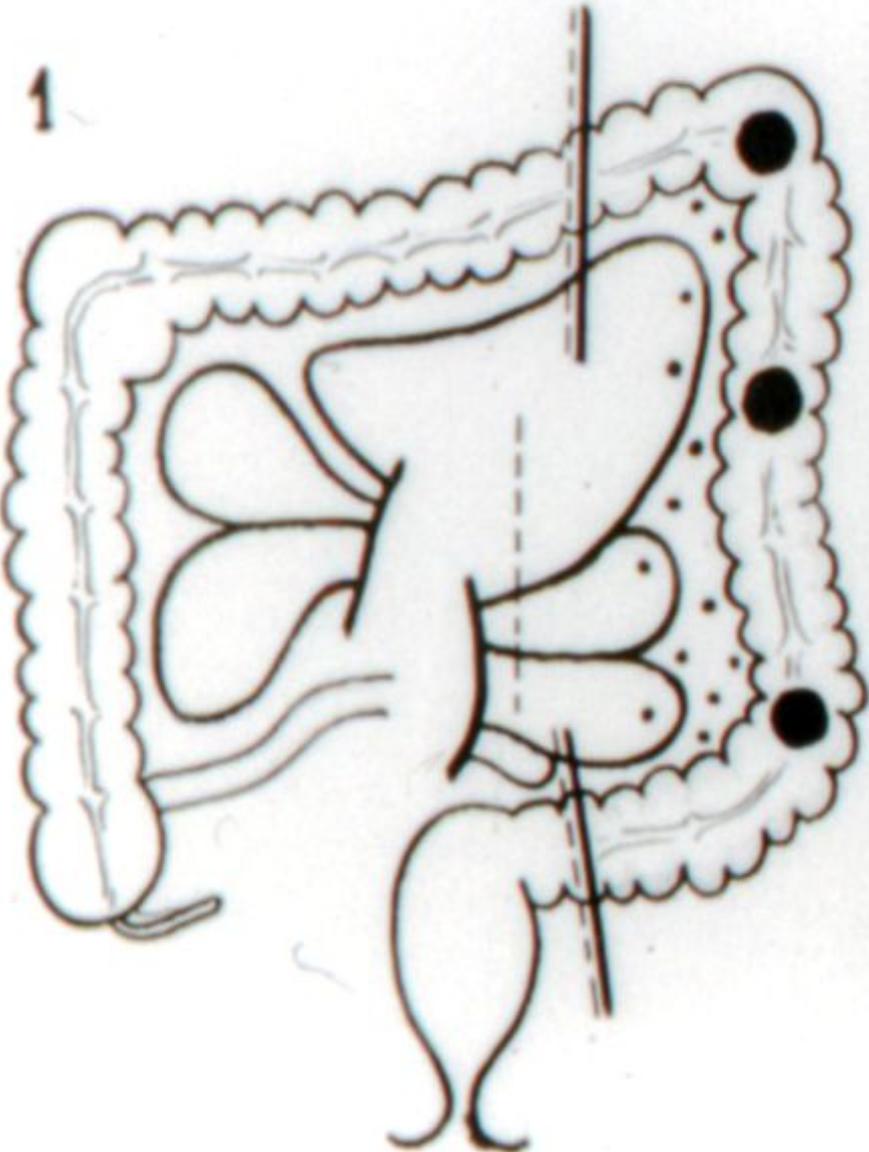
# Hardware seam



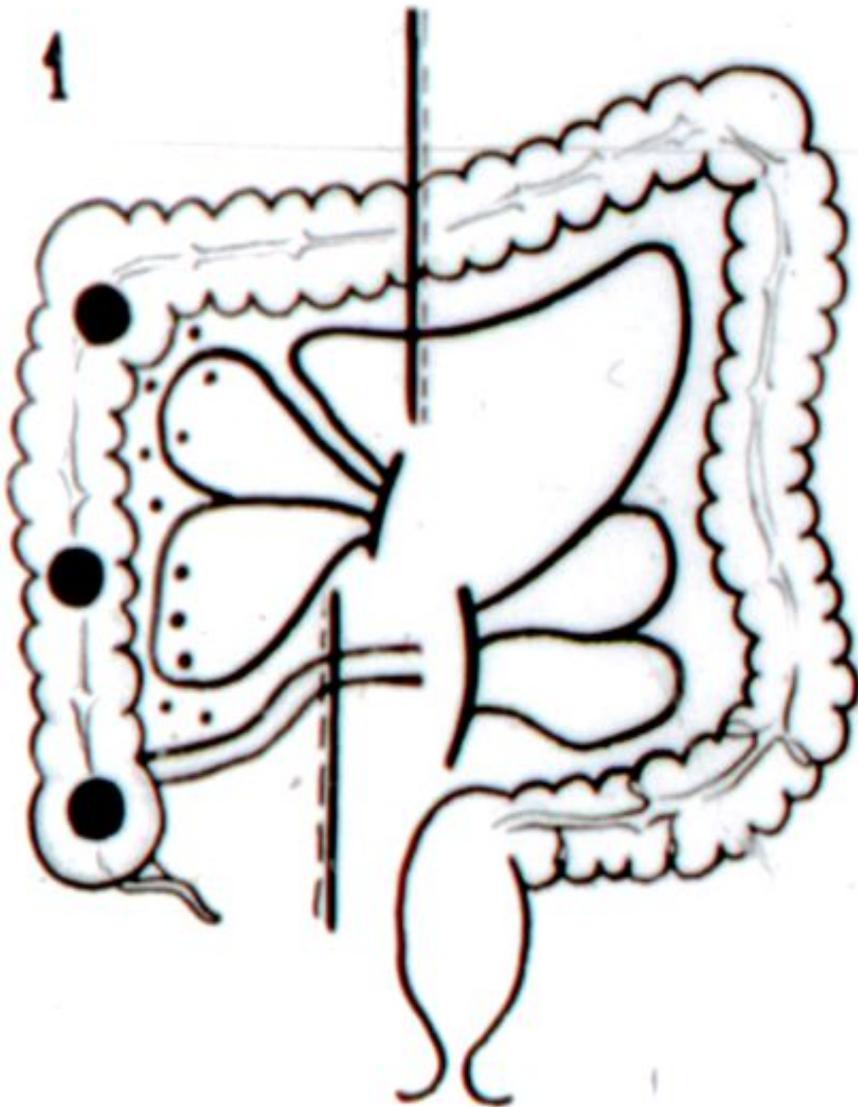
# Hardware seam



# Left half resection (hemicolectomy)

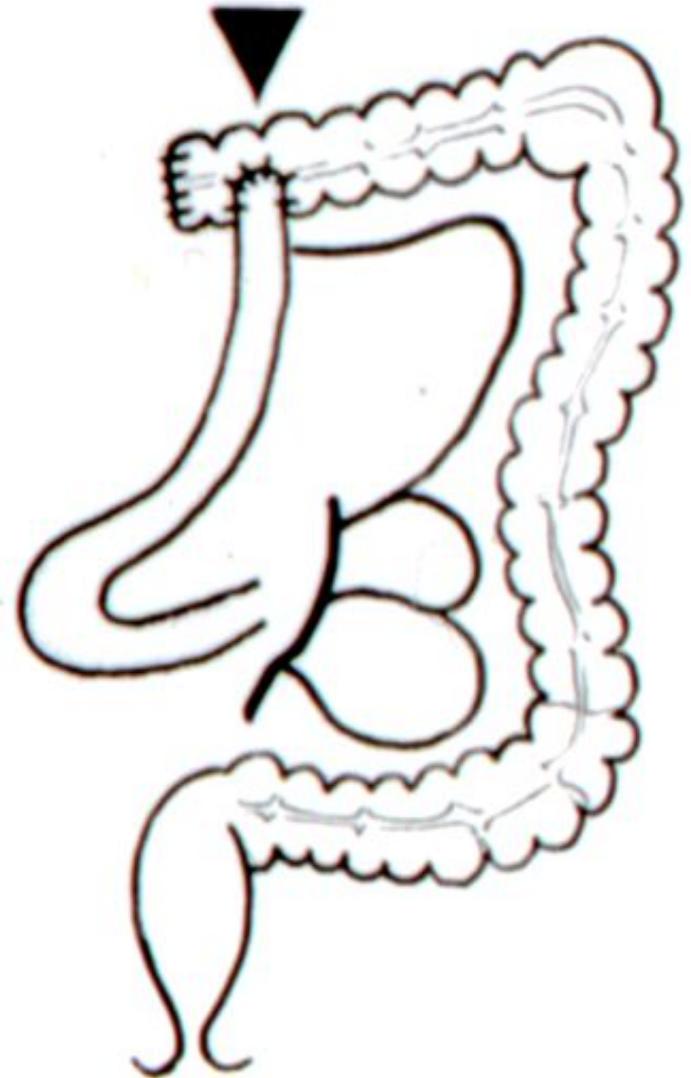


# Right half resection (hemicolectomy)

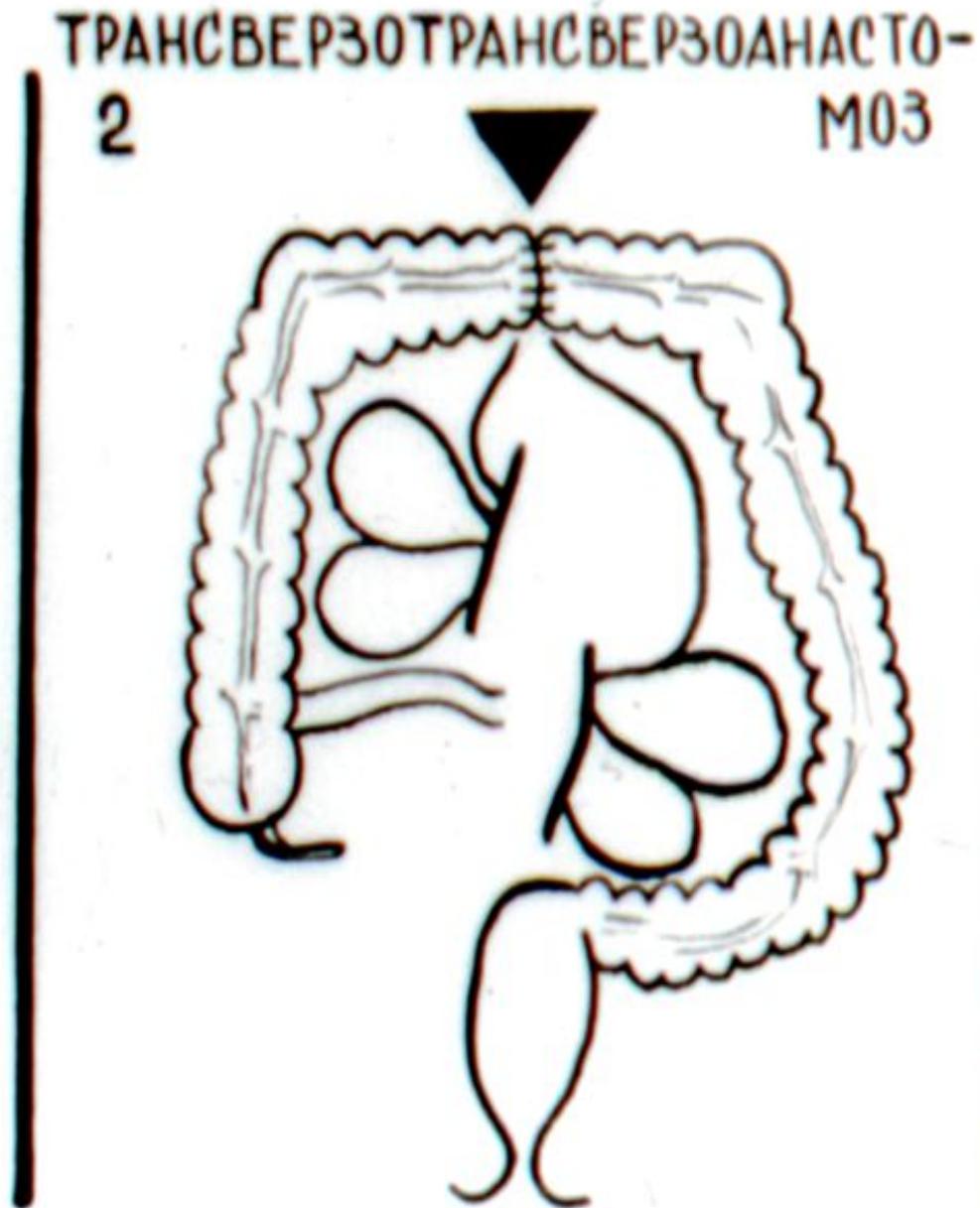


ИЛЕОТРАНСВЕРЗОАНАСТОМОЗ

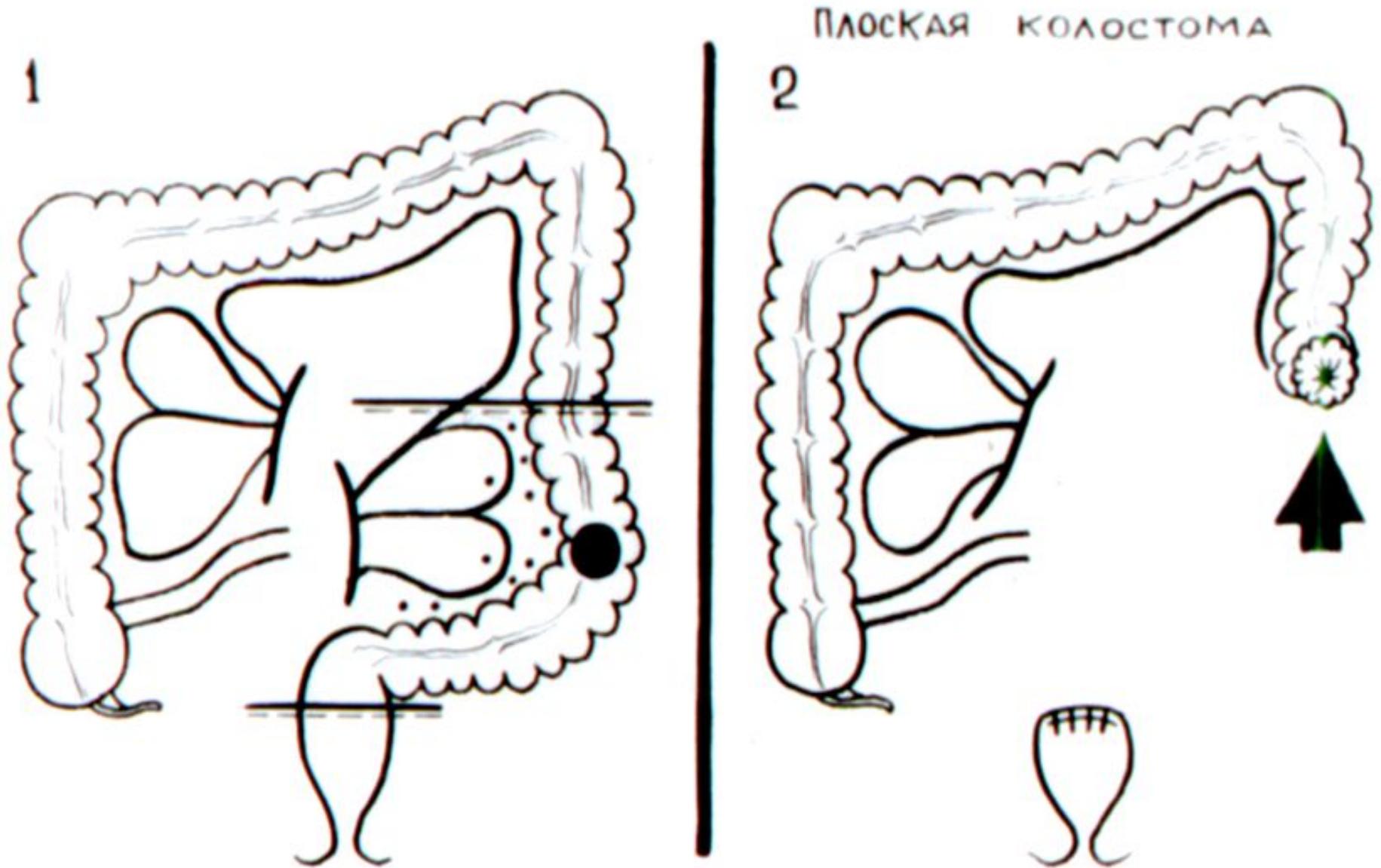
2



