

JSC Astana Medical University  
Department of Internal Diseases № 1

# SIW

# Crohn's disease

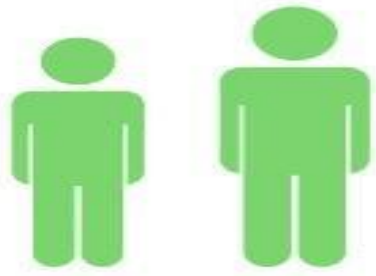
Done by: Smagulova Aida, 463 GM  
Checked by: Professor Baidurin. S.A.

Astana 2018

- Crohn's disease - is a multisystem disease with a specific clinical picture, characterized by focal, asymmetric, transmural granulomatous inflammation, which affects primarily the gastrointestinal tract; but can also be manifested by systemic and extraintestinal complications.



**AFFECTS** MEN  
AND WOMEN **EQUALLY**



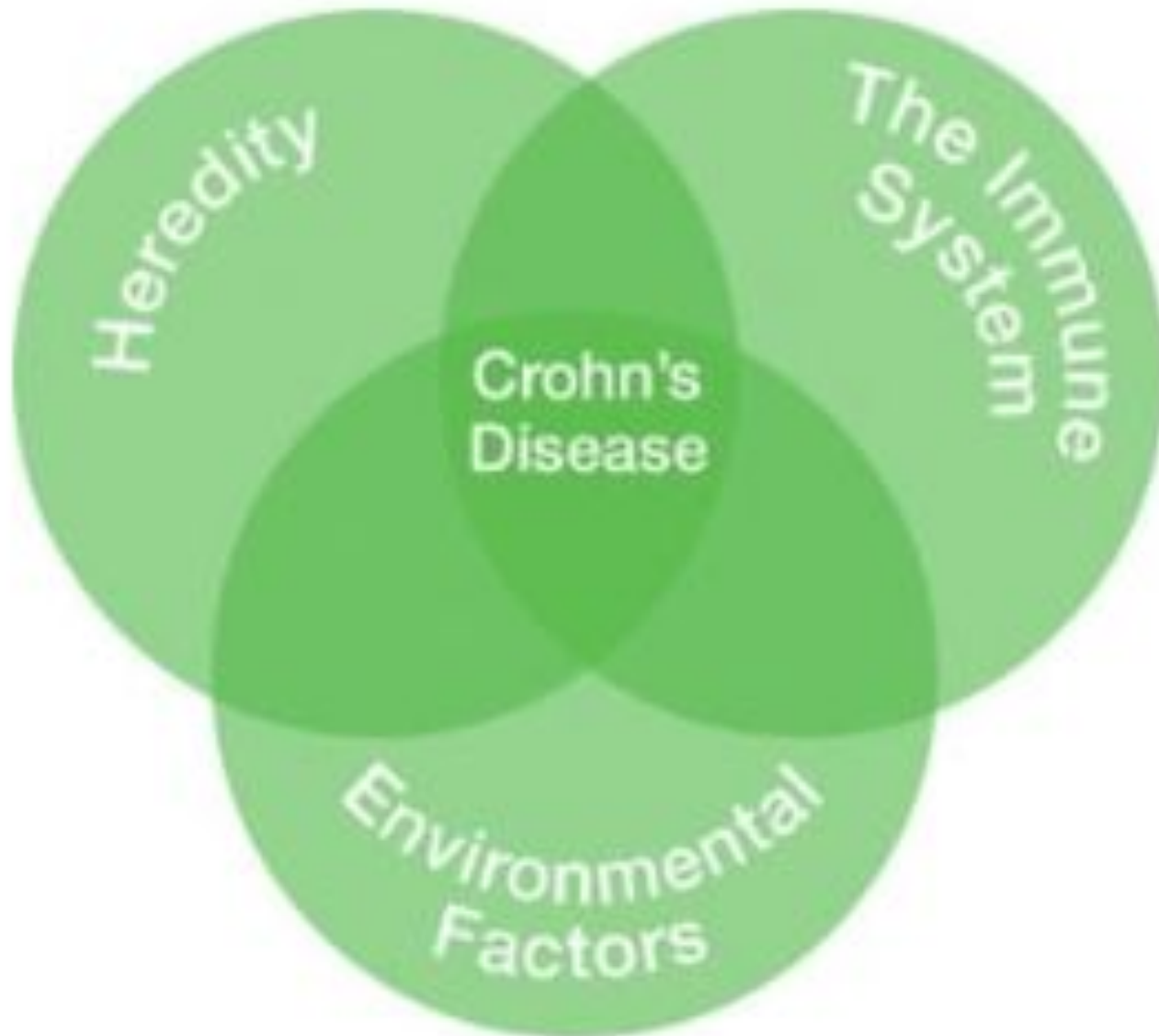
Usually diagnosed  
between ages

**15-35**  
**YEARS OLD**

Rates of Crohn's are higher in **developed countries, urban areas, and northern climates.**



