






**Intestinal obstruction** – is a pathologic state, which results in disorder of peristaltic activity. As a rule, this condition is accompanied by pain in the abdomen, nausea, vomiting, retention of stool and gas.

Its frequency is about 9% among all abdominal diseases, lethality rate amounts to 25%.



## **Etiology and pathogenesis**

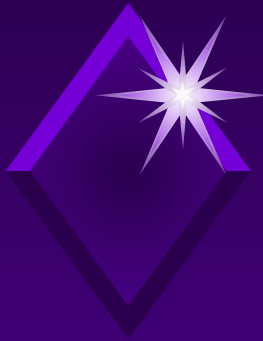
The principal causes of intestinal obstruction are:

1. adhesions of abdominal cavity after traumas, wounds, previous operations and inflammatory diseases of organs of abdominal cavity and pelvis;
  2. long mesentery of small intestine or colon, that predetermines considerable mobility of their loops;
  3. tumors of abdominal cavity and retroperitoneal space.
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# *I. According to morpho-functional signs.*

- 1. Dynamic intestinal obstruction:
  - paralytic;
  - spastic;
  - hemostatic (embolic, thrombophlebitic).
- 2. Mechanical intestinal obstruction:
  - strangulated, volvulus, jamming;
  - obturation (closing of bowel lumen, squeezing from outside);
  - mixed (invagination, spike intestinal obstruction).



# Dynamic obstruction

- **Connected only with dysfunction of peristalsis at absence of mechanical obturation. Also known as FUNCTIONAL**
- СВЯЗАНА ТОЛЬКО С НАРУШЕНИЕМ ПЕРИСТАЛЬТИКИ ПРИ ОТСУТСТВИИ МЕХАНИЧЕСКОГО ПРЕПЯТСТВИЯ К ПРОДВИЖЕНИЮ ПО ЖКТ - ФУНКЦИОНАЛЬНАЯ;
- **The form of appeared dynamical obstruction depends as on the character of predisposing reasons, so on the kind of dysfunction of motor function: prevalence of parasympathical influence leads to appearance of hypermotor dysfunction of intestine; prevalence of sympatic influence leads to hypomotor reaction which is expressed in depression of peristalsis.**
- ФОРМА ВОЗНИКШЕЙ ДИНАМИЧЕСКОЙ ОКН ЗАВИСИТ КАК ОТ ХАРАКТЕРА ПРЕДПОЛАГАЮЩИХ ПРИЧИН, ТАК И ОТ ВИДА НАРУШЕНИЙ МОТОРНОЙ ФУНКЦИИ КИШЕЧНИКА: ПРЕОБЛАДАНИЕ ПАРАСИМПАТИЧЕСКИХ ВЛИЯНИЙ ВЕДЕТ К ВОЗНИКНОВЕНИЮ ГИПЕРМОТОРНЫХ ФОРМ НАРУШЕНИЯ ДВИГАТЕЛЬНОЙ АКТИВНОСТИ КИШЕЧНИКА; ПРЕОБЛАДАНИЕ СИМПАТИЧЕСКИХ ВЛИЯНИЙ ВЫЗЫВАЕТ ГИПОМОТОРНЫЕ РЕАКЦИИ, ВЫРАЖАЮЩИЕСЯ В УГНЕТЕНИИ ПЕРИСТАЛЬТИКИ.

# Spastic intestine obstruction develops in the result of spasm of wall intestine on the limited part – spasmophilia

СПАСТИЧЕСКАЯ КИШЕЧНАЯ НЕПРОХОДИМОСТЬ

(РАЗВИВАЕТСЯ ВСЛЕДСТВИЕ СОКРАЩЕНИЯ КИШЕЧНОЙ СТЕНКИ НА ОГРАНИЧЕННОМ ПРОТЯЖЕНИИ - СПАЗМОФИЛИИ)