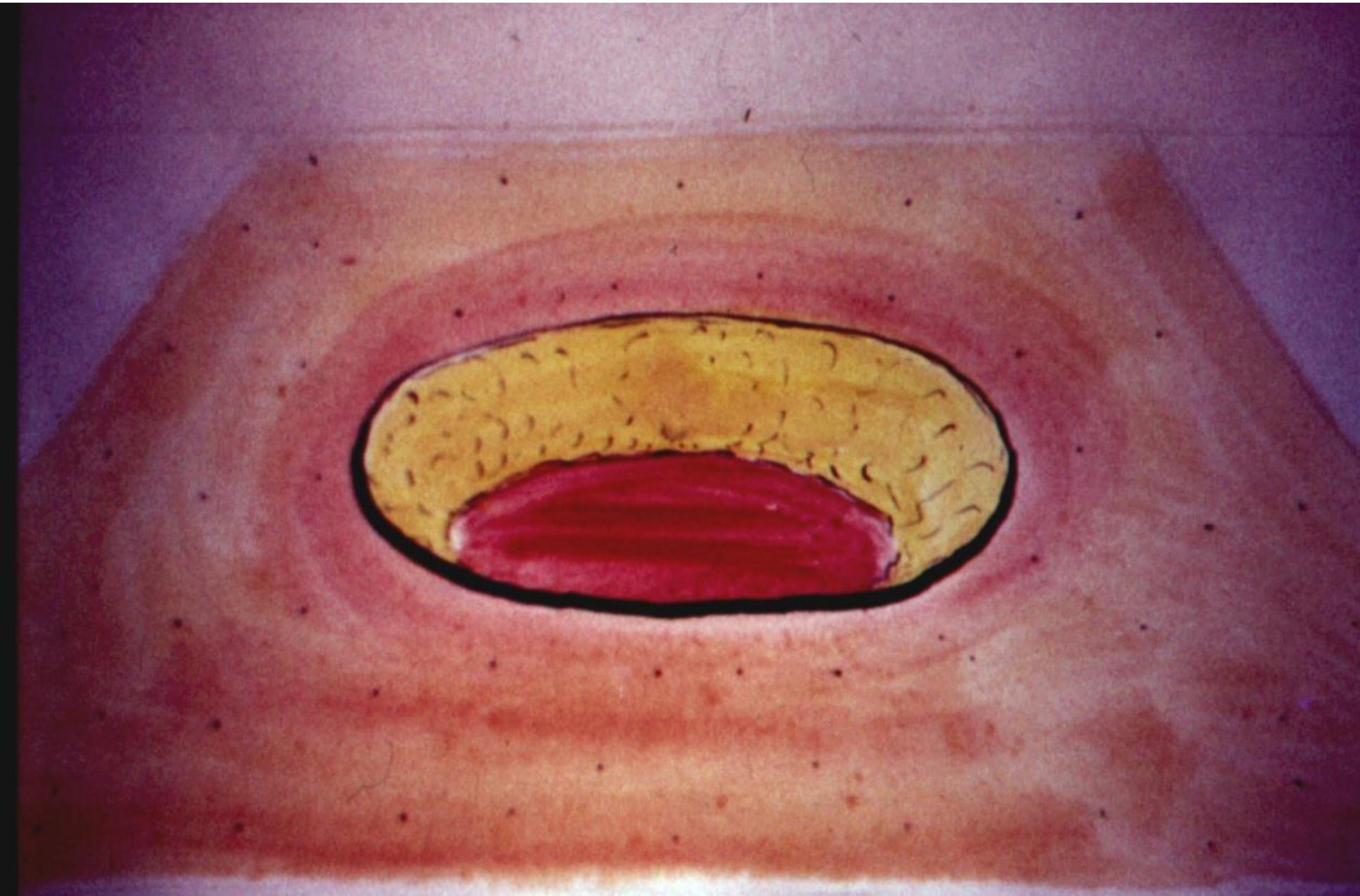
# Transversum resection



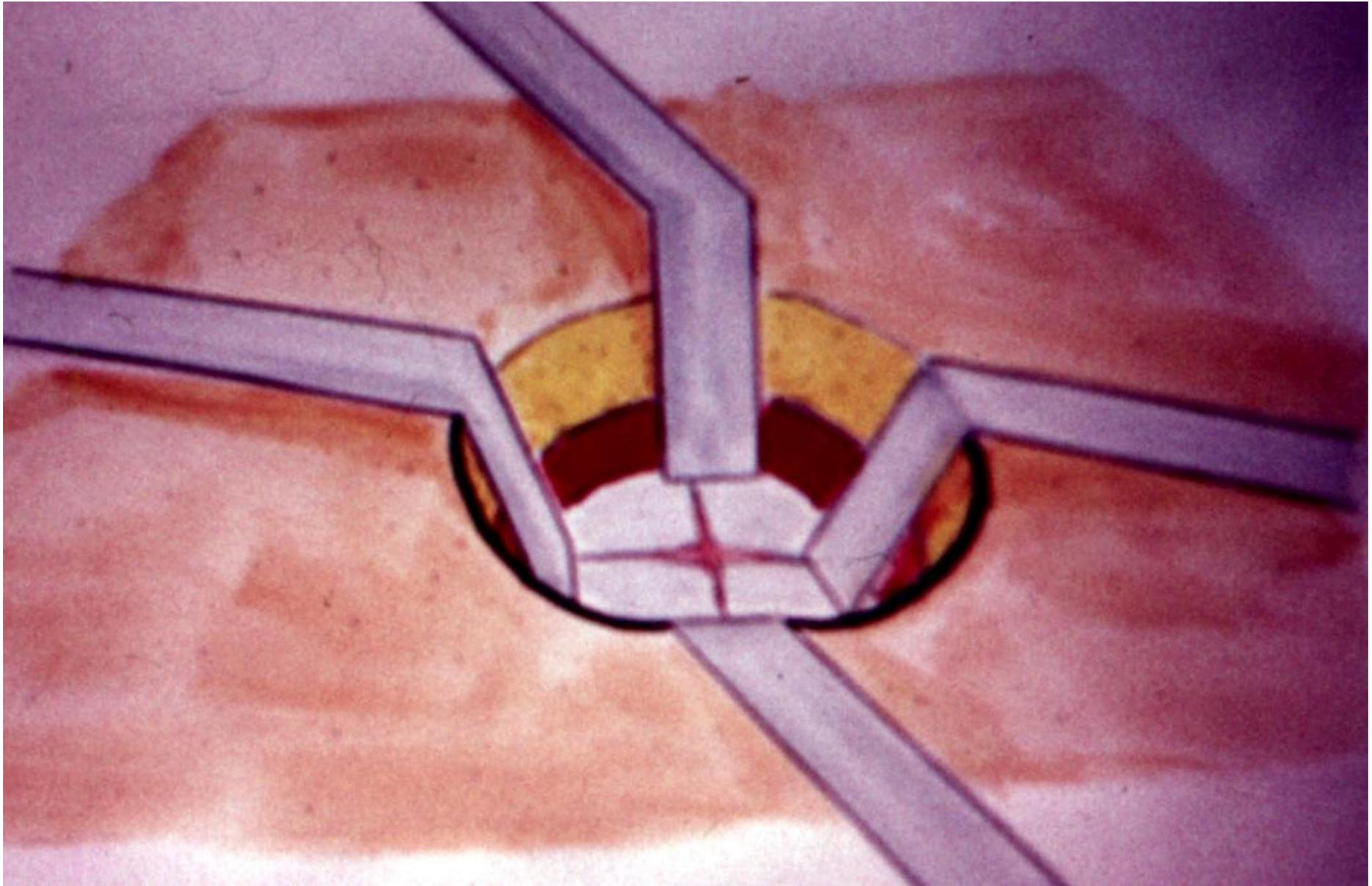
# Type Hartmann resection



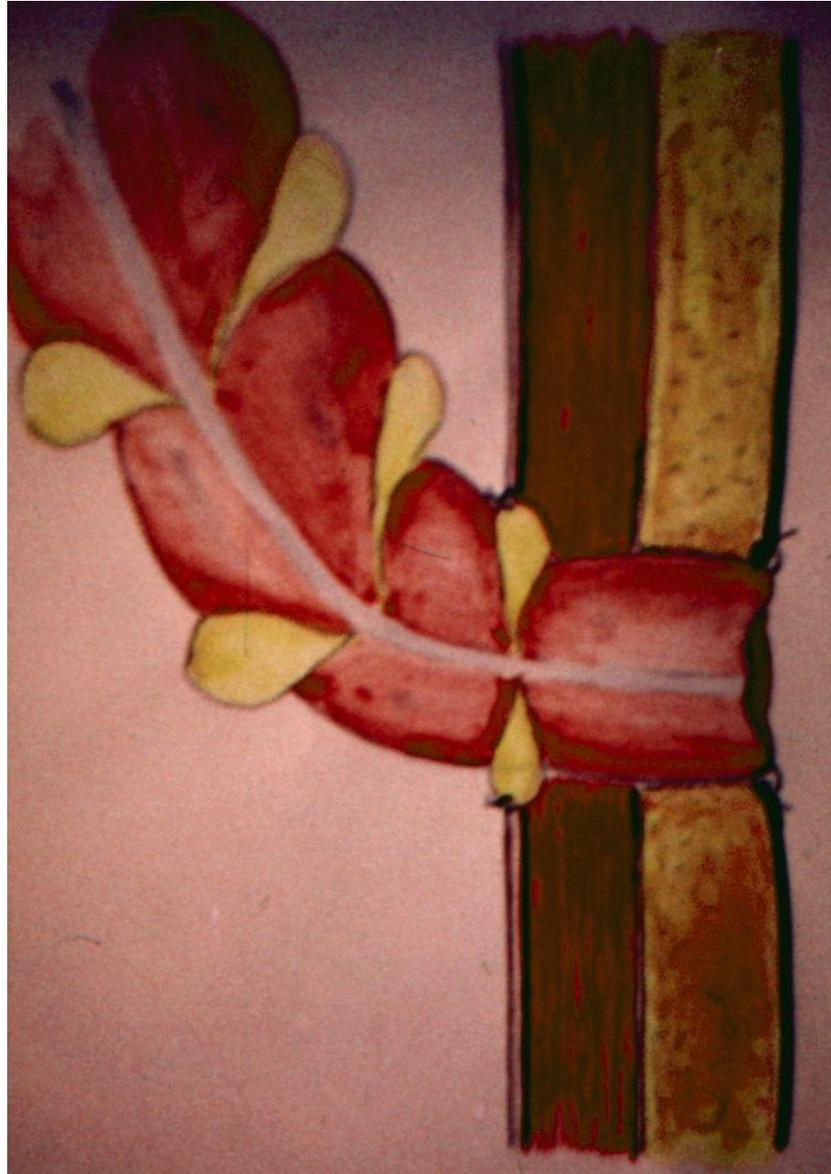
# Terminal flat colostomy on E.G.Topuzov



# Terminal flat colostomy on E.G.Topuzov



# Terminal flat colostomy on E.G.Topuzov



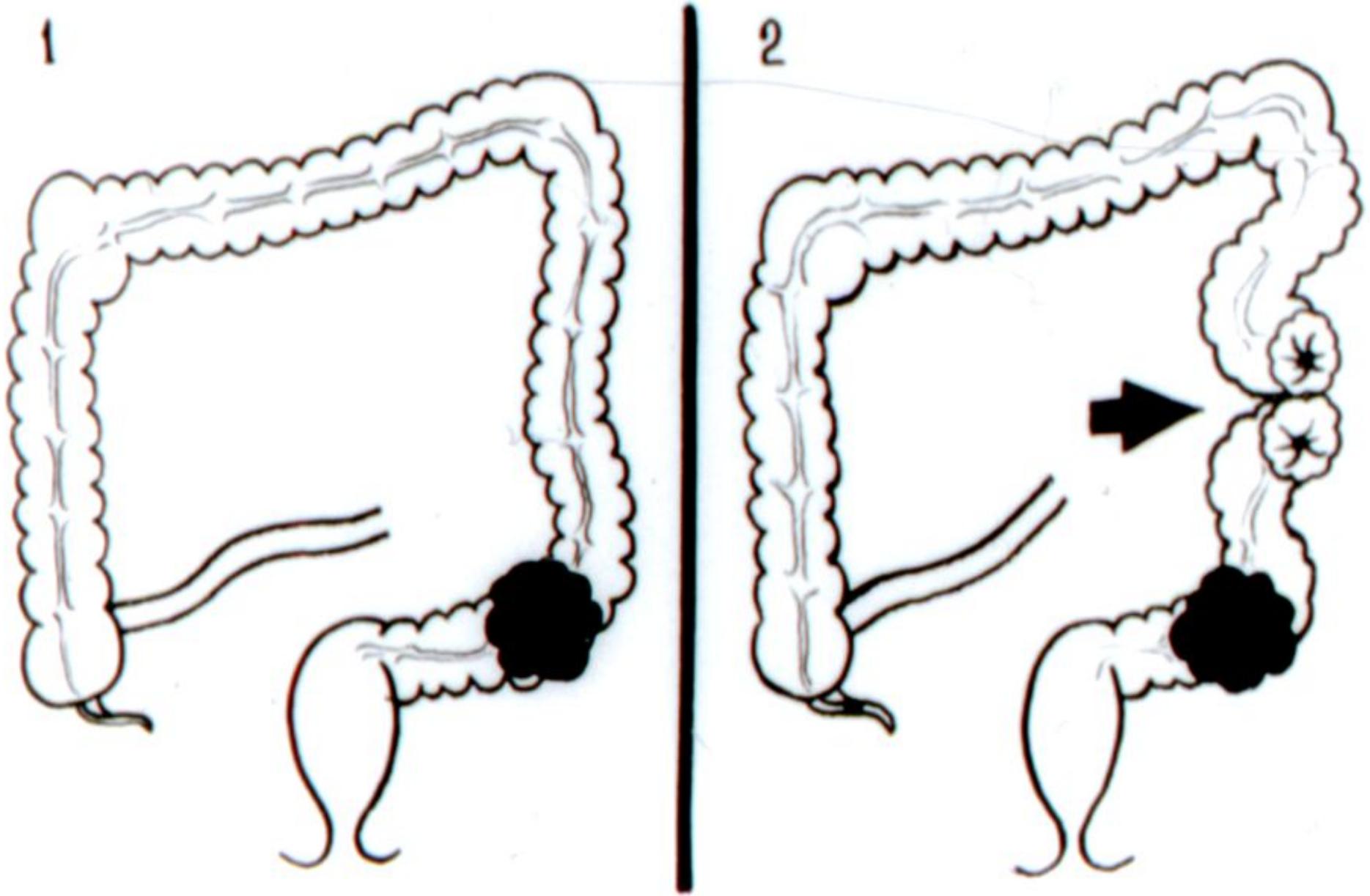
# Terminal flat colostomy on E.G.Topuzov