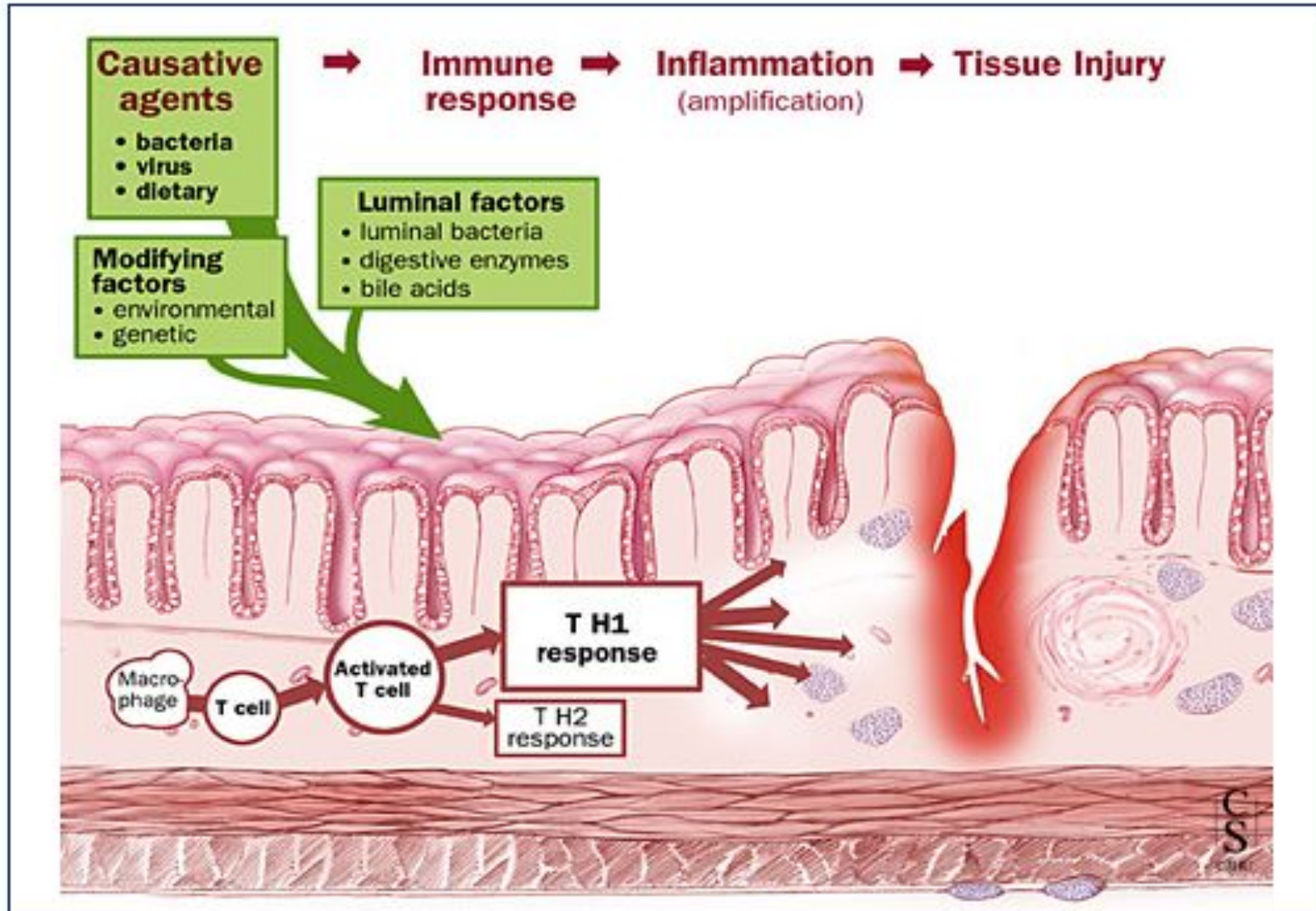
# Etiology



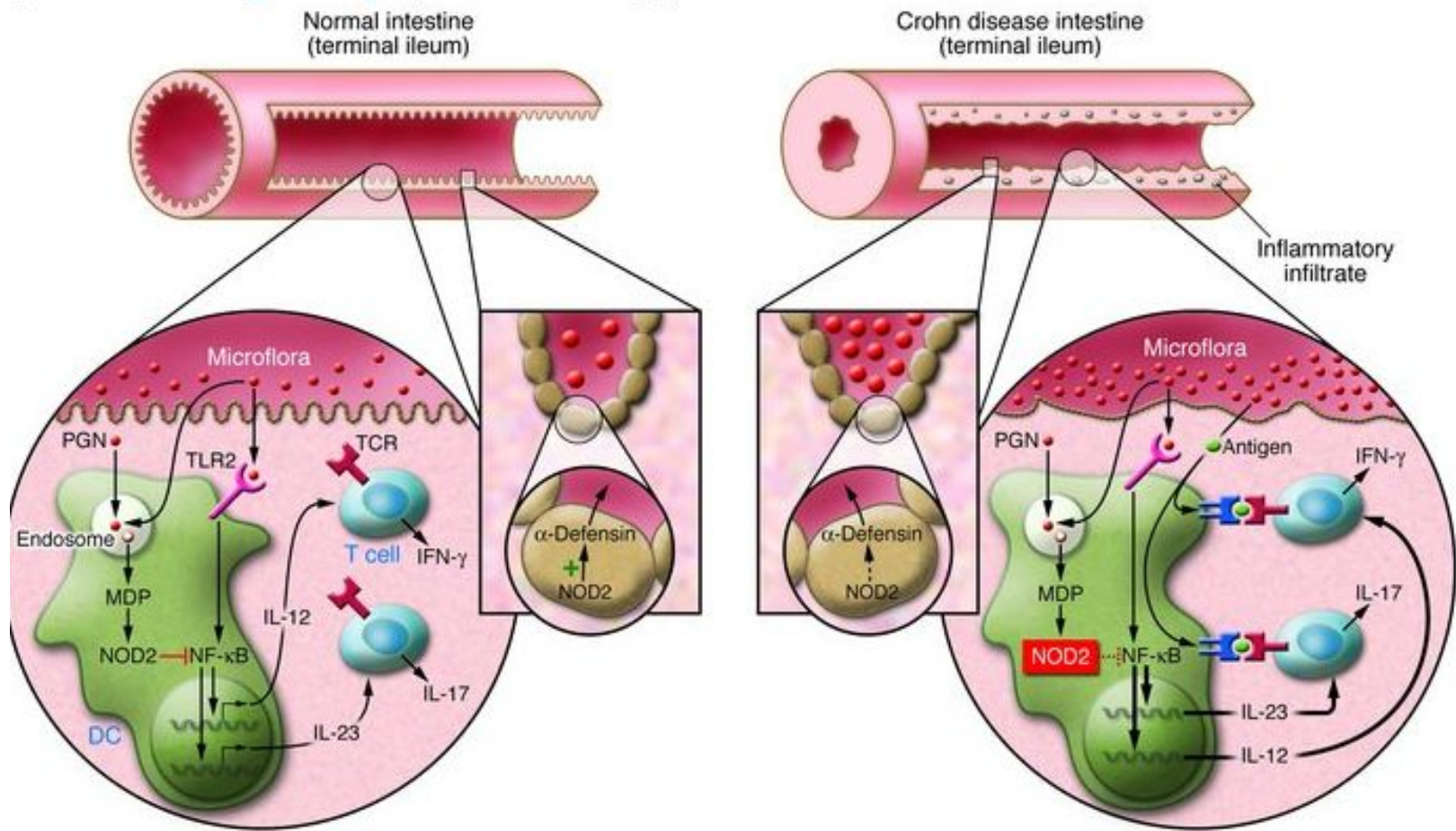
# Etiology

According to the Crohn's and Colitis Foundation of America, between 5 and 20 percent of people who have an IBD have a first – degree relative with one. the risk is higher in Crohn's than ulcerative colitis, and higher when both parents are affected.

# Pathogenesis



The terminal segment of the ileum is most often affected (85-90%)



**Таблица 1.** Клиническая классификация:

**А) Стратификация пациентов по возрасту:**

- А1 < 16 лет;
- А2 17 - 40 лет;
- А3 > 40 лет.

**В) По локализации** (Монреальская классификация ВЗК) [1,6]:

- |                              |                                    |
|------------------------------|------------------------------------|
| • В1 воспалительное течение  | L1 терминальный илеит              |
| • В2 стриктурирующее течение | L2 колит                           |
| • В3 фистулизирующее течение | L3 илеоколит                       |
| • р перианальная болезнь     | L4 верхние отделы ЖКТ              |
|                              | L4+ нижние и дистальные отделы ЖКТ |

**С) По степени активности:** Следует иметь в виду, что понятие «активность» в русскоязычной терминологии соответствует понятию «тяжесть заболевания».


В большинстве стран и клинических исследований для оценки клинической активности (тяжести) БК используется индекс активности БК (Crohn's Disease Activity Index (CDAI), индекс Беста), Таблица 1.



# Clinical manifestations.

## intestinal manifestations


Acute

- 
- 1)growing pains in the right lower quadrant
  - 2)vomiting
  - 3)diarrhea with an admixture of blood
  - 4)flatulency
  - 5)fever
  - 6)thickened painful terminal segment of the ileum
  - 7)leukocytosis


• Chronic

Localization in

small intestine

- 
- a)General symptoms:
    - 1)Malabsorption syndrome
    - 2)Intoxication syndrome
  - b)Local symptoms

colon

- 
- 1)stomach ache
  - 2)diarrhea
  - 3)pallor, dry skin
  - 4)decreased muscle tone of the anterior abdominal wall
  - 5)palpation of the colon is painful

