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ACUTE INTESTINAL OBSTRUCTION

Tutorial

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The manual covers etiology, pathogenesis, classification, modern methods of diagnosis and treatment of acute intestinal obstruction.

The manual is intended for students on specialities: "medicine", "Pediatrics".

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Introduction

Ileus is a syndrome, complicating for a number of diseases and pathological conditions, leading patofiziologicheskim link which is the complete or partial termination of the passage of chyme in the intestinal tube, as due to mechanical barriers, and as a result of violations of motor function of the intestine. There is, in most cases, at the age of 30 - 60 years. In women was observed in 1.5-2 times less frequently than men, with the exception of adhesive ileus, which most often affects women. The most commonly diagnosed adhesive intestinal obstruction (more than 50% of all cases), a few less-obturazionnaya.

Acute ileus causes serious disturbances in the body, which can lead to irreversible changes in the organs and systems. Lethality in acute intestinal obstruction remains stably high and reaches 14.2-25%. One of the major causes of death of patients with obstruction is peritonitis. Problem diagnosis and treatment of acute intestinal obstruction persists for decades.

**The purpose of the study topics**

The student must learn to evaluate the general condition of the patient of acute ileus, be able to recognize the disease and spend the differential diagnosis of dynamic and mechanical forms of bowel obstruction. The student should know and be able to determine the appropriate type of treatment for each specific case of bowel obstruction.

History of the study of intestinal obstruction

About the disease organism, accompanied by abdominal distention, violation of flatus and feces, was known in antiquity. Hippocrates, Galen and their followers to ileus attributed all diseases of the abdominal cavity, causing pain, abdominal distention, vomiting, gas and constipation. In 1654, Danish anatomist Bartolin sections found jelchnokamennouu intussusception occlusion. Hunter (1797) first described the adhesive processes in the abdomen after a gunshot wound. Russian surgeon Vincent Dobrovolsky published in 1838,. "about the disease monograph called ileus. The important work of the 19th century emerged in Russia and devoted to acute ileus was article n. i. Pirogov, published in the journal" Notes on part of the medical sciences "in 1849, in this work of n. i. Pirogov detailed issues of etiology, pathogenesis, clinic and treatment of acute bowel obstruction. In 1906 г. Becler first demonstrated the x-ray image abdominal gas bubbles as organ pipes. Schwarz in 1911. first offered contrasting study of the colon to detect mechanical obstruction. Kloiber in 1919, described the horizontal levels of fluid and gas accumulation over them in acute intestinal obstruction. Westermann in 1910 for the treatment of paresis of the gastro-intestinal tractfirst used long zondovuju aspiration of gastric content. A great contribution to the study of acute intestinal obstruction have made domestic Surgeons: S.i. Spasokukockij (1928), Nikolay Samarin (1940), V.i. Pods (1956), A.s. Altschul (1961) and many others.

Classification of intestinal obstruction

All kinds of ileus are divided into the following basic OS group.

(I) .: Congenital in origin (due to intestinal atresia-malformation; zadneprohodnogo atresia holes) and acquired.

(II) Origin: mechanism.

1. Mechanical obstruction:

1) obturazionnaya;

2) stranguljacionnaja;

3) mixed (invaginacionnaja, adhesive).

2. Dynamic (functional) occlusion:

1) paralysis;

2) spastic.

Mechanical obstruction of the intestinal tube occlusion occurs. When stranguljacionnoj obstruction of the primary suffering circulation involved in the pathological process of plot. When obturative intestinal obstruction circulation above obstacles (leading) plot gut is broken a second time in connection with its pererastjazheniem intestinal contents. Therefore possible necrosis of the bowel, but its development must not several hours and several days. Mixed forms include invaginaciju, invaginat involved bowel mesentery, and spaechnuju occlusion, which may occur both on stranguljacionnomu type (shtrangom impaction of intestine together with bryzhejkoj), and the type of obturation (kinkiness gut in form "pair").

Dynamic ileus broken motor function of the intestinal wall without mechanical obstacles to promotion of intestinal contents.

(III) By level obstacles. distinguish high (tonkokishechnuju) and low (tolstokishechnuju) occlusion.

(IV) Lumen closure. by the degree of the colon secrete full and partial occlusion.

(V) For clinical flow.: acute, subacute and chronic.

etiology, pathogenesis of acute intestinal obstruction

In the etiology of acute ileus distinguish two groups of factors: the predisposing and precipitating.