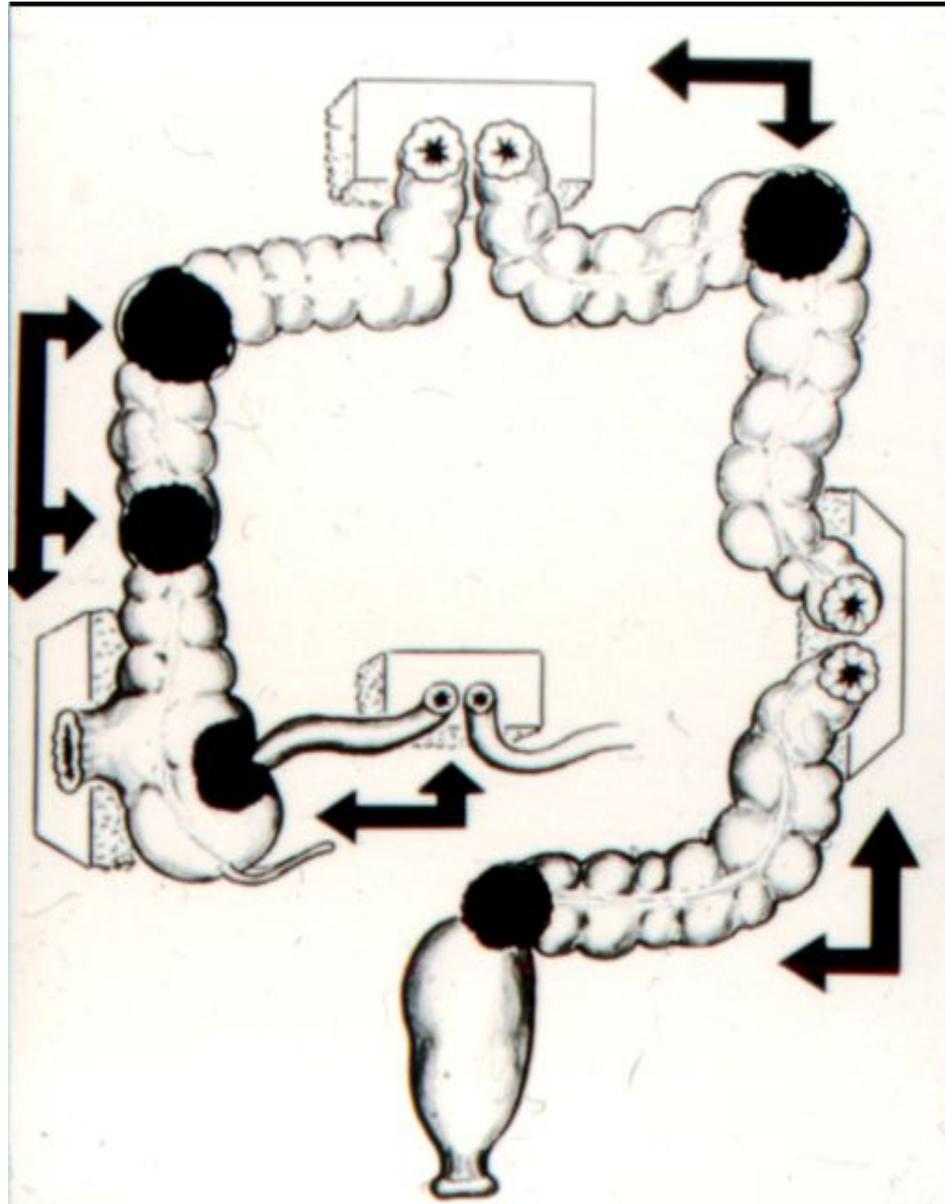
# E.G. Topuzov's updating of Hartmann type operation



# Double-barrelled colostomy



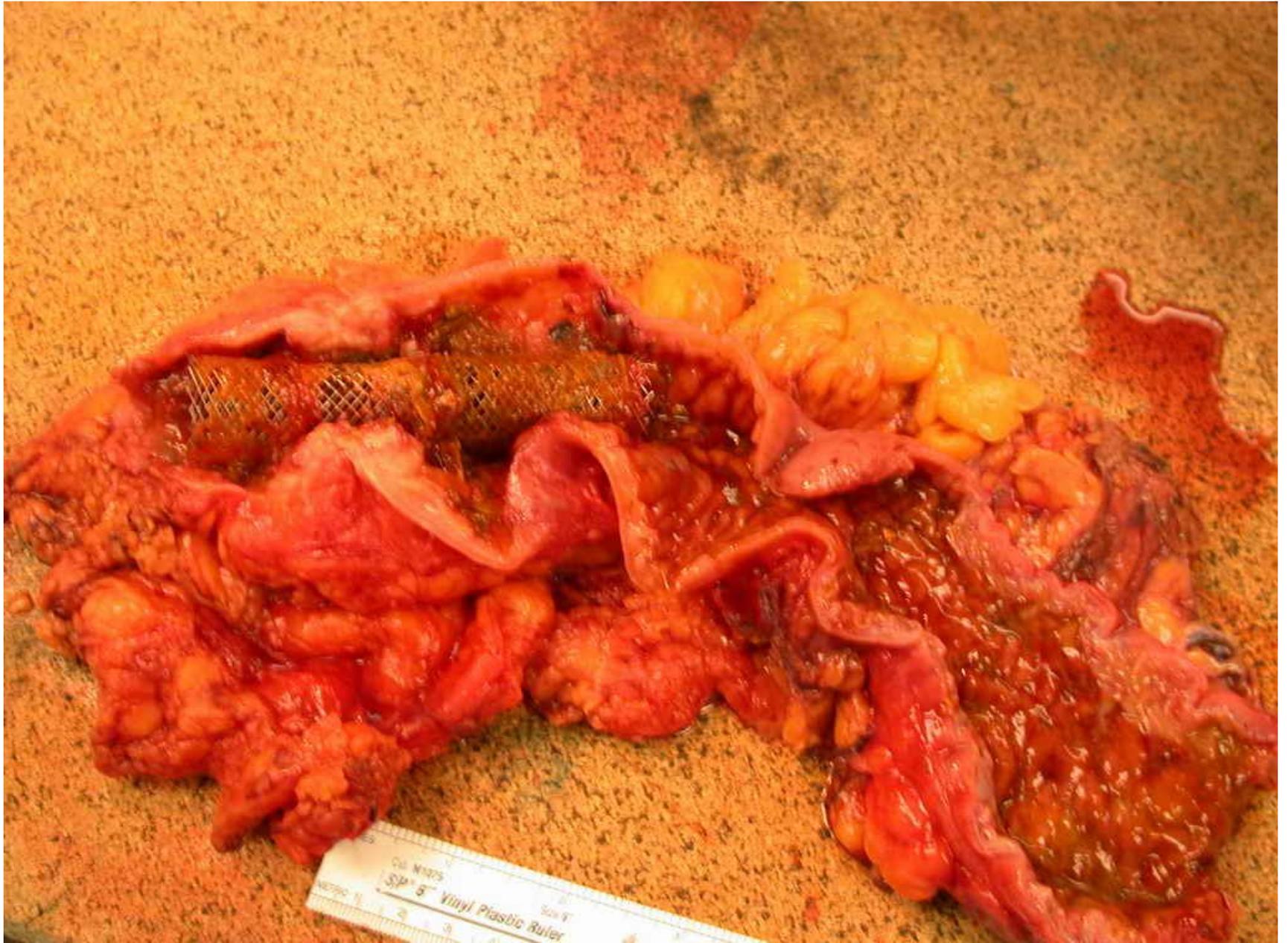
# Colostomy formation places



# stenting



# stenting



# complications

**The intestinal obstruction is most typical for a tu-mor localization in the colon left half or in a sigmo-id intestine (here is more often marked endophytic tumour growth, fecal masses more dense, diame-ter of an intestine is less). The principal cause of an obstruction - narrowing of an intestine lumen, but sometimes it causes an invagination of an intestine at exophytically growing tumour or volvulus of the intestine amazed by a tumour. Harbingers of deve-lopment of an obstruction are the constipations, replaced diarrheas, rumbling in an abdomen, a pe-riodic abdominal distention.**

## complications

**The inflammation in tissues surrounding a tumour (up to phlegmon or abscess de-velopment) is marked at 8-10% of patients. It is more often marked at tumours of caecum and ascending colon.**

## Question

**Pain in the right ileal region, a tumour and a heat.**

**With what diseases you should differentiate?**

## complications

**Perforation of an intestine can be as in a zone of the tumour, at its disinte-gration or a ulceration, and in addu-cent loop (more often in a caecum) at the phenomena of an obstruction (overdistension).**

**Perforation in a free abdominal cavity conducts to deve-lopment of a fecal peritonitis. At per-foration phlegmons develop in a fat behind of an intestine and abscesses of a**

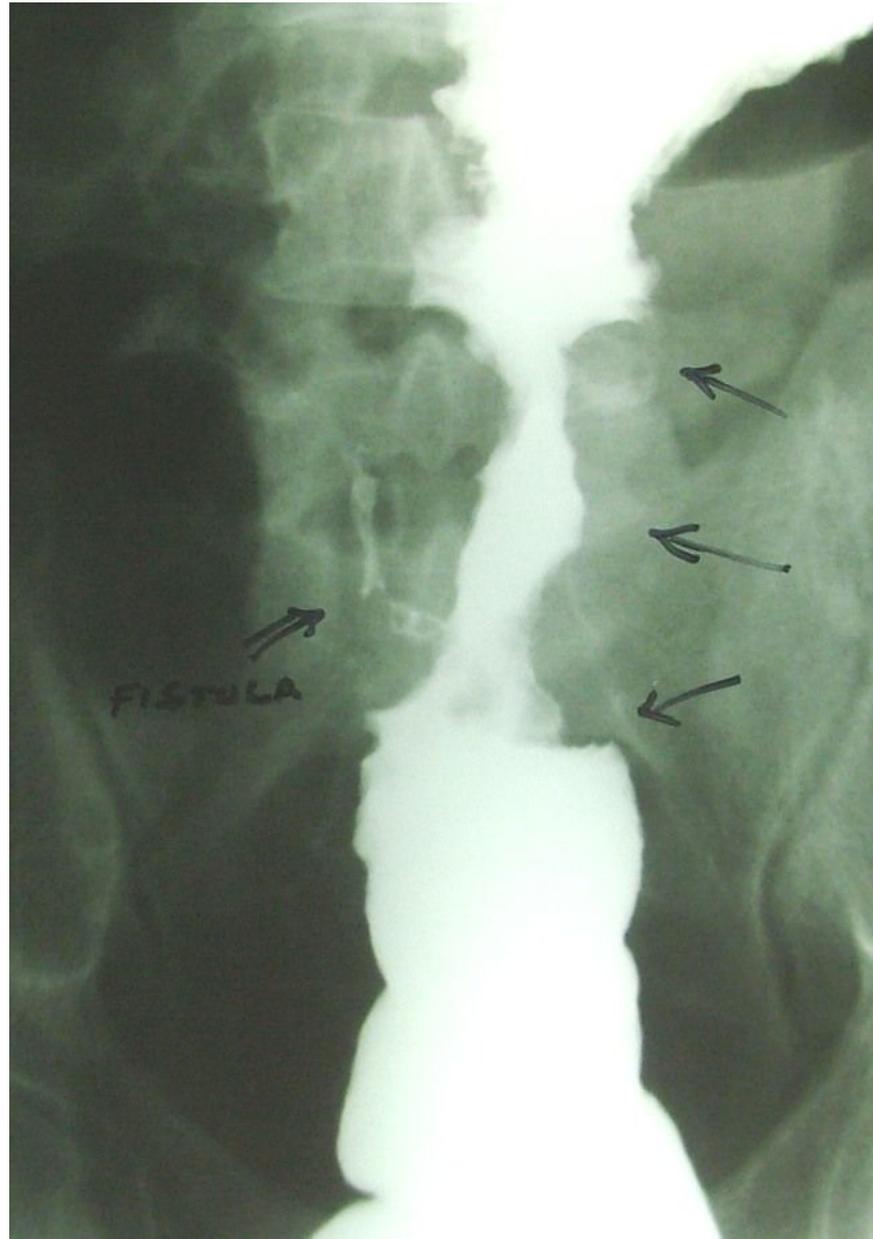
## Question

**At what colon  
can-cer  
complication  
Schetkin-Blumberg  
sign more often is  
defined?**

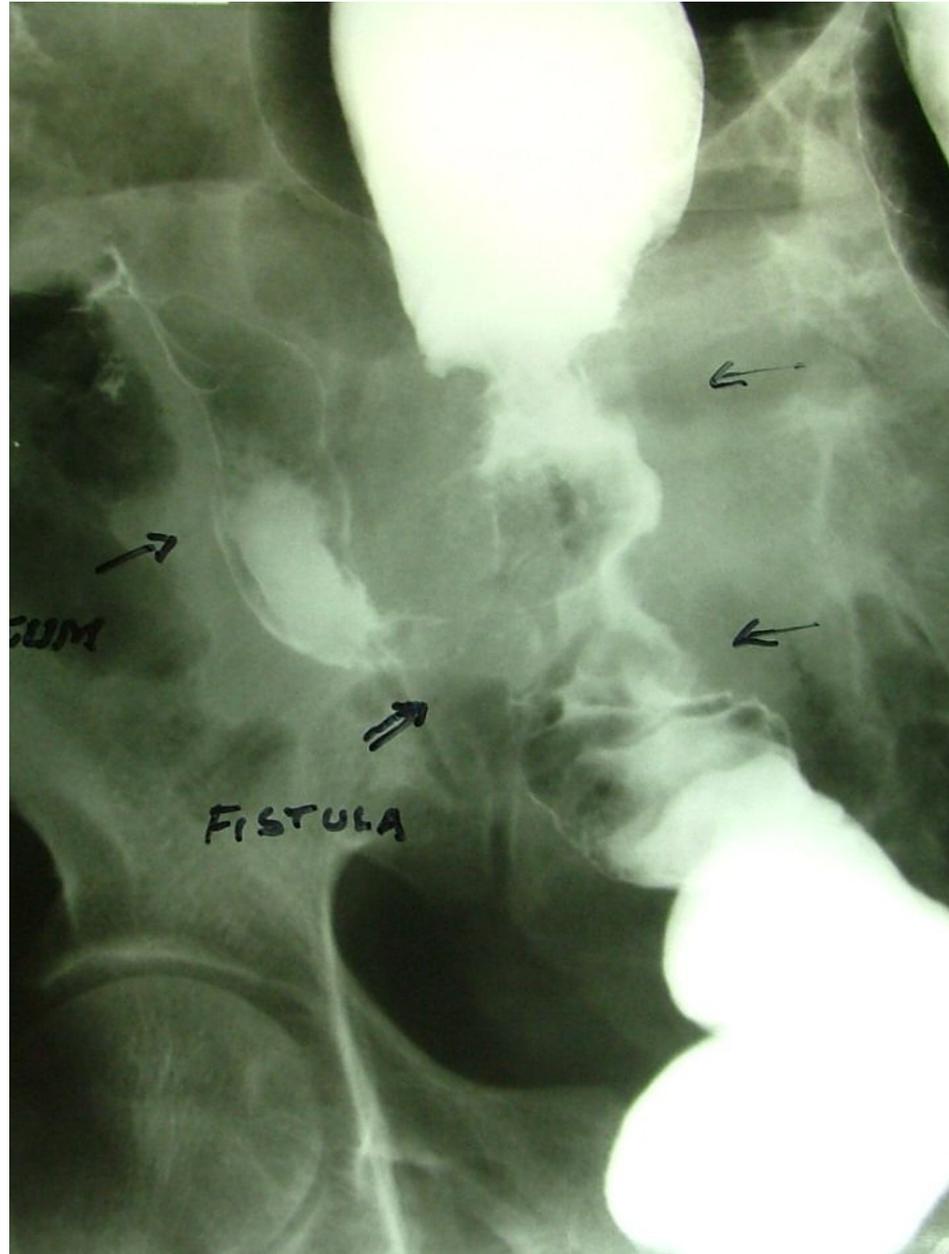
## **complications**

**Formation of fistulas at spreading at the near-rest hollow organs (co-lo-small intestinal, co-lo-gastric, colo-vesical) carry to rare complications**