- combined defeat of the small intestine and colon

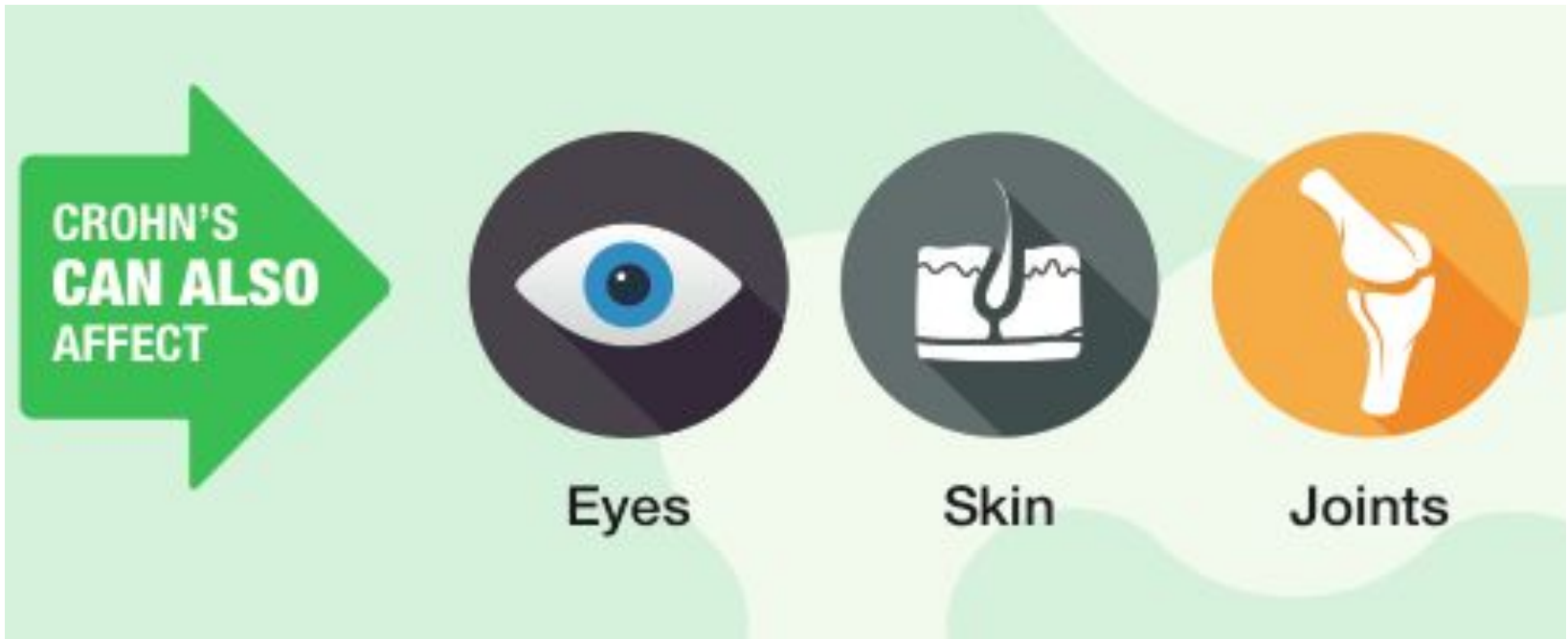
symptoms of terminal ileitis and colon damage

- localization in the upper gastrointestinal tract

ulcerative syndrome

clinic of chronic gastritis and esophagitis

# extraintestinal



# Diagnostics

- Complaints of patient
- Anamnesis
- Physical examination
- Laboratory and instrumental research

# Laboratory research

- GBA;
- GUA;
- A biochemical blood test;
- Coprogramme; admixture of blood and mucus
- Definition of HIV (differential diagnosis of diarrheal syndrome)
- Immunological status;
- Fecal calprotectin can be recommended

# Changes

leukocytosis, anemia

decreased albumin, ferrum,  
increased alanine  
aminotransferase, bilirubin

admixture of blood and mucus

increase immunoglobulins,  
immune complexes

up to 500 mg / ml

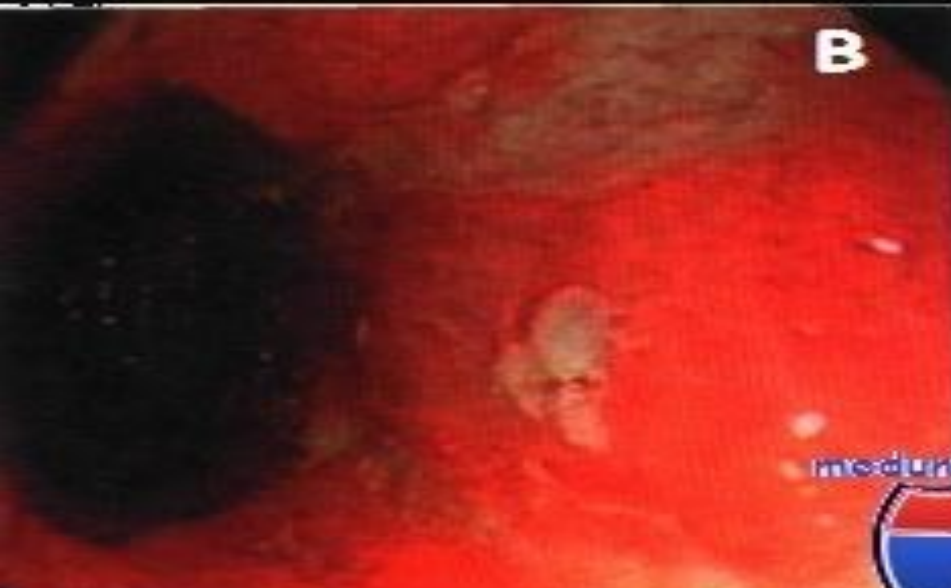
- Endoscopic examination of the upper sections of the gastrointestinal tract and lower parts (ileocolonoscopy) is carried out to confirm the diagnosis of IBD, to obtain tissue samples for morphological analysis for the purpose of differential diagnosis between UC and CD.
- The presence of transverse ulcers, aphthae, limited areas of hyperemia and edema in the form of a "geographical map", fistulas with localization in any part of the gastrointestinal tract is characteristic of CD.
- Ileocolonoscopy is the first line diagnostic method for the detection of terminal ileitis