Predisposing factors: congenital and acquired anatomical changes in the abdomen, violations of motor function of the intestine.

To congenital anatomic-morphological changes include various malformations or anomalies: dolihosigma, total mesentery blunt and ileum, defects in the diaphragm and the peritoneum, which contribute to the formation of pockets and cracks in the abdomen.

Acquired biopsy scar changes are puckering, seam sealing, as a result of prior inflammation or injury; tumor, foreign body, bile and fecal stones; inflammatory infiltrates, hematoma, outgoing from the wall of the gut and surrounding organs.

While these factors influenced occurs causing the obstruction factors. Such factors include sudden increases in intra-abdominal pressure, resulting in a displacement of the intestinal loops. As inciting factors bowel motility changes are also associated with a change in diet:

        eating lots of fruits and vegetables in the summer -Autumn period;

        bountiful meal amid prolonged fasting;

        the transition from breastfeeding to artificial children the first year zhizini.

Termination or drastic slowing passage of intestinal chyme in all forms of acute bowel obstruction causes an overflow causing loops coming digestive juices, air, penetrating in the stomach and intestines when swallowing movements. As a result of vital activity of microorganisms, and reactions of organic acids in the intestine are accumulated gases. Intake of fluids and gases in a modified gut wall stops, the pressure in the gut increases sharply increases its diameter. Wall receptacles intestine should be compressed, Ka pilljarah formed blood clots. Bloated leading loop becomes with Noah, acquires bagrovuju coloring, peristalsis slows and then stops. The lumen of the colon and peritoneum cavity begins to be allocated a significant amount of edematous fluid. On the mucosa of the above obstacles, hemorrhages and then pockets necrosis, violated a protective slimy barrier. The main factor of the pathogenesis of endogenous intoxication is a Microbe. In acute intestinal obstruction disrupted the normal microbial ecosystem due to the stagnation of the content, which contributes to the growth and reproduction of micro-organisms, as well as the migration of the microflora, characteristic of the distal bowel, in the proximal (colonization of the small intestine of colonic microflora). Allocation of Exo-and endotoxins, breach the barrier function of intestinal wall leads to translocation of bacteria in portal blood flow, lymph and peritoneal exudate. These processes are the basis of systemic inflammatory reaction and abdominal surgical sepsis, typical for acute intestinal obstruction. Bowel necrosis and purulent peritonitis is the second source of endotoxicosis. For the final stage of acute intestinal obstruction characterized by the development of multiple organ failure.

Against the backdrop of hypovolemia and dehydration the loss of fluid reaches 10% of the body weight of the patient, occurs, gemokoncentration relative increase in hemoglobin and hematocrit increased. Minute and the percussive heart volumes decrease. Develops the centralization of circulation, further deterioration of Microcirculation in vital organs and in all body tissues, tissue hypoxia with disseminated intravascular coagulation syndrome, hypovolaemic shock.

In response, gipovolemia and dehydration in the body is amplified expression processing of antidiuretic hormone and aldosterone. This leads to reduced dampened diureza, reabsorbtion sodium and uncontrolled selection of potassium in urine and vomit. Arise gipokaliemia and related violations of muscle tone, contractility of the myocardium, peristalsis, the redistribution of potassium between the cell and the extracellular fluid. Place of potassium ions in the cell occupied by ions of sodium and hydrogen — develops vnutricletocny acidosis and extracellular alkalosis. As oliguria potassium excretion is slowing, and in connection with the death of cells and the breakdown of protein concentration in the blood begins to increase rapidly, hypokalemia is replaced by giperkaliemiei, alkalozom and metabolic acidosis. The action of the heart, lungs, liver, kidneys, central nervous system is disturbed even more.

Pathophysiological changes in your body faster occur when high (skinny and ileum) tonkokishechnoj obstruction. At a low of colonic obstruction develop the above processes slowed down. When stranguljacii comes the more significant decrease in volume of circulating blood. Due to the compression of and damage to the mesenteric vessels in proswete bowel, incarcerated in its walls and in the abdominal cavity may accumulate more than 38% of the total circulating in blood vessels. In the pathogenesis of common disorders are important responses to painful irritation caused by squeezing or nerve plexus reabrupt bryzhejki gut, as well as the nekrobioticheskie changes in the bowel with subsequent peritonitis and intoxication.