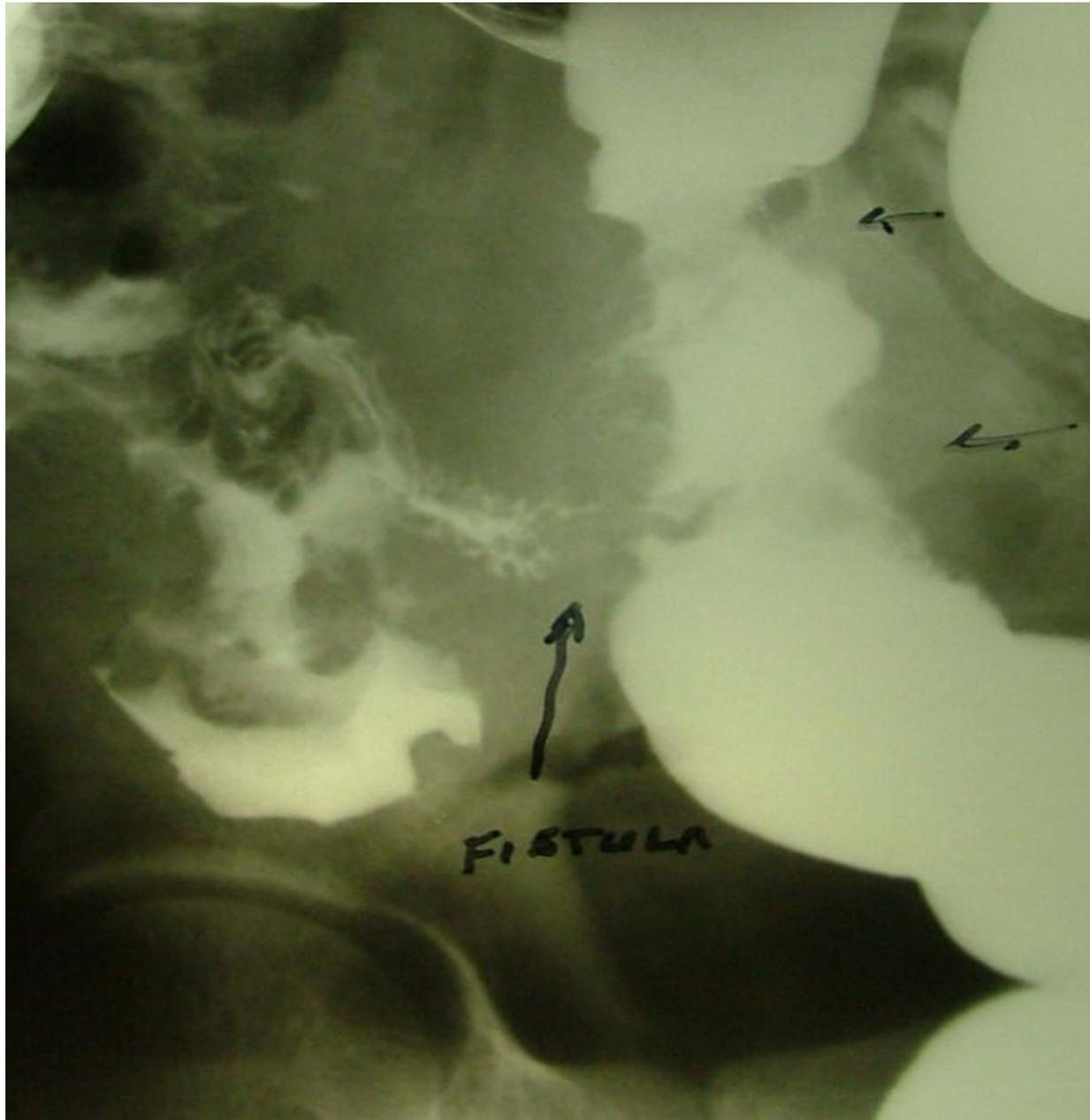
# Cancer complication - fistula



# Cancer complication - fistula



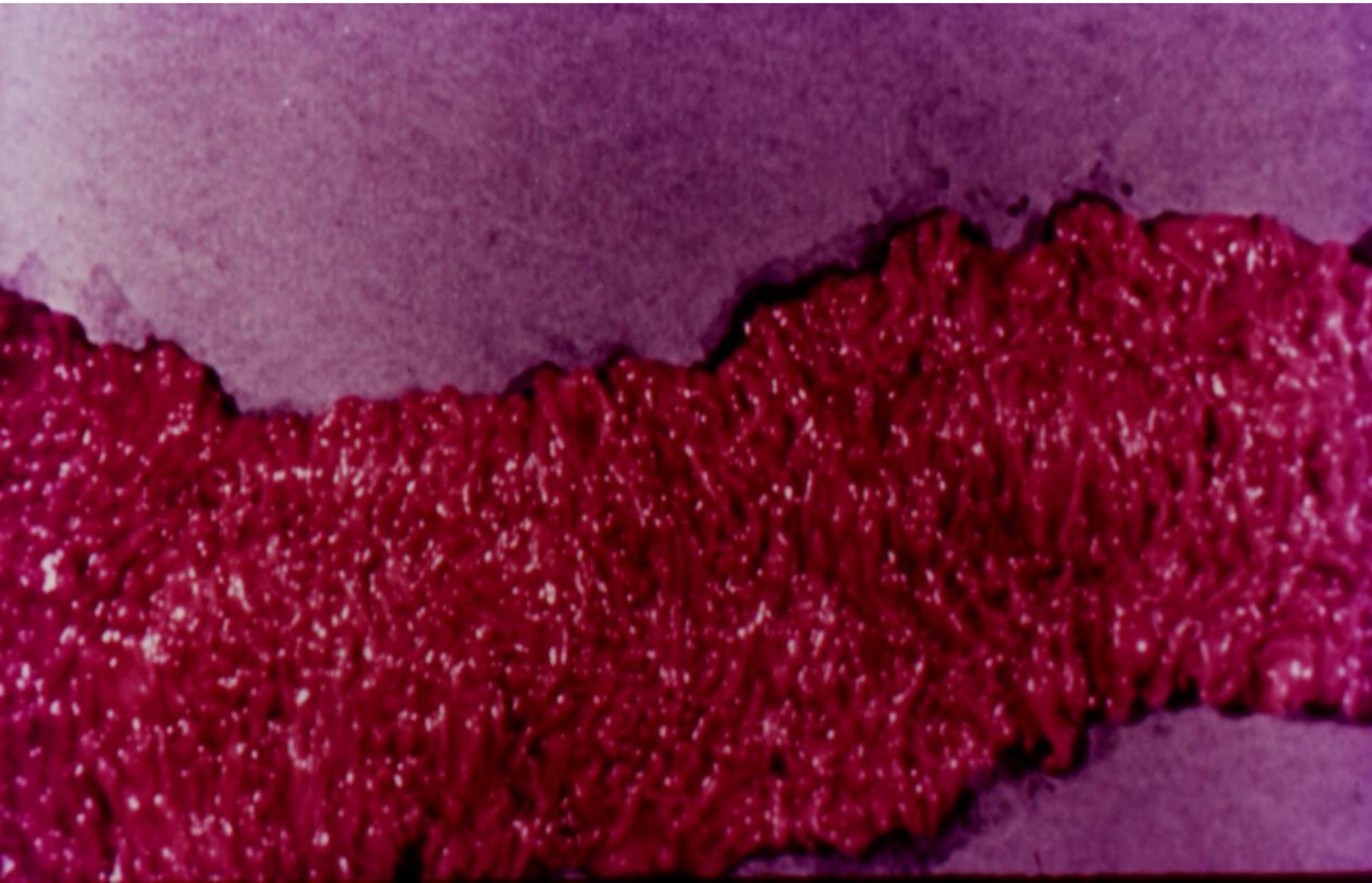
# Cancer complication - fistula



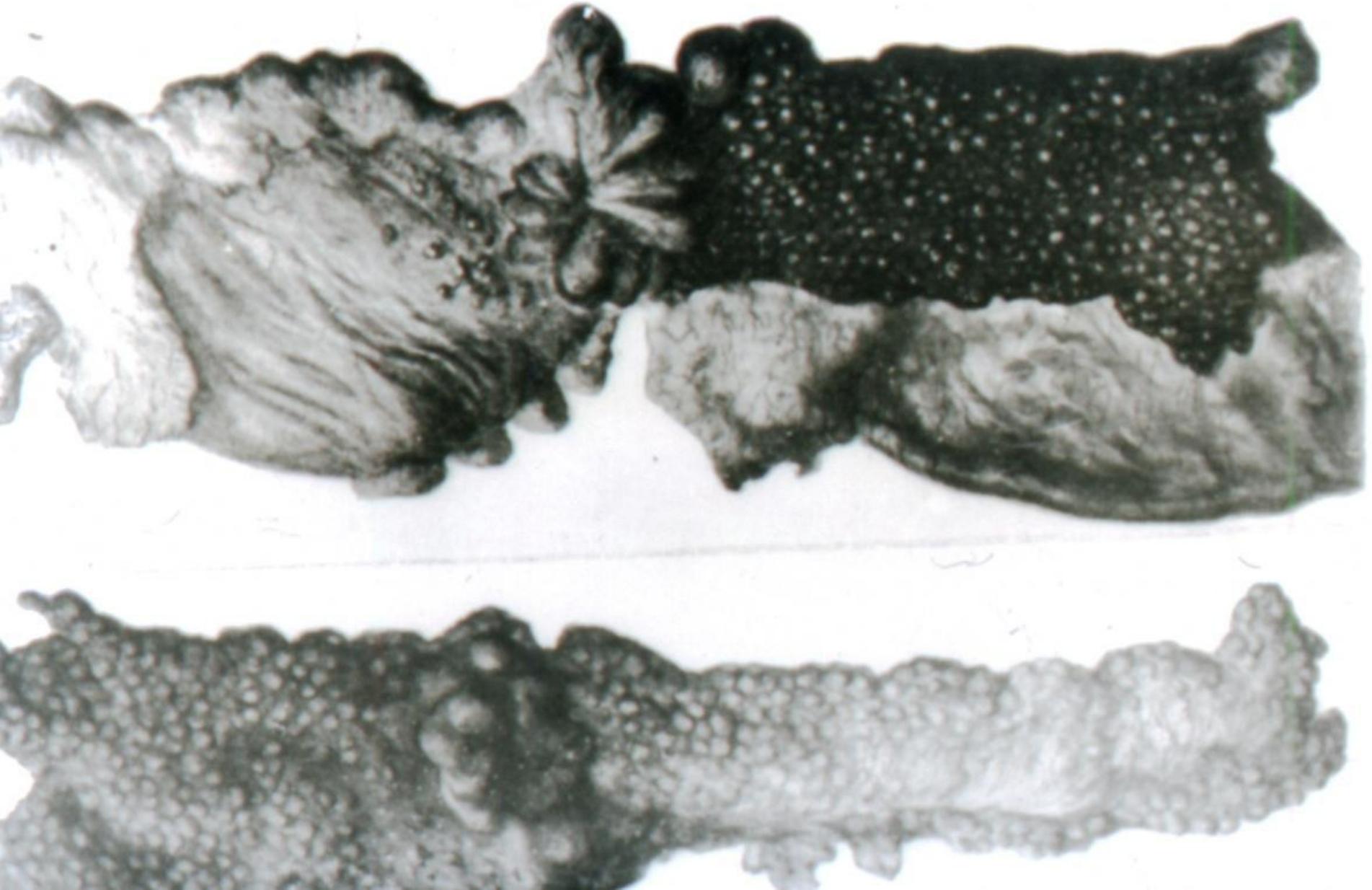
## complications

**The intestinal bleeding**  
happens, as a rule,  
insig-nificant. Sometimes  
it is shown in the form of  
an impurity of not  
changed blood in a feces.  
Is hid-den (occult) is more  
often.