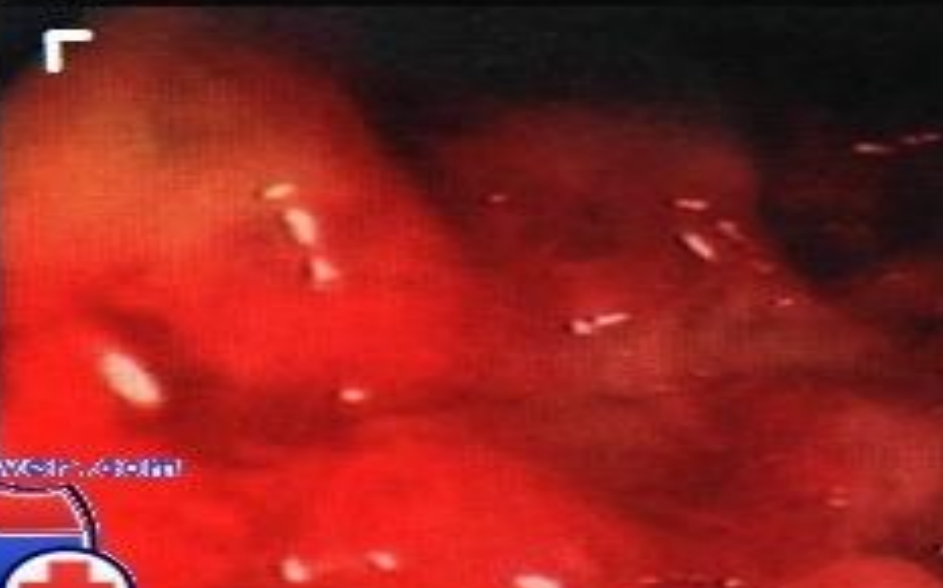
a



b



c



d

a - single aphthous lesions of the rectum b - multiple aphthous ulcers found in colonoscopy c - characteristic linear ulcers d - "cobblestone pavement" with a relatively small surface of ulceration

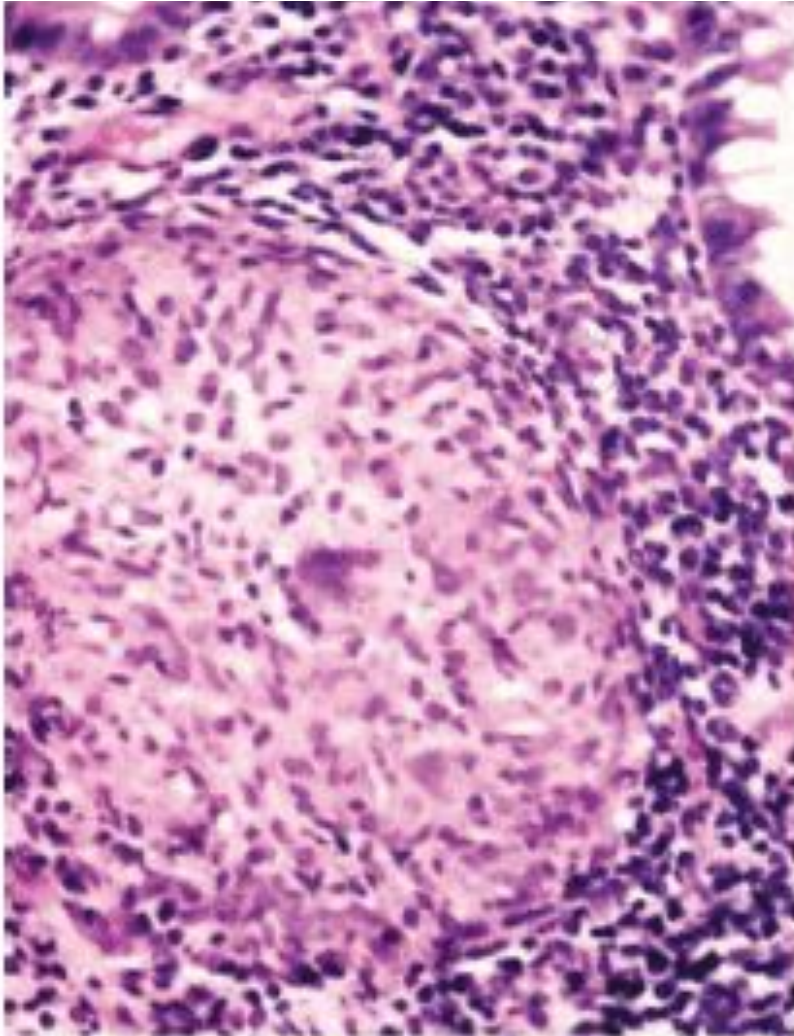


# endoscopic scale of Crohn's disease

Таблица 3. Простая эндоскопическая шкала болезни Крона (SES-CD)