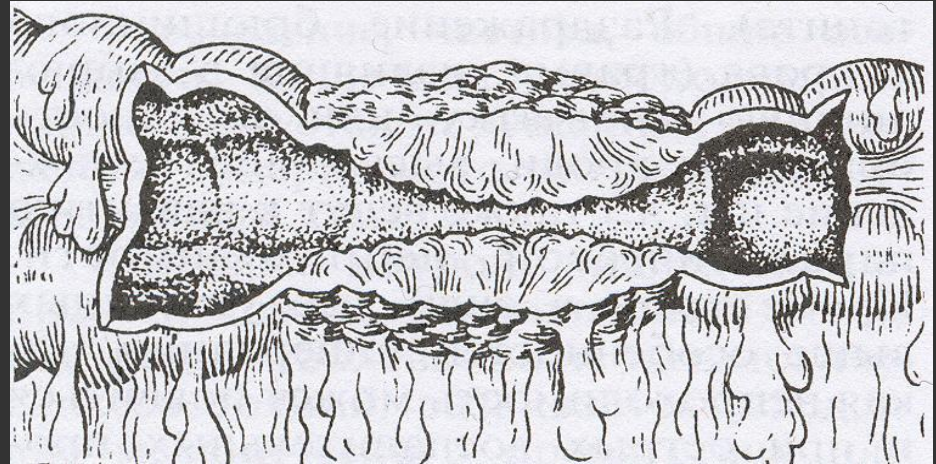
1. Irritation by rough food;
2. Intoxication : - by plumbum («plumbum colic»)
  - nicotine
  - ascorid toxins
  - some poisons
  - disturbance of bilirubin exchange;
3. Diseases of central nervous system;
4. Renal, liver colic;
5. Accompanies mechanical obstruction.

# MECHANICAL OBSTRUCTION

Obturation intestinal obstruction – closure lumen of intestine don't compresses of mesenterium and disorder blood circulation and trophy of bowel wall.

*divided:*

1. Extraorganic compression – mesenteric cyst, retroperitoneal tumor, ovarian cyst, tumor of the uterus and uterine appendages tumor..





## 2. Internally obturation or stenosis:



– into intraorganic, irrelatively of bowel wall (helminthic invasion, foreign bodies, impacted feces and gallstones);




– intramural, adjacent of bowel wall (terminal enteritis – Crohn's disease, tumor, tuberculosis, cicatricial stricture).






## Strangulated intestinal obstruction




Appearance of obstruction which accompany hemodynamic disorder of bowel wall at the involvement of the intestine mesenterium (compress, incarceration, twisting of the vessels) with following development of intestine necrosis.



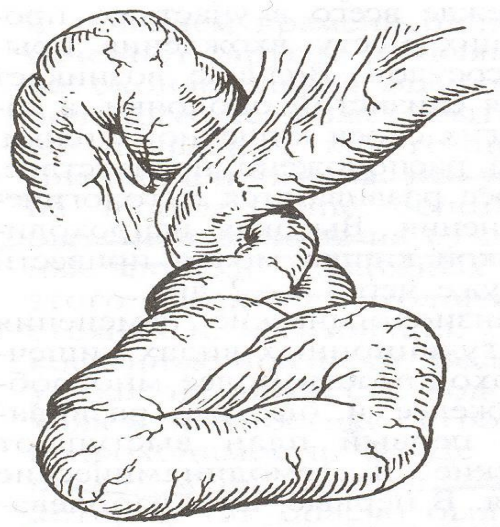
1. Volvulus (small intestine, sigmoid colon, rare caecum and transversal colon).

Differentiate:

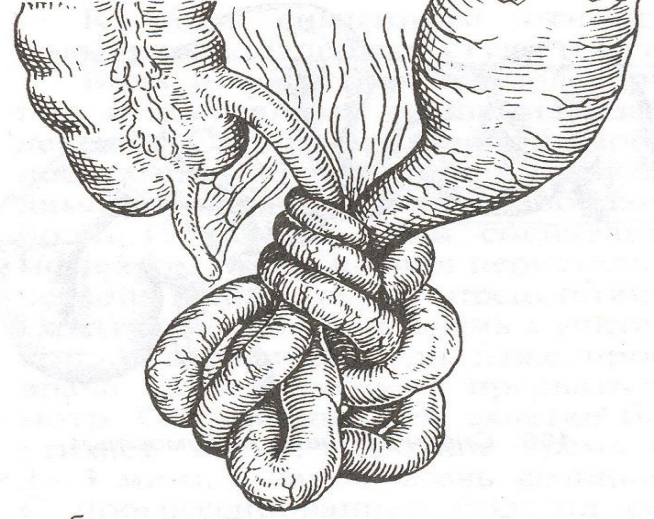
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- complete volvulus – at rotation from 270 – 360 to 540 – 720;
  - incomplete volvulus – at rotation on the 180.