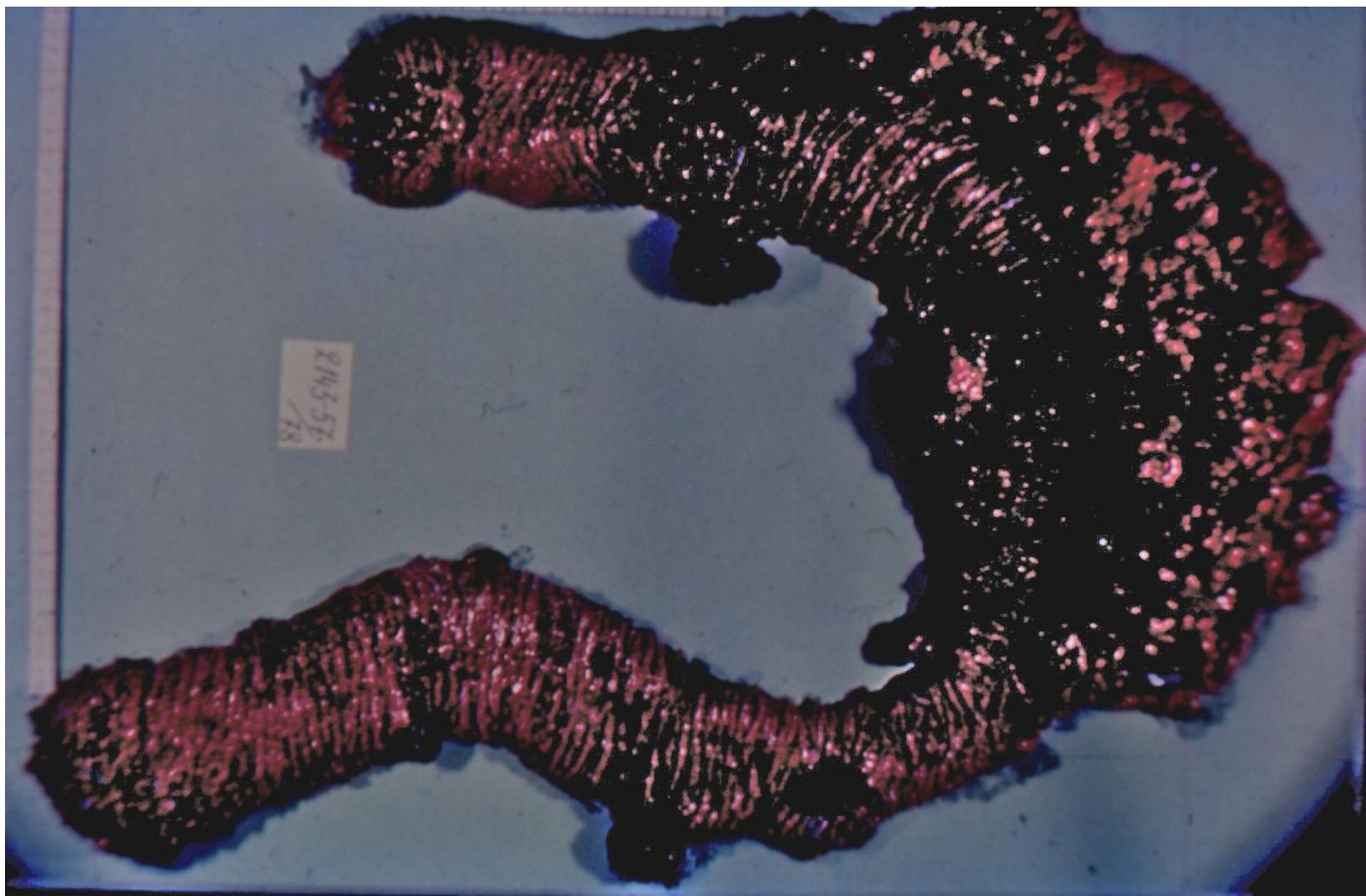
# Colon diseases



# Cancer on a background a polyposis



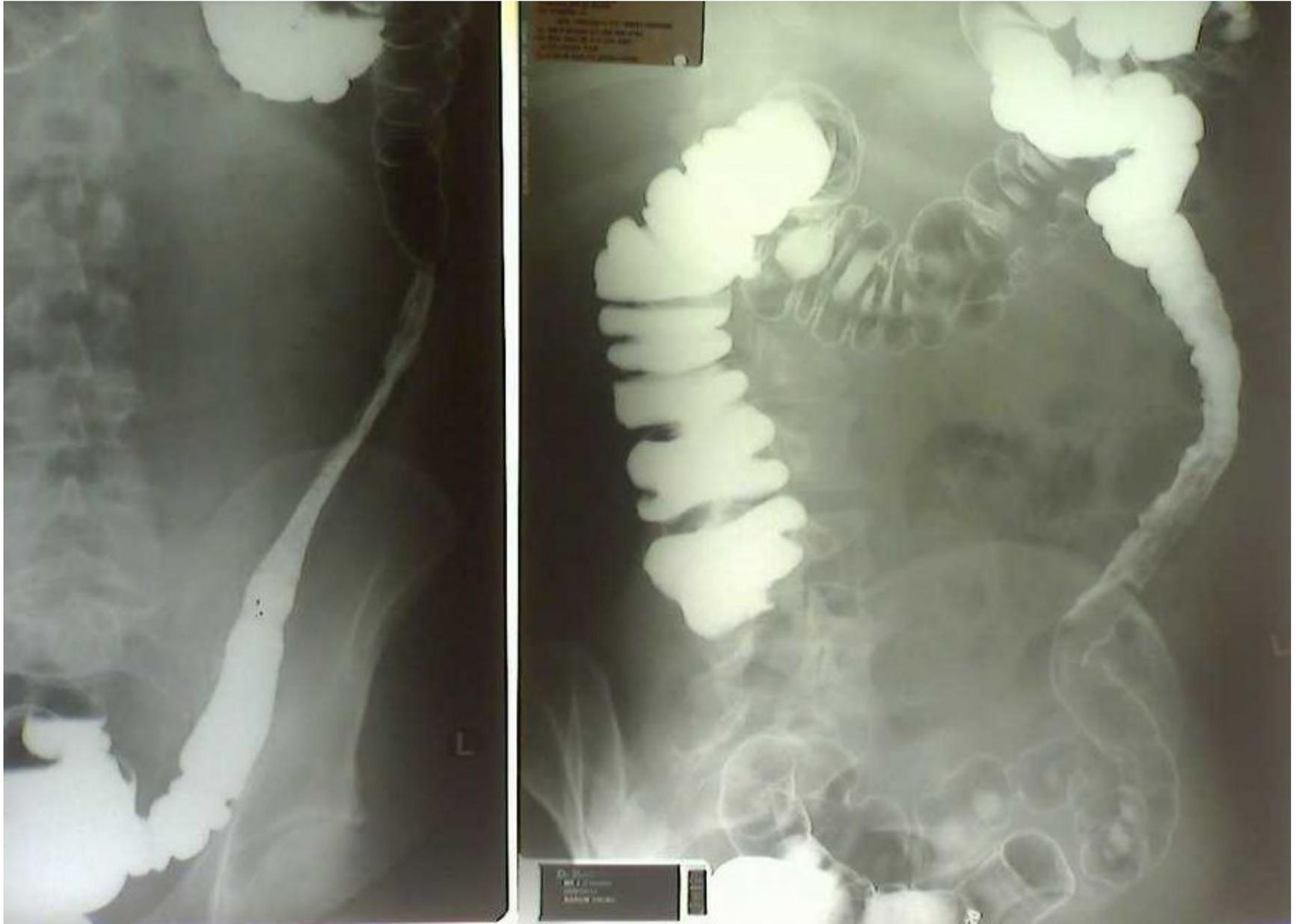
# Poliposis



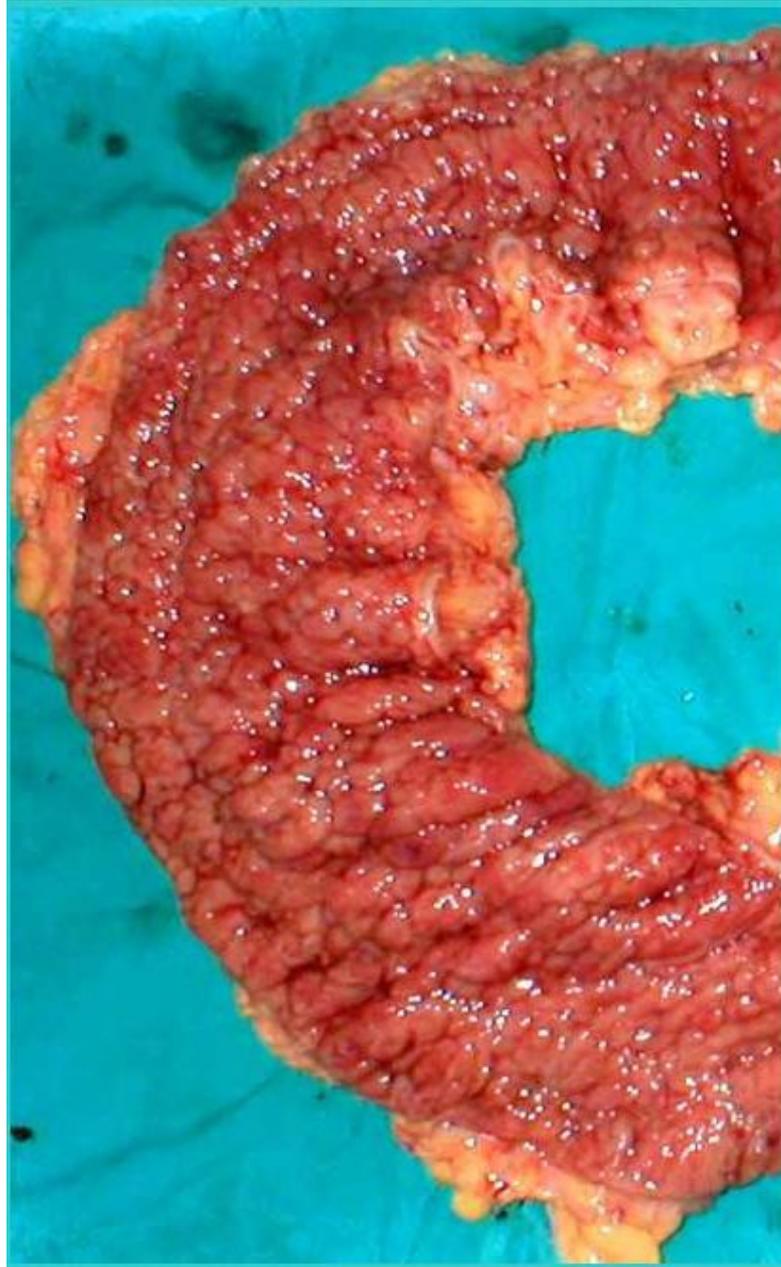
# **Nonspecific colitises**

- 1. Ulcerouse**
- 2. Granulomatous  
(Crohn's disease)**
- 3. Ischemic**

# «Drainpipe» sign



# colitis



# Cystous colitis



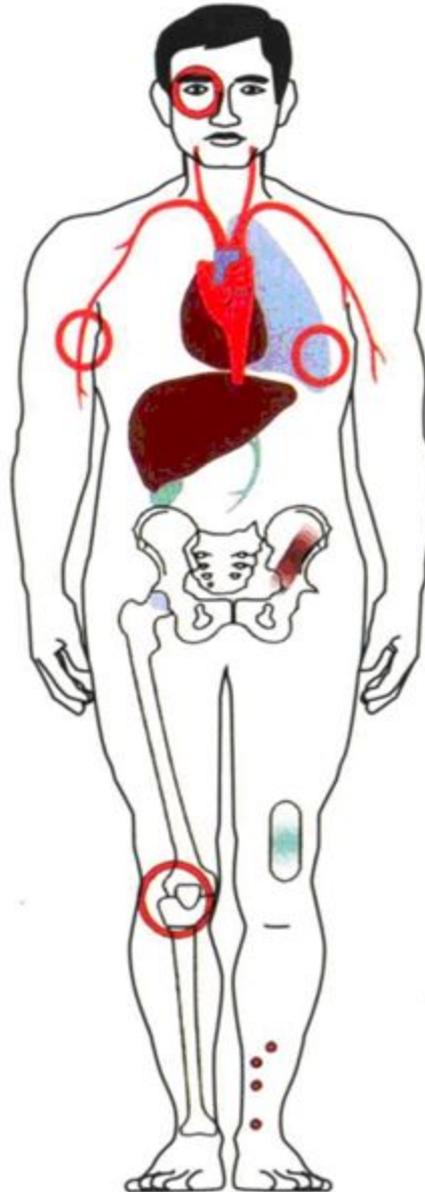
*биопсионные щипцы* →

# Extraintestinal displays

vessels  
vasculitis  
thromboembolism

liver  
fatty steatosis  
chronic active hepatitis  
primary sclerosing cholangitis

joints  
peripheral arthropathy  
sacroiliac disease  
spondylitis



eyes  
episcleritis  
uveitis  
conjunctivitis

heart  
plevroprikardit  
myocarditis

kidneys  
oxalate stones  
renal tubular damage

skin  
pyoderma gangrenosum  
erythema nodosum

# **complications**

**Toxic megacolon**

**Perforation**

**Peritonitis**

**Intestinal obstruction**

**Bleedings**

**Abscesses**

**Fistulas**

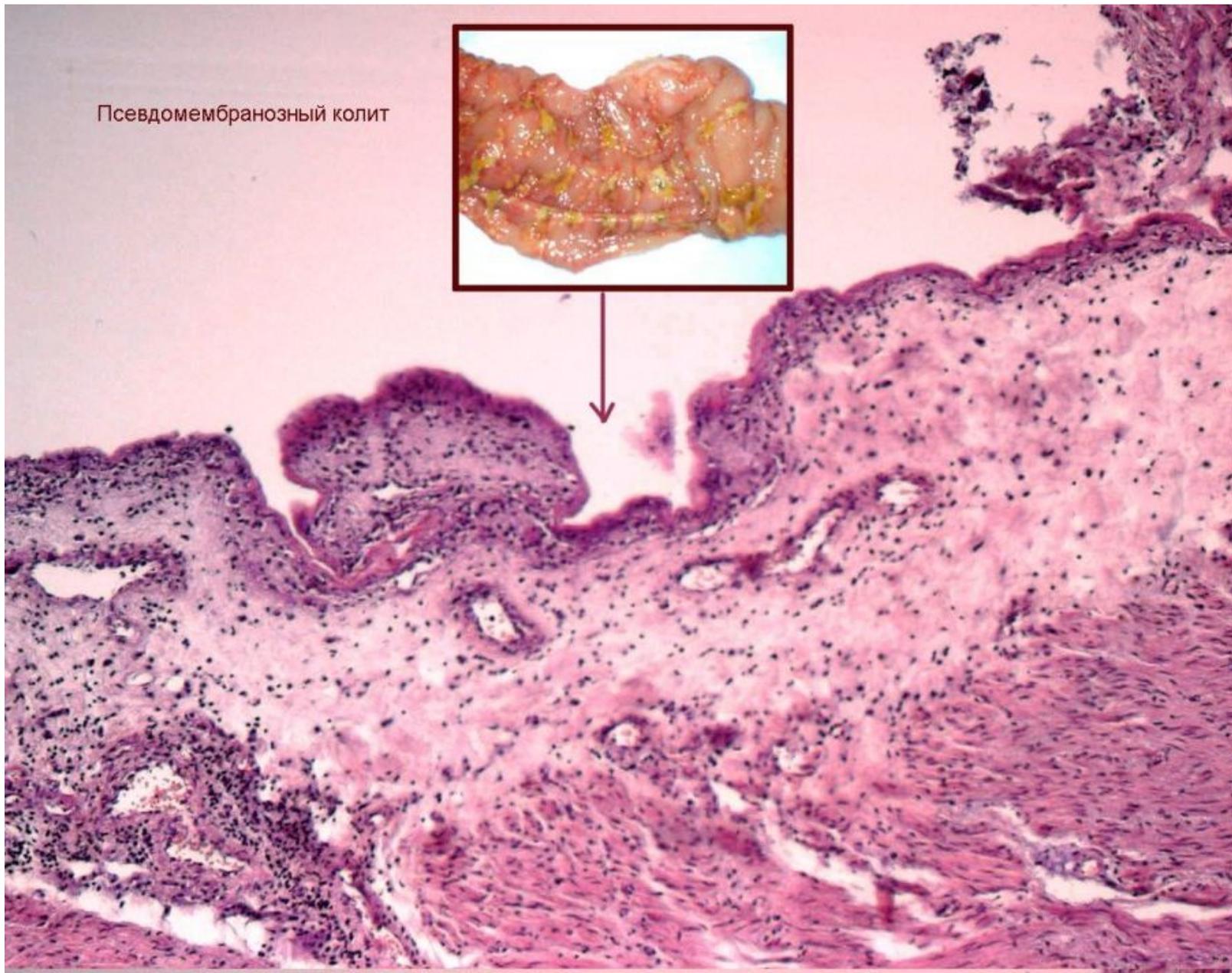
**Infiltrates**

## **Indications to operation at ulcerose colitis**

- Intestinal bleeding.**
- 1. The frequency of bowel movements 12 or more per day with a macroscopically severe admixture of blood against the background of the introduction of combined therapy with steroid hormones for 7 days;**
- 2. The volume of the stool with the intense bloody 1000 ml per day or more;**
- 3. The volume of blood loss, confirmed by scintigraphy, 150 ml per day or more.**

# Pseudomembranous colitis

Псевдомембранозный колит



## Polyps

**Hyperplastic**

**Tubular adenoma**

**Tubulovilliferous  
adenoma**

**Villiferous adenoma**

# polyps



ID. No. :  
Name :