Pathological changes in the intestine depends on the type of obstruction. When obturative obstruction they are not as fast as in stranguljacionnoj, where the squeeze of bryzhejki leading to the disruption of the blood supply in a strangulated loop, leading to necrosis. Instantiation aggrieved and loops come in purple-sinjushnymi, otechnymi, their walls are thickened. In the field at the location of the stranguljacionnyh furrows already comes in the early stages of necrosis, and later gangrene entire strangulated loop. Necrosis or ulceration of the mucous membrane in the leading colon Department when stranguljacionnoj and obturative obstruction apply to 40-60 cm, and in the exit-no more than 10 cm.

In the abdominal cavity in the later stage of the development of acute intestinal obstruction is detected by serous or by-fibrinous exudate, having in stranguljacii gut pinkish hue. Parietal peritoneum ceralnaja Dim and vis, peritoneum, slushhen mezotelij on some parts of the visible imposition of fibrin and granulation. Changes in the internal organs are non-specific, related to manifestations of hypovolemic shock, metabolic disorders and peritonitis.

The clinical picture of acute intestinal obstruction

The leading symptoms of acute intestinal obstruction are abdominal cramps, delayed and gas, vomiting, enhanced motility in the early hours and the lack of it in case of muscular contractility shell.

Pain occurring at the time of the Peristaltic waves, is the early and constant symptom of acute bowel obstruction. They start suddenly when obturative obstruction are shvatkoobraznyj in nature. Between contractions they subside and for a short period of time can completely disappear. When stranguljacionnoj obstruction pain are extremely intense, persistent, amplified to "unbearable" during peristalsis.

Vomiting occurs in most patients at high obstruction it is multiple, no relief. Low intestinal obstruction vomiting rarely occurs and in the early period of the disease may be missing. In the later period of mass gain fekaloidnyj vomited the smell.

Delay stool and gas is an important but not absolutely reliable symptom of bowel obstruction. In the first hours of a disease with high obstruction Chair can be independent, can partially disengage and Gaza, because of either an incomplete closure of the lumen of the gut, or emptying the contents of those divisions of the intestine, which are below the seat obstacles. At low obstruction of the bowel (sigmoid colon) of the Chair, there is usually no.

General condition in most patients heavy, they are restless. Body temperature at the disease onset normal or subnormal (-35.5 35.8° c) when complications (peritonitis) body temperature rises to 38-40° С. Characteristics of the syndrome appear systemic reactions to inflammation. There is a decrease in blood pressure. Dysfunction of organs tends to poliorgannuju failure. Language when pronounced clinical picture of dry, covered with yellow bloom. In the terminal stages of the disease there are cracks mucous membranes, AFTA, which indicates severe intoxication, dehydration and the presence of peritonitis.

Clinical manifestations of obstruction depend not only on its type and level of occlusion of the intestinal tube, but also from phase (stage) flow of the pathological process. There are three stages of acute intestinal obstruction.

1. Elementary - stage local manifestations of acute human intestinal passage lasting from 2 to 12:00, depending on the form of obstruction in this period is dominated by pain syndrome and local symptoms from the abdomen.

2. Intermediate - stage an imaginary well-being characterized by development of acute intestinal failure, water - electrolyte disorders and endotoxemia. It usually lasts from 12 to 36 hours. In this phase, the pain of losing its shvatkoobraznyj nature, becomes a permanent and less intense. Abdomen heavily swollen bowel motility becomes weak should be heard "succussion". Delay stool and gas total.

3. Late - stage of peritonitis and abdominal sepsis, commonly called end stage. She comes after 36 hours from the onset of the disease. For this period is characterized by manifestations of severe systemic inflammatory reaction, the emergence of multiple organ dysfunction and failure expressed intoxication and dehydration, as well as degenerative disorder hemodynamics. Belly considerably swollen, peristalsis is not heard, is determined by the peritoneal symptoms.

Diagnosis of acute intestinal obstruction

Anamnesisis important in the diagnosis of acute intestinal obstruction. Surgeries on abdominal organs, open and closed abdominal trauma, inflammatory diseases are often a prerequisite for the emergence of adhesive intestinal obstruction. Indication of recurrent abdominal pain, bloating, his rumbling, disorders of stool, constipation alternating with diarrhea in particular, can help in the diagnosis of tumor obturative obstruction.

Examination of the abdomen of a patient with suspected intestinal obstruction should begin with an examination of all possible seats have hernias, to prevent pinching as the cause of this dangerous syndrome. Postoperative scars may indicate the nature of the adhesive ileus.