Критерии	0	1	2	3
Размер язв (см)	–	Афты (0,1-0,5)	язвы (0,5-2,0)	Большие язвы
Протяженность язвенных поражений	–	<10%	10-30%	>30%
Воспаление	Невоспаленные сегменты	<50%	50-75%	>75%
Стенозирование	Нет	Единичное, проходимо	Множественное, проходимо	Нет проходимости

# microscopic examination



granuloma with Langhans cells

**NB!** One of the significant microscopic differences of Crohn's disease from ulcerative colitis is the spread of inflammatory infiltrate to all layers of the intestinal wall (transmural nature of inflammation)



**Рисунок 3.** *Нормальная слизистая толстой кишки (а); НЯК, минимальная (b), умеренная (c) и высокая (d) активность [20]*

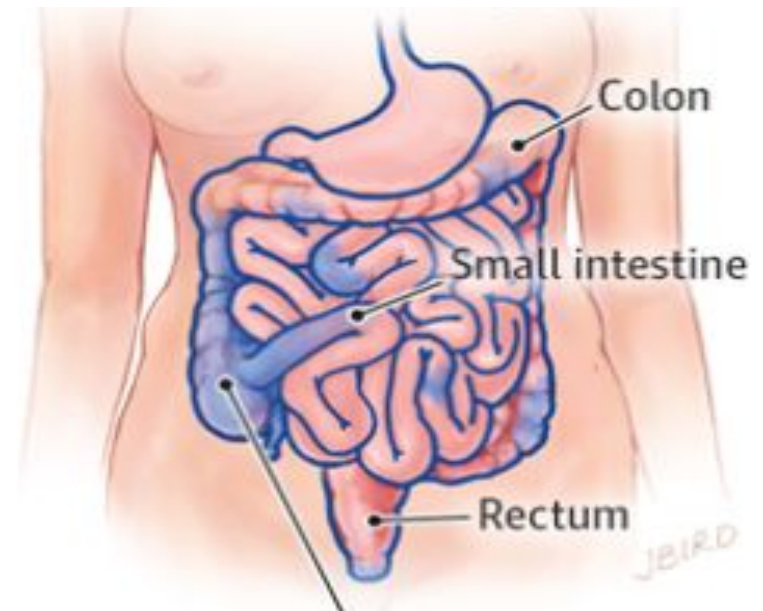
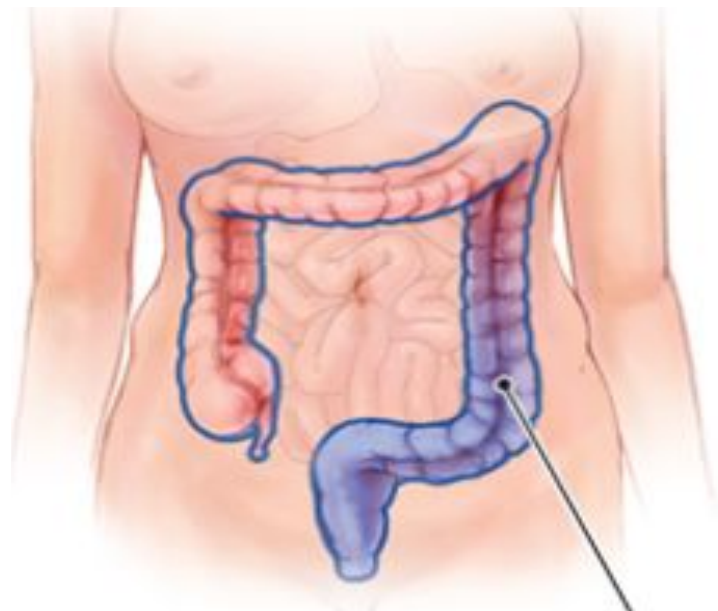


**Рисунок 4.** *Ключевые эндоскопические признаки болезни Крона: афтозные язвы (а); слизистая в виде «булыжной мостовой» (b); серпингиозные («ползущие») язвы (с); стриктура терминального отдела подвздошной кишки (d) [20]*

- a) aphthous ulcers
- b) “cobblestone pavement”
- c) crawling ulcers
- d) stricture of terminal ileum

# DIFFERENTIAL DIAGNOSTICS

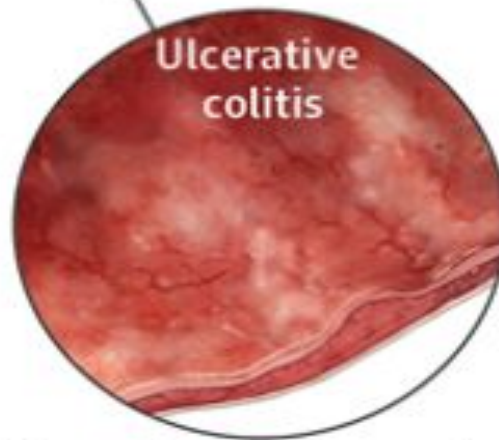
	<b>Crohn's disease</b>	<b>Ulcerative colitis</b>
<b>Location</b>	affect any part of the GIT, from <b>mouth</b> to <b>anus</b>	Restricted to colon & rectum
<b>Distribution</b>	<b>Patchy areas</b> of inflammation ( <i>Skip lesions</i> )	<b>Continuous area</b> of inflammation
<b>Depth of inflammation</b>	May be transmural, deep into tissues	Shallow, mucosal
<b>Complications</b>	Strictures, Obstruction Abscess, Fistula	Toxic megacolon Colon cancer



Colon wall



Normal



Ulcerative  
colitis

Ulcerative colitis usually affects only the inner layer of the bowel wall.