Sex : Age :  
D. O. Birth :

03/02/2004  
09:04:04

CVP: A2/4  
D. F:  
Bi:5 Gr:N

Physician :  
Comment :



ID. No. :  
Name :

Sex : Age :  
D. O. Birth :

03/02/2004  
09:04:52

CVP: A4/4  
D. F:  
Bi:5 Gr:N

Physician :  
Comment :



# poliposis



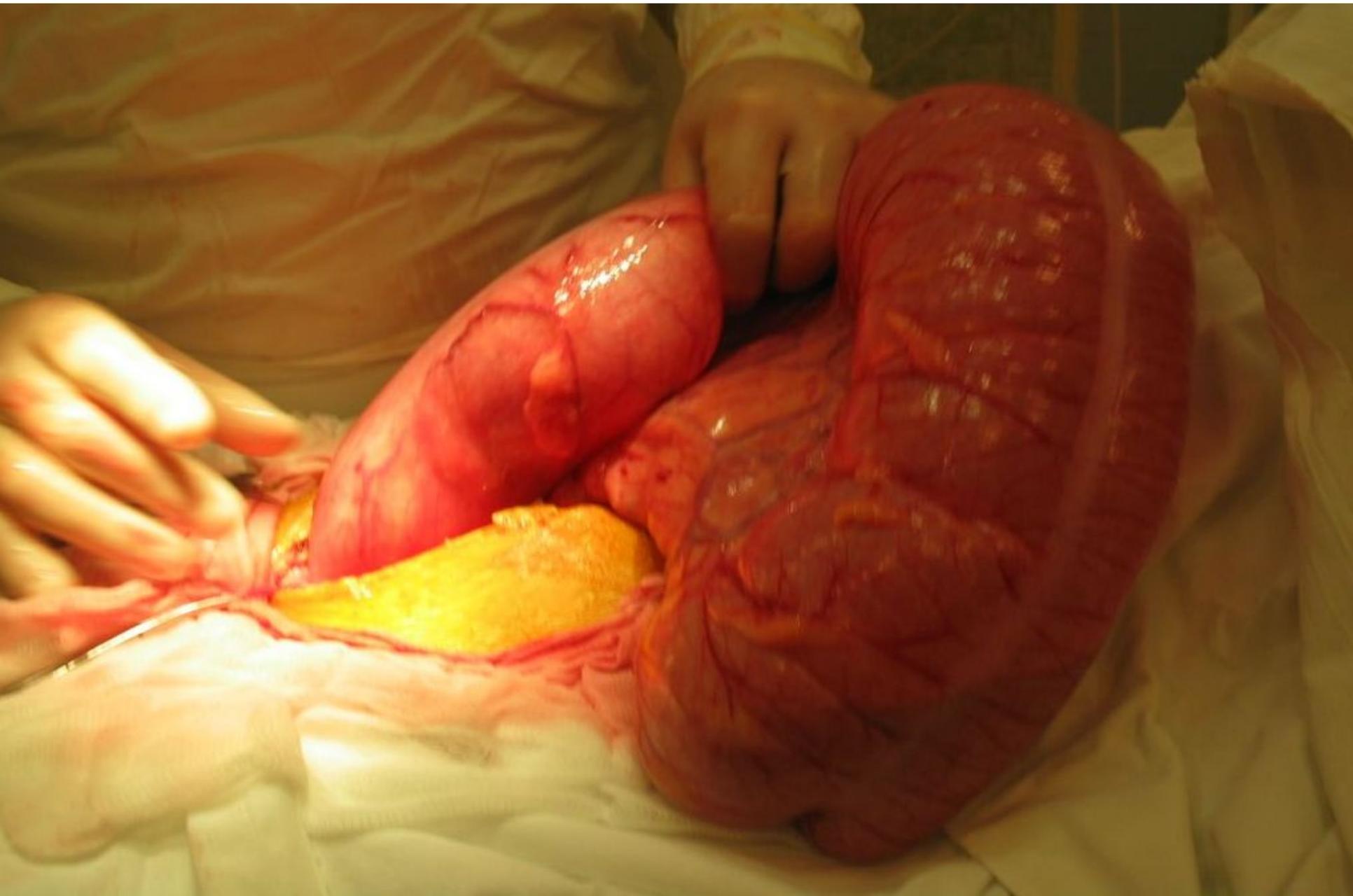
# poliposis



# Congenital diseases

- 1. Hirshsprung disease**
- 2. Megacolon**
- 3. Dolichocolon**

# Hirschsprung disease



# Differential diagnostics

- 1. Myxedema**
- 2. Medicinal influences  
(morphinum and so forth)**
- 3. ...**
- 4. ...**
- 5. Depressions**
- 6. Schizophrenia**
- 7. Scleroderma**
- 8. Chagas disease**

**diverticuls**

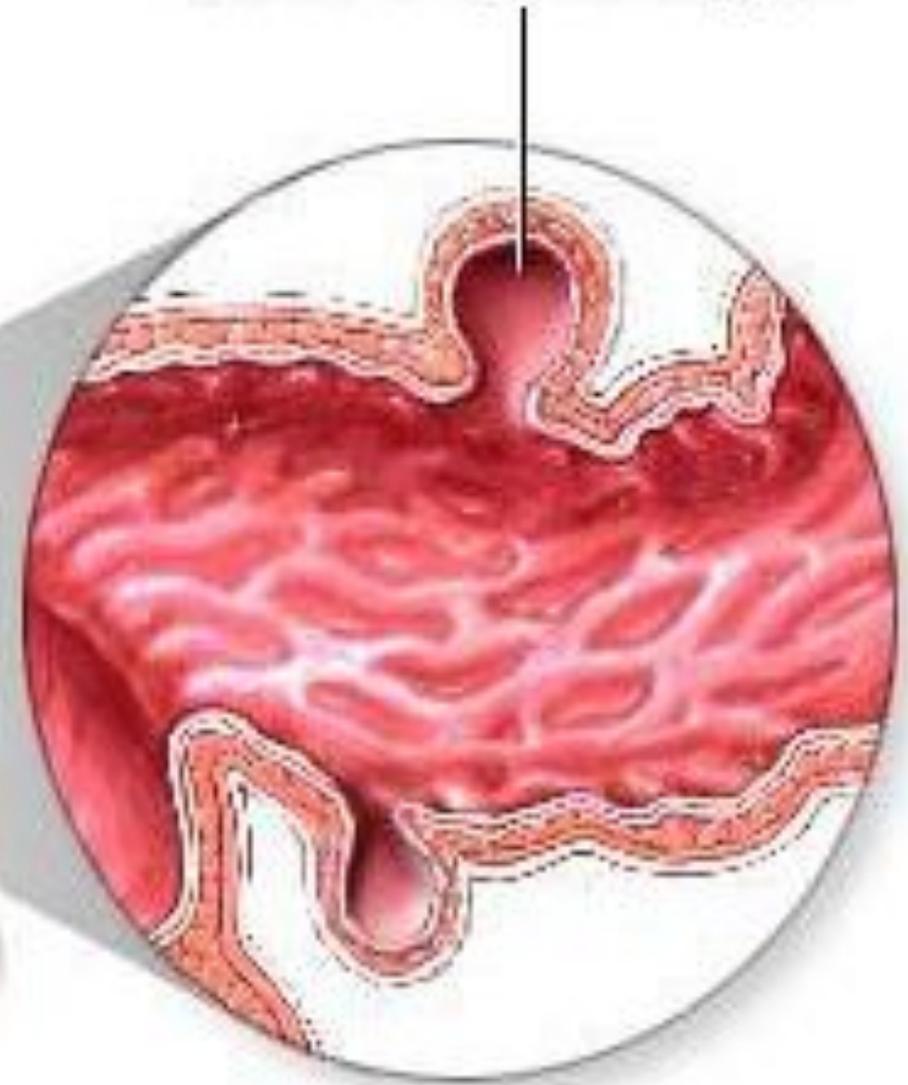
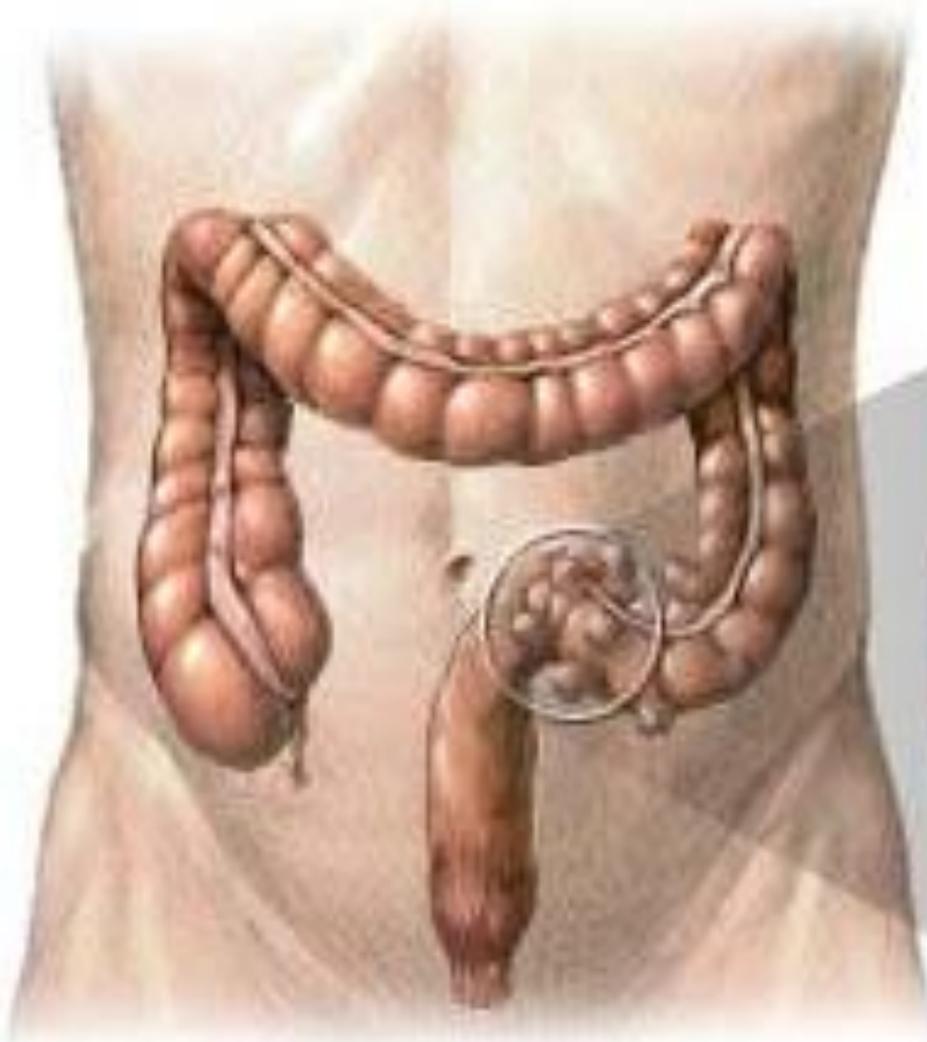
**Diverticul**