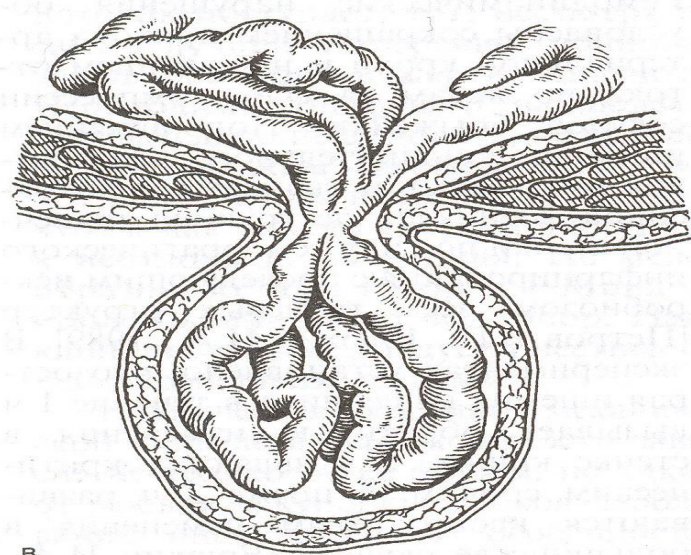
# Variants of strangulated and combined intestine obstruction



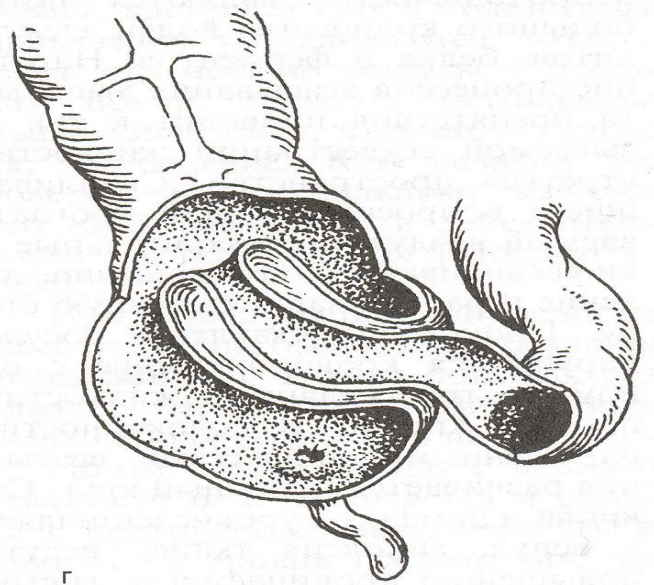
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## **PAIN SYNDROME**

- the earliest and most stable sign;
- ~~spastic~~, accompanied by "ileus cry";
- strangulation intestinal obstruction maybe accompanied by stable pains (very strong, almost shocking);
- localisation: more often through the whole abdomen with irradiation into the back;
- at invagination – pains in the region of invagination.

## **VOMITING**

- frequency depends on the level of obturation, the kind and form of intestinal obstruction;
- reflectory, with remnants of food, bile, intestine contents;
- early showing at strangulating and high, later – at obturation and low.

## **RETENTION OF SOOL AND GASES**

- during first hours self-dependant stool maybe observed or after enema from downstream part of intestine;
- at strangulation intestine obstruction, mesenterial thrombosis one can observe characteristic excretion from rectum (with mucus and blood, known as raspberry jelly – Mondor's symptom.

### **At auscultation:**

- Sklyarov's symptom: "splashing sound";
- intensive peristalsis: at early period of disease;
- усиленная перистальтика: – в раннем периоде заболевания;
- symptom of "stunned silence": absence of peristalsis;
- Loteysen's symptom: transmitting sounds (respiratory and cardiac sounds);
- Spasokukotsky's symptom: (sound of a "falling drop").

### **Additional symptoms:**

- Grekov's symptom: ("Obukhovsky hospital"): incompletely closed anus, dilatation of rectum ampoule at absence of contents in it;
- Kryuvelye's symptom: at rectal investigation blood is defined (strangulation, invagination, mesenterial thrombosis);
- Tsege-Mantejphel's symptom: at enema one can infuse not more than 500 ml of liquid – at sygma volvulus, 1-1,5 l – obstruction is localised on the level of splenic angle of large intestine, 1,5-2 l - obstruction is localised on the level of liver angle of large intestine.