Crohn  
disease

Crohn disease may affect all layers of the bowel wall.

# TB versus Crohn's

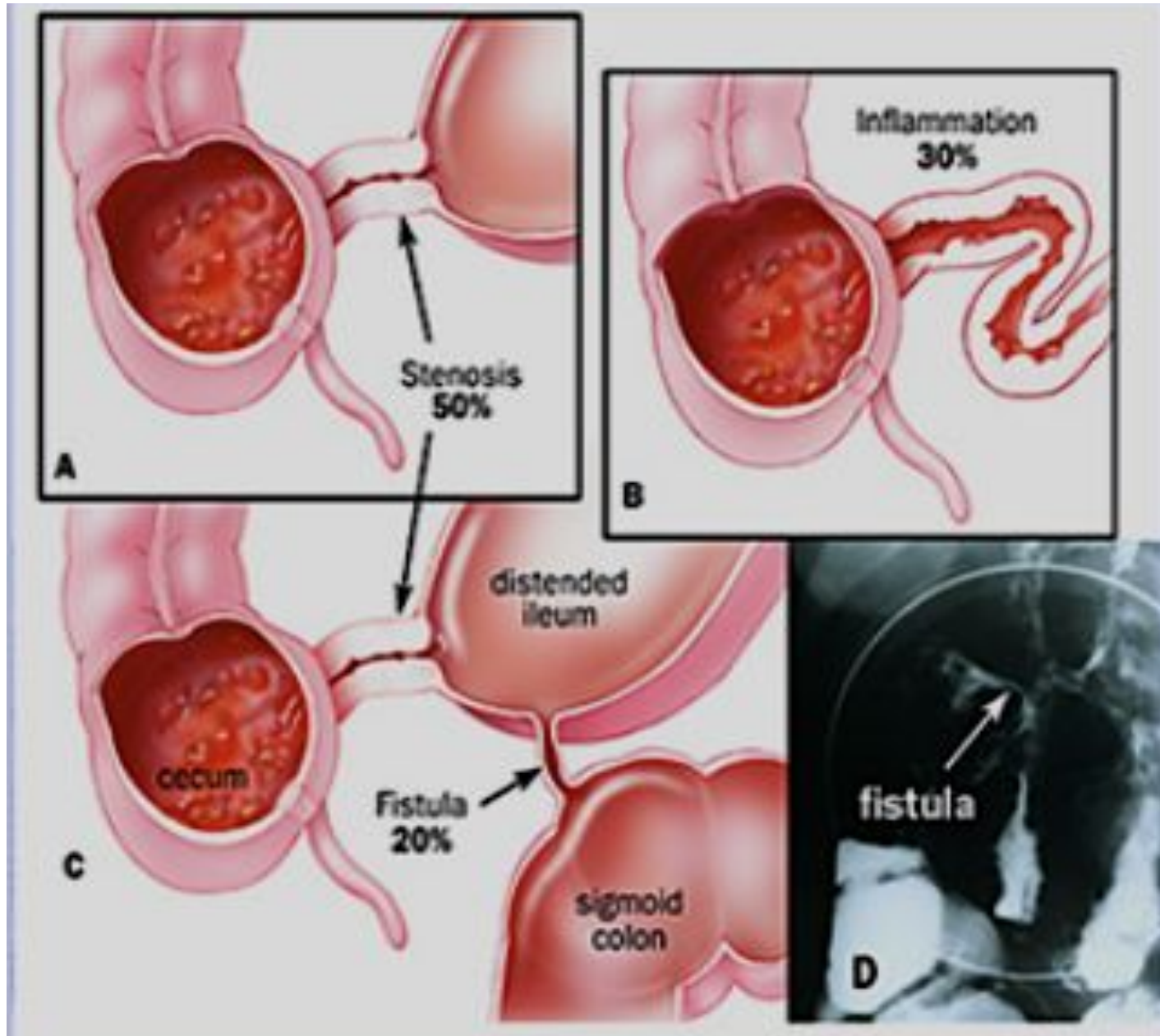
Search for extraintestinal tuberculosis

- Search for peripheral lymphadenopathy → FNAC, culture, PCR, and biopsy
- Search for pulmonary lesion on chest x-ray, and do induced sputum for AFB (x3), sputum PCR, bronchoalveolar lavage if necessary
- Search for ascites, aspirate and send for cells, protein, culture, PCR