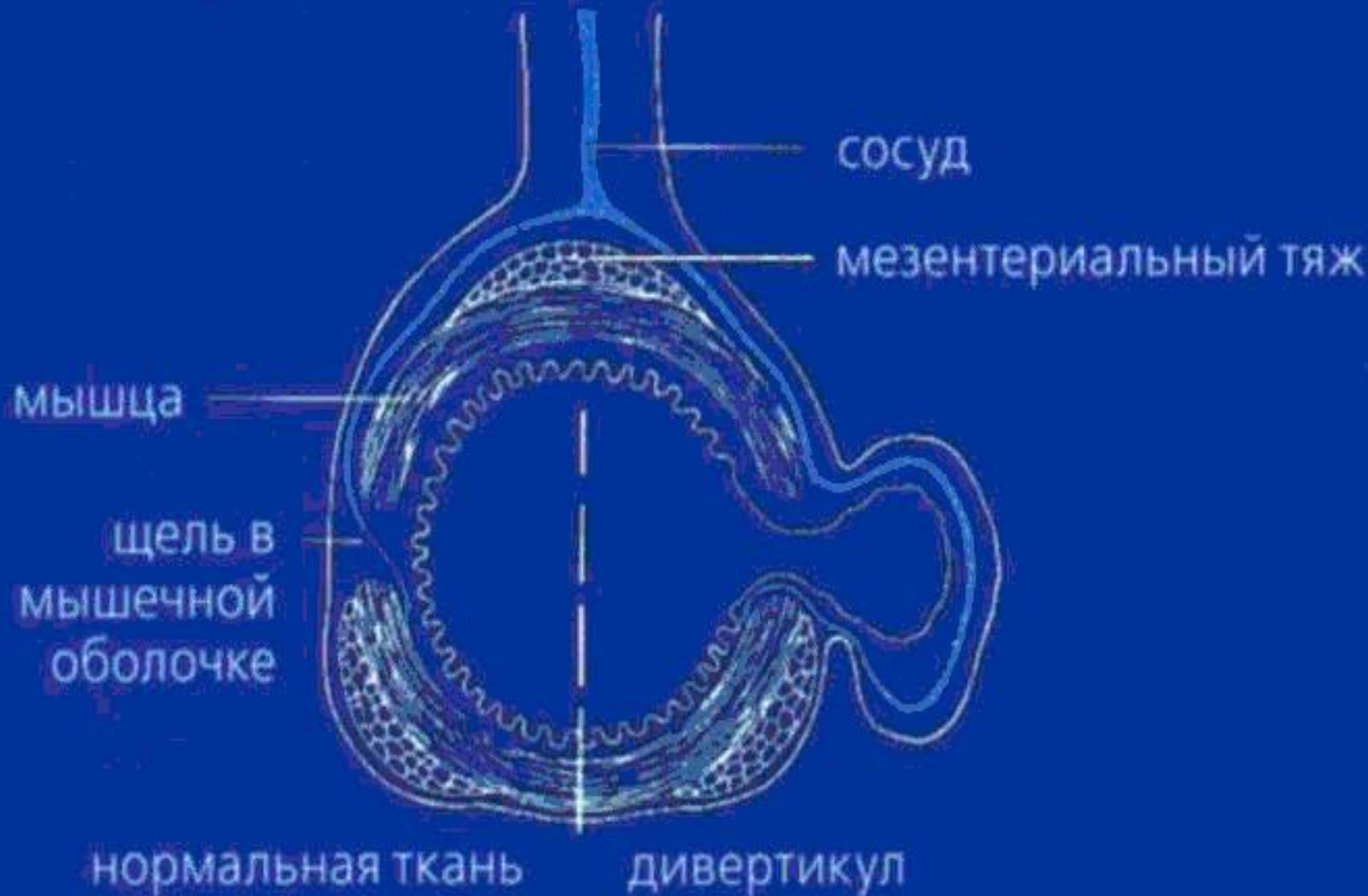
**Diverticulosis**

**Diverticulitis**

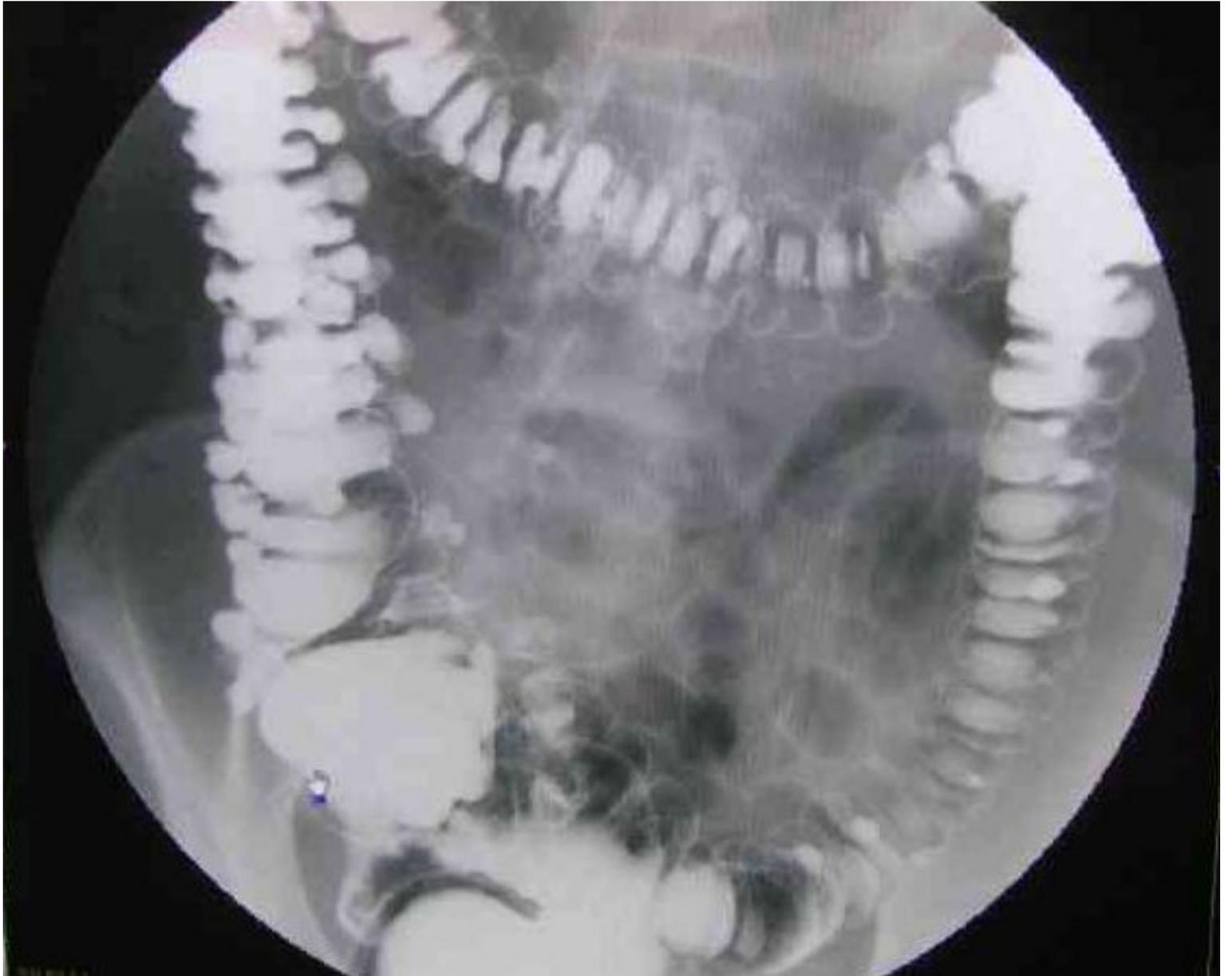
**diverticul**

**Дивертикул**

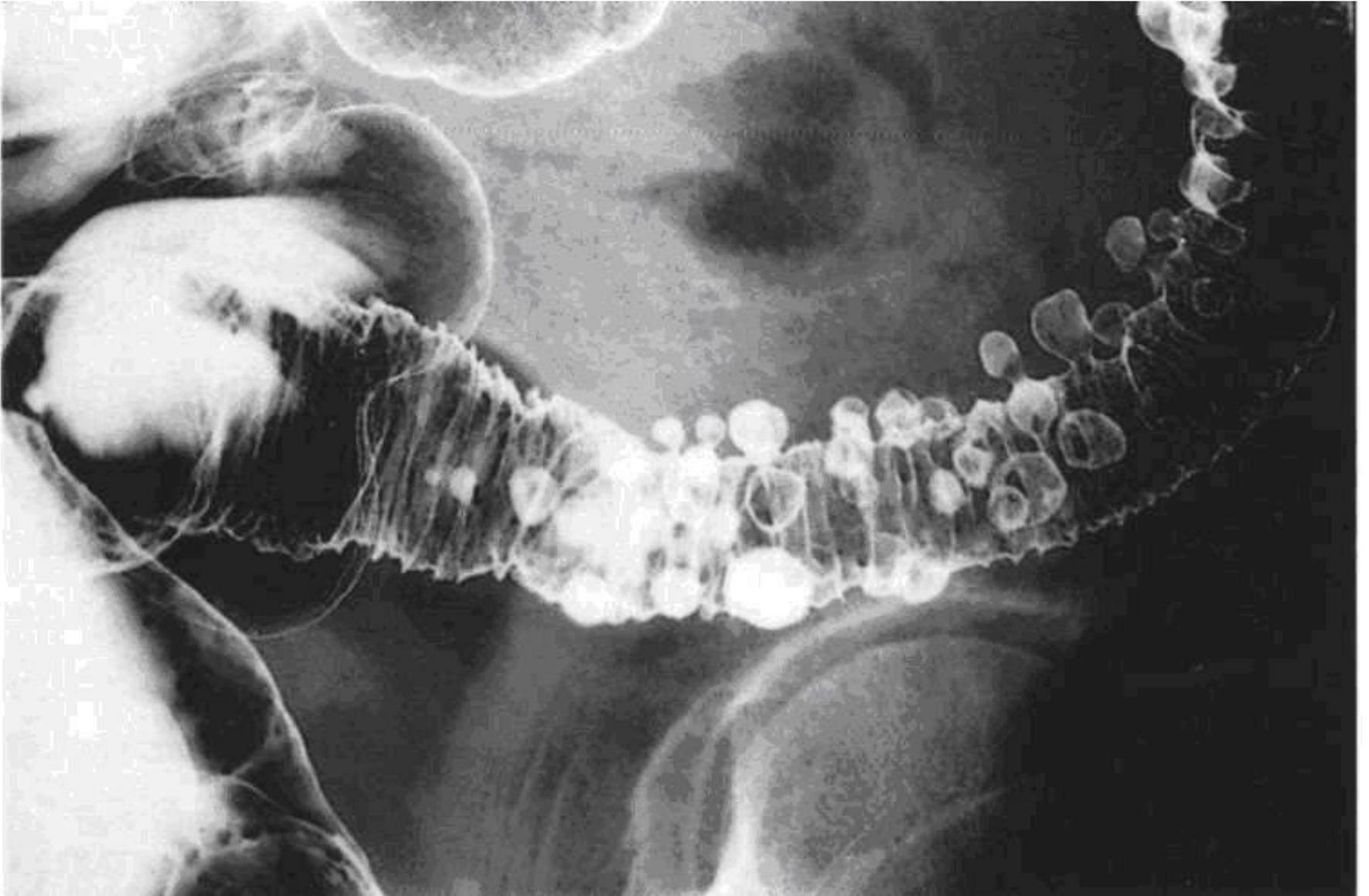




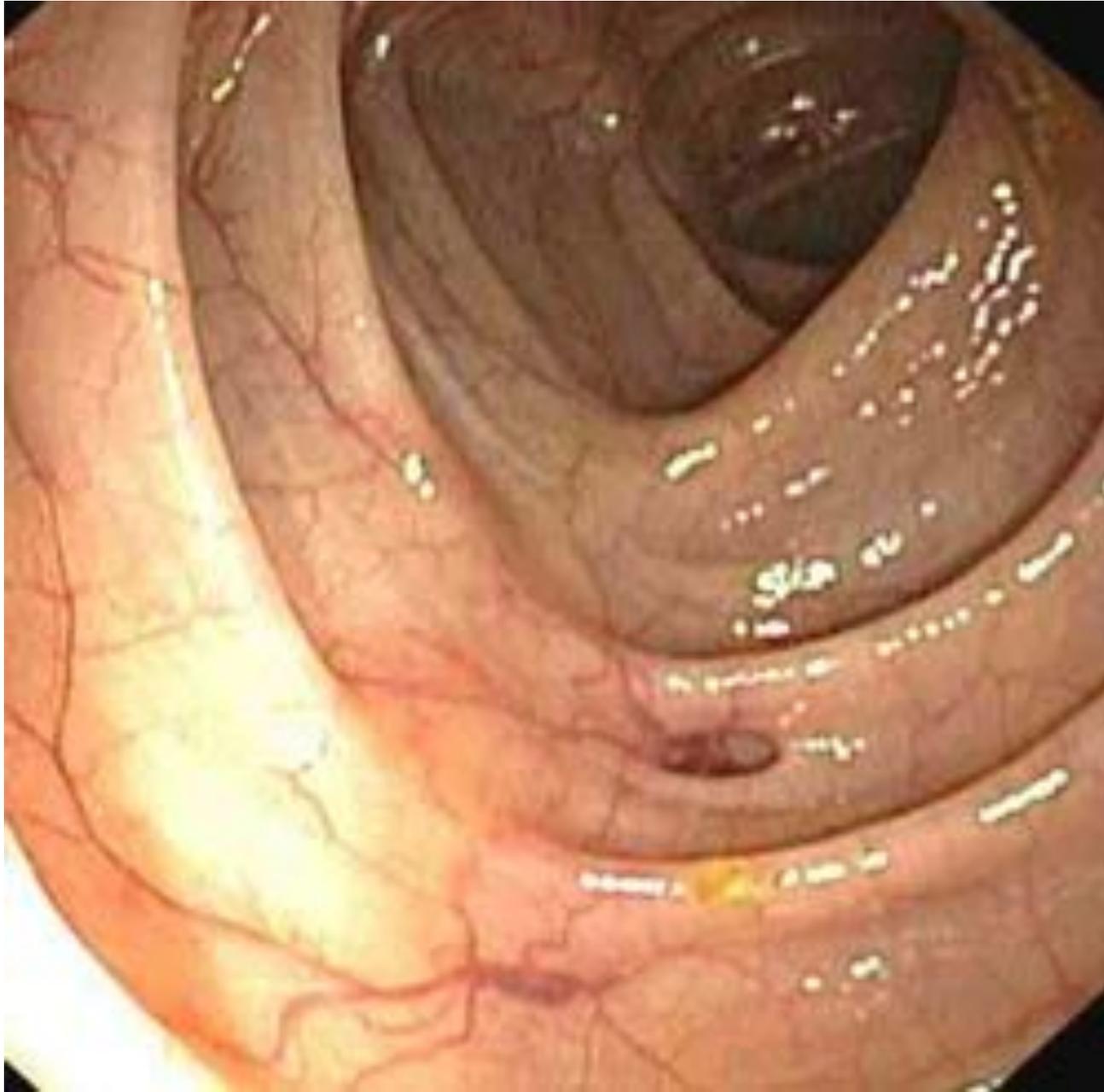
# diverticulosis



# diverticulosis



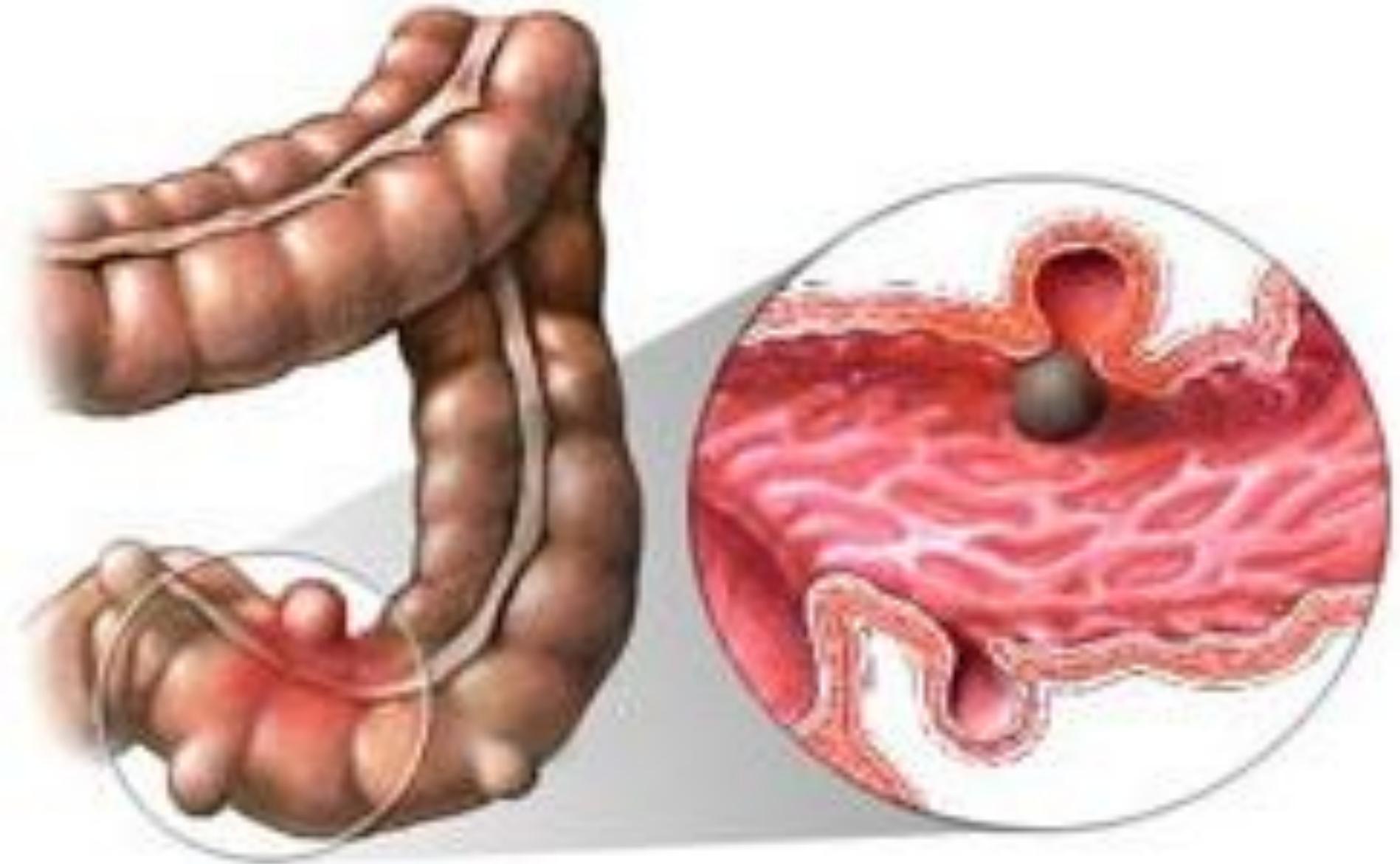
# diverticuls



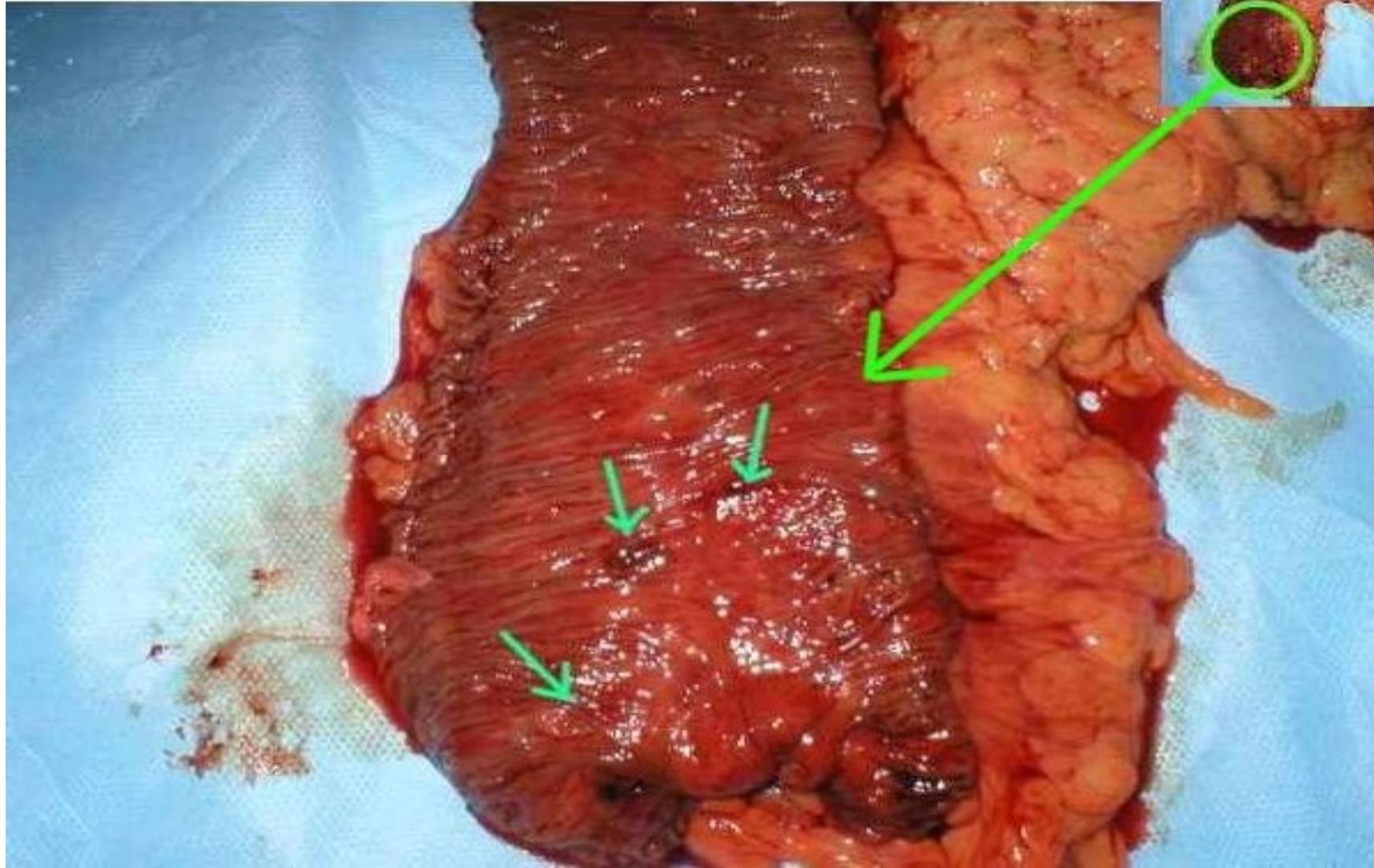
# Multiple diverticuls



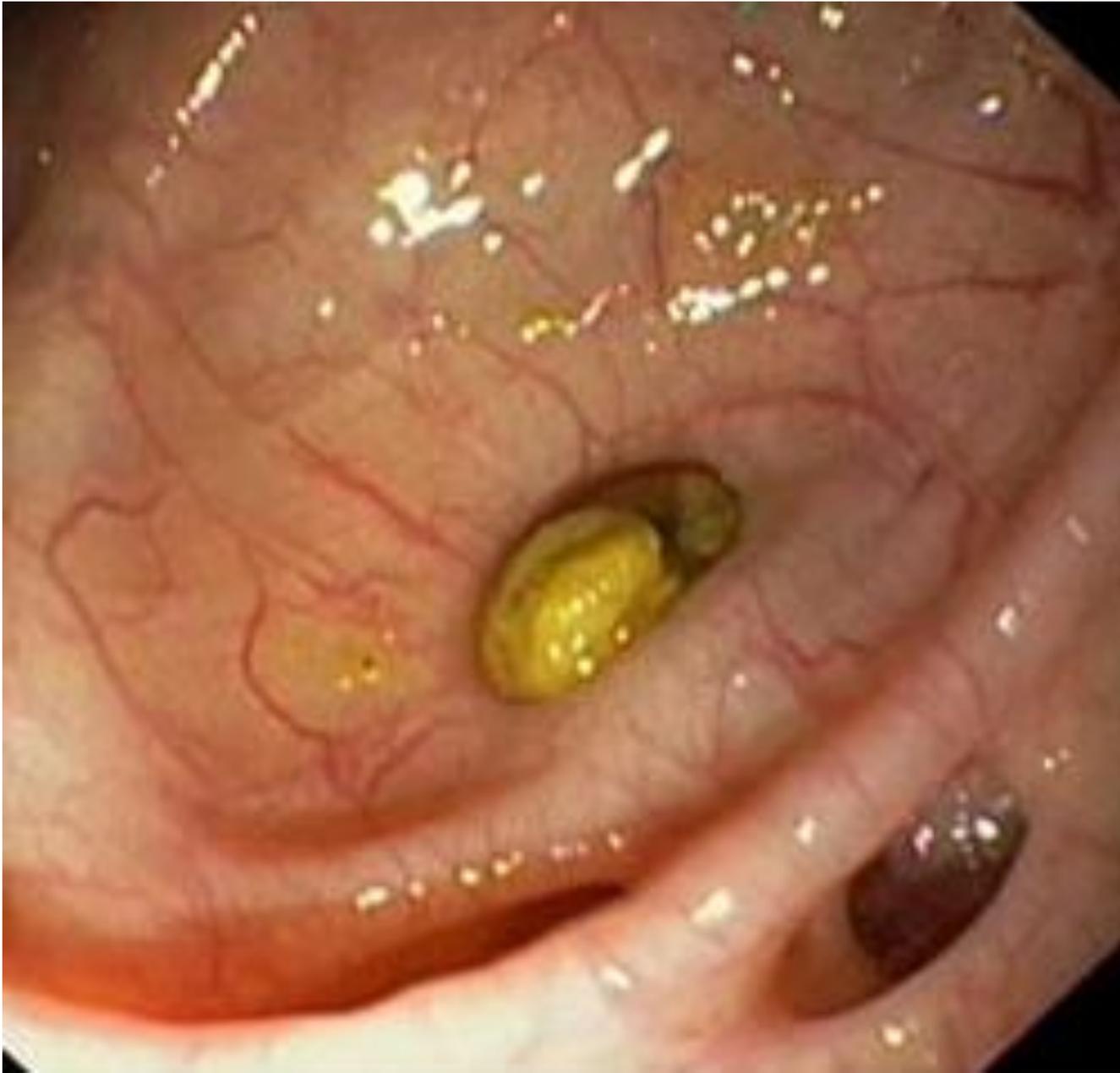
# Diverticul - obturation



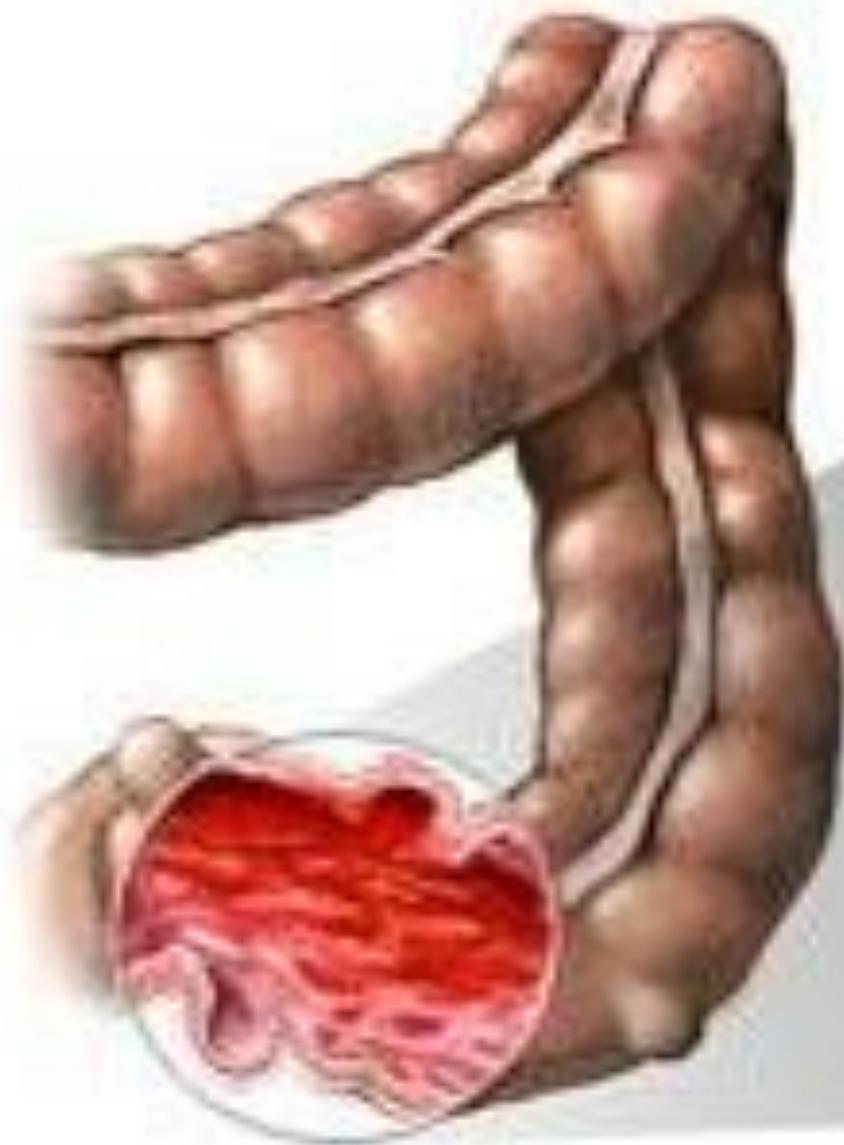
# diverticulosis



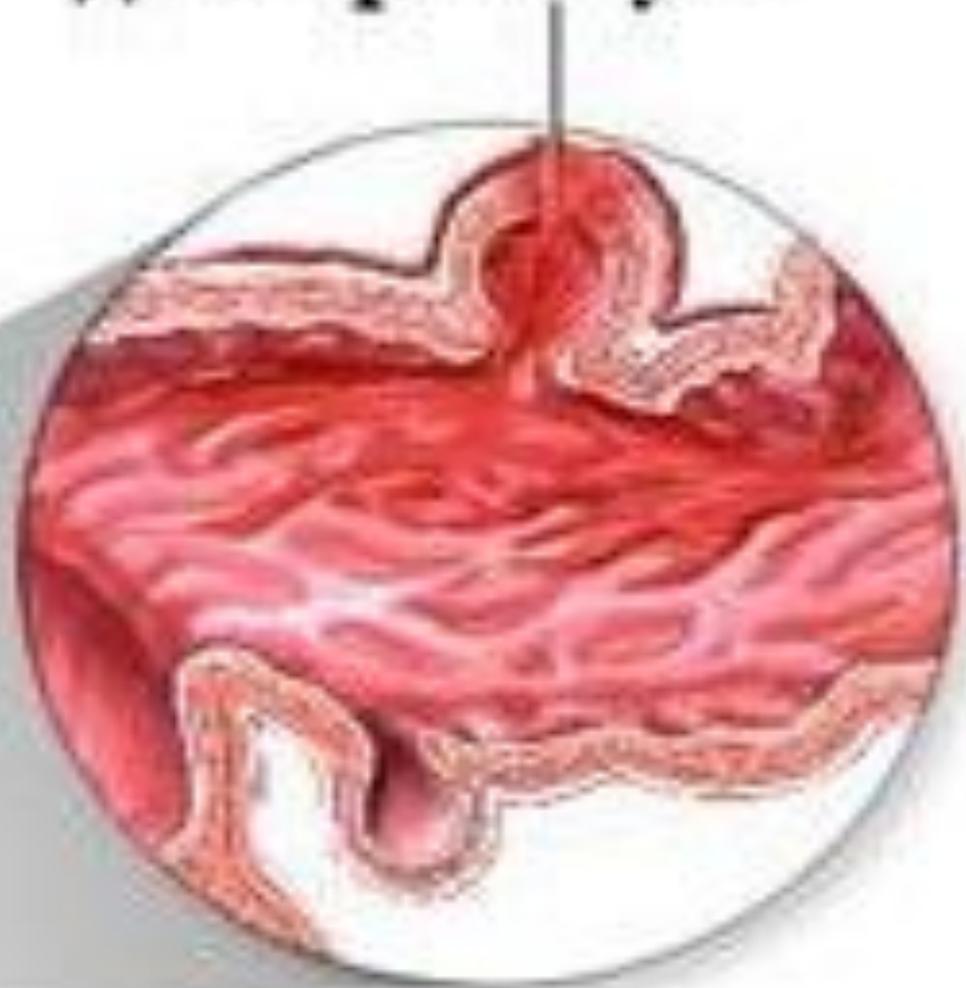
# Fecal stone in a diverticulum



# diverticulitis



дивертикул



# Clinical features

• Acute diverticulitis is well nicknamed 'left-sided appendicitis'; an acute onset of central abdominal pain which shifts to the left iliac fossa accompanied by fever, vomiting and local tenderness and guarding. A vague mass may be felt in the left ileal fossa and also on rectal examination. Perforation into the general peritoneal cavity produces the signs of general peritonitis. A pericolic abscess is comparable to an appendix abscess but on the left side; a tender mass accompanied by a swinging fever and leucocytosis.

# Clinical features

• Chronic diverticular disease exactly mimics the local clinical features of carcinoma of the colon; there may be diarrhoea alternating with constipation which progresses to a large bowel obstruction with vomiting, distension, colicky abdominal pain and constipation: (note that small bowel obstruction from