The permanent featured obstruction include bloating. At high obstruction it can be small and often asymmetric: the lower the level of barriers, the more pronounced this symptom is characteristic for flatulence Diffuse. paralysis and obturative colonic obstruction. Incorrect configuration of the abdomen and its inherent asymmetry stranguljacionnoj intestinal obstruction. When zavorotah sigmoid colon is marked swelling of the upper sections of the left or right half of the abdomen ("warped belly"). Dynamic paralytic ileus is observed even bloating. Mechanical obstruction visible to the eye is traced sometimes peristalsis of the intestines.

Abdominal wall with surface palpation is typically not strained. When deep palpation is sometimes sharp pain at the location of the intestinal loops, subjected to stranguljacii. Sometimes the UDD whats palpate fixed and stretched as a cylinder looped intestines over gut heard when percussion timpanicheskij sound with metallic tint. In the later stages of the disease at strong tensile bowel and stomach bloating is determined by the characteristic rigidity of the abdominal wall that resembles the consistency of an inflated by palpation of the ball. Tolchkoobraznymi hand movements over stretched intestinal loops, you can call and hear succussion (symptom Mathieu-Sklyarov), indicating accumulation in the resulting loop of liquid and gas.

Percussion of the abdomen above the stretched intestinal loops of definition high rate timpanit.

If auscultation of the abdomen Peristaltic noises in the early hours of the disease reinforced, often heard at a distance (rumbling, transfusions, gurgle, a symptom of falling drops). Stormy peristalsis is more typical for obturation. When stranguljacii increased Peristaltic noises watch at the beginning of the disease. In the future due to necrosis of the bowel and peritonitis Peristaltic noises become weaker and disappear completely (a symptom of "absolute quiet").

The following specific symptoms in intestinal obstruction:

        Valea Syndrome -the visible asymmetry belly visible peristalsis of the intestine, intestinal proshhupyvaemaja convexity, high timpanit percussion;

        Symptom Hose -visible peristalsis of the bowel, increasing after palpation;

        Symptom Mathieu-Sklyarov -listening " [noise succussion](https://www.microsofttranslator.com/bv.aspx?from=ru&to=en&a=http%3A%2F%2Fru.wikipedia.org%2Fw%2Findex.php%3Ftitle%3D%25D0%25A8%25D1%2583%25D0%25BC_%25D0%25BF%25D0%25BB%25D0%25B5%25D1%2581%25D0%25BA%25D0%25B0%26action%3Dedit%26redlink%3D1) » bowel loops over when bumped the abdominal wall;

        Symptom Kivulja -perkutorno is determined by the timpanicheskij sound with metallic tint over the stretched bowel loop;

        Symptom Bel -conducting heart tones on the abdominal wall;

        Symptom [Spasokukockogo](https://www.microsofttranslator.com/bv.aspx?from=ru&to=en&a=http%3A%2F%2Fru.wikipedia.org%2Fwiki%2F%25D0%25A1%25D0%25BF%25D0%25B0%25D1%2581%25D0%25BE%25D0%25BA%25D1%2583%25D0%25BA%25D0%25BE%25D1%2586%25D0%25BA%25D0%25B8%25D0%25B9%2C_%25D0%25A1%25D0%25B5%25D1%2580%25D0%25B3%25D0%25B5%25D0%25B9_%25D0%2598%25D0%25B2%25D0%25B0%25D0%25BD%25D0%25BE%25D0%25B2%25D0%25B8%25D1%2587) -Wilms -If you can define auscultation increased peristalsis '[the noise of falling drops](https://www.microsofttranslator.com/bv.aspx?from=ru&to=en&a=http%3A%2F%2Fru.wikipedia.org%2Fw%2Findex.php%3Ftitle%3D%25D0%25A8%25D1%2583%25D0%25BC_%25D0%25BF%25D0%25B0%25D0%25B4%25D0%25B0%25D1%258E%25D1%2589%25D0%25B5%25D0%25B9_%25D0%25BA%25D0%25B0%25D0%25BF%25D0%25BB%25D0%25B8%26action%3Dedit%26redlink%3D1) »;

        Symptom Obukhovskaya hospital -ballonoobraznoe expansion of ampoules, rectum and dehiscence zadneprohodnogo holes;

        Symptom Cege-Mantejfelja is a sign of colonic obstruction is low: small capacity (no more than 500-700 ml of water) the distal intestine when siphon enemas;

        Symptom-Mondor -enhanced intestinal motility is replaced by a gradual fading of peristalsis (noise at first, the silence at the end);

        Symptom of "dead (tomb) of silence -absence of peristalsis, sounds an ominous sign of bowel obstruction;

        Symptom Schimana-Dance -when zavorote cecum celebrate the retraction of the right iliac region;

        Symptom Tevenara (when stranguljacionnoj obstruction on the soil of the inversion of the small intestine) -sharp pain when pressing on the two lateral fingers below the navel on the middle line, that is where usually root bryzhejki it is projected.