# Complications

- perforation
- toxic colon dilatation
- intestinal bleeding
- fistulas
- stricture

# Complications





# Treatment

## ■ Vitamin A

Beef liver, carrots, sweet potatoes, spinach, cantaloupe, kale, red peppers, broccoli, mangos, apricots, black-eyed peas

## ■ Vitamin D

Butter, eggs, fish oils, fortified milk, beef or chicken liver, some fortified cereals, salmon, tuna

## ■ Vitamin E

Wheat germ oil, almonds, safflower oil, corn oil, peanuts, sunflower seeds

## ■ Vitamin K

Cabbage, cauliflower, spinach and other green leafy vegetables, cereals, soybeans

## ■ Magnesium

Halibut, nuts and nut butters, cereals, soybeans, spinach, potatoes (with skin), black-eyed peas, almonds, salmon

## ■ Calcium

Low-fat milk products (if you can tolerate them), kale, collard greens, bok choy, broccoli, oranges, salmon, shrimp, molasses, calcium-fortified foods (check labels)

## ■ Iron

Soybeans, chicken liver, oysters, grits, beef, clams, poultry, dried beans, dried fruits, egg yolks, whole grains, iron-fortified cereals, dark green leafy vegetables, almonds

## ■ Potassium

Sweet potatoes, potatoes, tomatoes and tomato products, beet greens, yogurt, molasses, white beans, soybeans, prune juice, bananas, winter squash

## ■ Zinc

Red meat, poultry (dark meat), liver, shellfish, cheese (not processed), legumes, bran, nuts, green peas, whole grains

## Drink Plenty of Fluids

### Beverages to try:

- Water
- Low-sugar sports drinks
- Fruit juices diluted with water



## Select the Right Grains

Grains include wheat, rice, oats, cornmeal, barley and others. These grains are used to make products such as bread, pasta, oatmeal and breakfast cereal. In their natural form, grains have three components: bran, germ and endosperm. Whole grain products contain all three. Refined grains have been milled to remove the bran and germ, and they have a finer texture.



## Eat a Variety of Vegetables and Fruits

Vegetables and fruits are important sources of many nutrients and are essential to a healthy diet. Tolerance for vegetables and fruits varies among people with IBD. To ease discomfort during a disease flare, select vegetables and fruits that are easier to digest, such as well-cooked asparagus and potatoes, applesauce and melons. Remove the skin (the insoluble fiber part) and avoid the seeds.



## Choose the Best Sources of Protein

Meat, seafood, beans, eggs, nuts and seeds are excellent sources of protein. They also provide B vitamins (niacin, thiamin, riboflavin

and B6), vitamin E, iron, zinc, magnesium and other nutrients.

# Treatment

МНН	Показания
Сульфасалазин, Месалазин (таблетки, гранулы, суппозитории, клизмы)	Язвенный колит в фазе обострения и ремиссии; болезнь Крона, илеоколит
Преднизолон, метилпреднизолон (таблетки), гидрокортизон, будесонид (таблетки)	Язвенный колит, болезнь Крона в обострении
Азатиоприн, 6-меркаптопурин (таблетки)	Язвенный колит, болезнь Крона - поддержание ремиссии
Метотрексат (раствор для инъекций)	
Адалимумаб	Язвенный колит, болезнь Крона в обострении, поддержание ремиссии
Препараты железа (раствор для инъекций, таб.)	Железодефицитная анемия
Метронидазол ципрофлоксацин (таблетки)	Лечение инфекций
Микроэлементы и витамины, витамин Д	Заместительная терапия
Антидепрессанты и психотропные	Депрессия, невроз
Лиофилизированные дрожжи сахаромикетов буларди	Диарея любой этиологии

# Secondary prevention of Crohn's disease

- Measures of primary prevention of IBD have not been developed.
- The patient should follow the diet throughout life. Also, such patients are advised to stop smoking and treat infectious diseases of the intestine.
- With the preventive purpose, the same medicines are used, which are used to treat exacerbations of the disease, but in smaller doses (mesalazine at 2 grams per day, etc.).
- Regular consultations of the gastroenterologist. Should be visited every 3 to 6 months.
- Timely treatment of relapse of the disease.

# Bibliography

- Протокол № 23 от «25» мая 2017 года. Болезнь крона [регионарный энтерит] (K50), Язвенный колит неуточненный (K51.9)
- Диагностика болезней внутренних органов: Т. 1. Диагностика болезней органов пищеварения: - М.: Мед. Лит., 2003 – 560 с
- <https://www.crohnsandcolitis.com/tools-and-support/newly-diagnosed>
- [https://www.halstedurgery.org/GDL\\_Disease.aspx?CurrentUDV=31&GDL\\_Cat\\_ID=83F0F583-EF5A-4A24-A2AF-0392A3900F1D&GDL\\_Disease\\_ID=291F2209-F8A9-4011-8094-11EC9BF3100E](https://www.halstedurgery.org/GDL_Disease.aspx?CurrentUDV=31&GDL_Cat_ID=83F0F583-EF5A-4A24-A2AF-0392A3900F1D&GDL_Disease_ID=291F2209-F8A9-4011-8094-11EC9BF3100E)