adhesion of a loop of small Intestine to the inflammatory mass is not uncommon). There may be episodes of pain in the left ileal fossa, passage of mucus or bright red blood per rectum or of melaena, or there may be anaemia due to chronic occult bleeding. Examination reveals tenderness in the left ilioal fossa and there is often a thickened mass in the

# Diverticulitis

- This results from infection of one or more diverticula. An inflamed diverticulum may.
  1. Perforate:
    - a) into the general peritoneal cavity;
    - b) with formation of pericolic abscess;
    - c) into adjacent structures; bladder, small bowel and vagina;
  2. Produce chronic infection with inflammatory fibrosis resulting in strictures and obstructive symptoms — acute or chronic.

# Diverticulitis

The Hinchey classification - proposed by Hinchey et al. in 1978[1] classifies a colonic perforation due to diverticular disease. The classification is I-IV:

- Hinchey I - localised abscess (paracolic)
- Hinchey II - pelvic abscess
- Hinchey III - purulent peritonitis (the presence of pus in the abdominal cavity)
- Hinchey IV - faeculent peritonitis.

The Hinchey classification is useful as it guides surgeons as to how conservative they can be in emergency surgery. Recent studies have shown with anything up to a Hinchey III, a laparoscopic washout is a safe procedure[2] avoiding the need for a

**diverticulosis, bleeding,  
subtotal colectomy**



**diverticulosis, bleeding,  
subtotal colectomy**



**Thank`s for  
attention!**