When digital rectal this study you can define "kalovyj dam", a tumor of the rectum, the head and blood invaginata. Valuable diagnostic sign at a low of colonic obstruction is to identify symptoms Obukhovskaya hospitals and Cege- Mantejfelja.

Laboratory examination includes:

        General blood analysis;

        urinalysis;

        determination of blood group and rhesus Av0 system - factor;

        biochemical blood analysis with the assessment of the level of total protein, urea, creatinine, sugars, total bilirubin, direct bilirubin indirect bilirubin, ALAT, ASAT, electrolytes: determination of potassium, sodium and chlorine; koagulogramma.

In the study of blood due to dehydration and gemokoncentraciej reveal an increase in the number of red blood cells, increasing hemoglobin, high levels of hematocrit. Observed decrease in potassium and chloride blood, gipoproteinemia, azotemia and acid-base condition change aside as alkalosis and acidosis (depending on stage of disease). In the later stages in the development of inflammatory changes is determined by leukocytosis (up to 10-20 • 109/l, and more), increased ERYTHROCYTE SEDIMENTATION RATE.

Of particular significance in acute ileus is an x-ray study, which should be held immediately, as soon as there is a suspicion of obstruction. First review x-rays (x-rays) of the abdominal cavity.

X-ray study of the belly hold in vertical and horizontal position of the patient. When it detects a loop of intestine filled with Gide bone and gas. Normally, the gas has only in the colon. The presence of gas in the small intestine is a sign of bowel obstruction. Gas accumulation over the horizontal levels of liquid has a characteristic appearance of inverted bowls-bowls Klojbera (fig. 1). A loop of the small intestine, bloated gas and partially filled with a liquid, have the appearance of arcades or vertically arranged tubes with fluid level (a symptom of the "organ pipes"). They appear at stranguljacijah through 1-2 h of onset, when the obturation is via 3-5:00 upon seeing the bloated size of loops and bowls of intestinal Klojbera, their form and localization can be judged on the level of bowel obstruction.

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| |  | | --- | |  | | Fig. 1. Bowl Klojbera on the x-ray picture of the abdomen | |

In the case of tonkokishechnoj obstruction of the Bowl Klojbera have small dimensions, horizontal width of acquiring the liquid level is greater than the height of the pillar Strip over it. Horizontal fluid levels even. Against the background of the Strip visible folds of mucous membrane (folds of Kerkringa), in the form of elongated spiral. When obstruction of jejunum horizontal fluid levels localized in the left hypochondrium and epigastrium. Occlusion in terminal ileum Division fluid levels are located in the area of mezogastrija.

In the case of colonic obstruction horizontal fluid levels are located on the periphery of the abdomen in lateral abdominal. Their number is less than tonkokishechnoj obstruction. Height of bowls Klojbera take precedence over width. Against the background of the Strip visible semilunar folds of mucous membrane (gaustry). Fluid levels do not have a flat surface ("mirrors"), due to the presence in the large intestine of dense pieces of feces, floating on the surface of the liquid of intestinal contents.

Dynamic paralytic ileus (Unlike mechanical) horizontal fluid levels are observed simultaneously in the small intestine and colon.

Rentgencontrastnoe study is required of the gastrointestinal tract. Depending on the expected level of occlusion intestines suspended barium sulfate or give to take inside (at high obstruction) or enter using enemas (low obstruction). The use of a contrast agent (about 50 ml) involves repeated (dynamic) passage of barium sulfate suspension. The first control study is performed through 3-4 hours from the moment of the giving of the patient of barium. Normally during this time contrasting the mass appears in the Department of colon.

The lack of contrast in a blind gut while depositing it into the small intestine gives the possibility of suspected acute intestinal obstruction. Combined with positive symptomatic Mathieu-Sklyarov is an indication for the implementation of emergency surgery.

If the symptom Mathieu-Sklyarov is negative, then the second control study performed over 6 hours since the villas patient barium. Normally during this time contrasting weight overcomes a significant plot of large intestine and reaches its terminal divisions (sigmoid and rectum). "Precipice" contrasting mass in a picture speaks in favor of advanced colonic obstruction, and points to the need for the operation.

When obstruction of the large bowel with a view to clarifying the diagnosis recommendations recommended to make emergency irrigoskopiju or colonoscopy. These studies helped set the level and cause obstruction.

When applying emergency irrigoscopy may detect ocular obturation colon tumor. While x-rays can detect narrowing of the bowel and filling defects caused by the tumor. Narrowing of the distal part of the bloated sigmoid colon in the form of the beak is observed at its zavorotah. Defects of filling in the form polulunija, dvuzubca characteristic of the ileocecal intussusception.

Colonoscopy plays an important role in the timely Diagnostics and treatment of malignant colorectal obstruction. After using therapeutic enemas, distal (abducens) plot guts clear of residual faecal masses to perform endoscopic examination. It makes it possible not only to identify the pathological process, but also to fulfil its part of the bowel intubation, allow manifestations of acute intestinal obstruction and perform surgical vmeshatelsto about cancer in more favourable conditions.

Useful information can give an ultrasound and computed tomography. The majority of researchers in conducting traditional ultrasound in patients with suspected acute intussusception are targeted to the following key jehopriznaki pointing to this pathology:

1) increasing the diameter of the intestinal loops (loops of the intestines are rendered as cylindrical with longitudinal and lateral scanning rounded jehostruktury, their diameter is measured on the outer contour);

2) there is a change in the nature of intestinal contents (rendered contents of intestines is often quite homogeneous, mostly jehonegativnoe, with suspension or dense inclusions or fine jehopozitivnoe structure);

3) visibility folding gut mucosa is a sign, the severity of which is connected with a diameter of intestinal loops;

4) thickening of the wall of the intestine, directly associated with the manifestation of the swelling wall, stretching the guts, that allows to judge about the condition of the blood supply to the intestine, also sometimes gives the possibility of suspected etiology of intestinal obstruction;

5) majatnikoobraznyj nature of peristalsis, as a characteristic symptom may occur frequently in acute obstruction in all its forms;

6) fixation and nesmeshhaemost loops of intestine;

7) free fluid in the peritoneal cavity, most commonly defined in the pelvic cavity, between loops of the intestines, the right side of the liver associated with impaired blood supply to the intestinal wall and depends on the duration of the intestinal obstruction.

For the diagnosis and treatment of certain types of obstruction can be applied via laparoscopy, which allows in difficult cases not just identify the cause of the obstruction, but also to some manipulation, e.g., adhesiotomy, detorsiju gut. Adhesions in the abdominal cavity for a long time been considered a contraindication to laparoscopy, although gynecologists for many years used this method for the diagnosis and treatment of diseases of organs of small pelvis. N.l. Kusch in 1974 g. applied laparoscopy 29 have children with suspicion of acute intestinal obstruction, including 5 patients with acute adhesive intestinal obstruction. The experience of laparoscopic research adhesions in the abdominal cavity ceased to be an absolute contraindication to this intervention. In connection with the widespread introduction of laparoscopic interventions in practice became accumulate experience of laparoscopic adgeziolizisa when adhesive disease of abdomen. In 1998, in Rome took place 6 - th World Congress of endoscopic surgery. It discussed matters of evidence techniques and remote results of laparoscopic adgeziolizisa in mechanical intestinal obstruction. The main dangers when performing laparoscopic adgeziolizisa are damaging the intestinal walls and intra-abdominal bleeding. The best candidates for laparoscopic intervention are patients in the early stages of the disease, who previously one not too heavy polostnuju operation. The risk of complications increases dramatically when circulated commissural process (repeated abdominal intervention spilled purulent peritonitis in history), as well as in the advanced stages of mechanical intestinal obstruction with paralysis of the bowel and heavy jendotoksikozom. Experience of laparoscopic adgeziolizisa many authors is small, and method in our country has not found wide application. The authors acknowledge that the laparoscopic treatment of patients with intestinal obstruction is most difficult in emergency surgery. Not developed generally accepted indications and contraindications to laparoskopicheskomu intervention, issues of Technology Division of adhesions, prevention of complications, remote assessment results. However, the ability to reduce the risk of adhesive disease of abdomen with increased use of laparoscopic interventions is of great interest.

Differential diagnosis of acute intestinal obstruction

Practical importance is carrying out differential diagnosis between dynamic and mechanical intestinal obstruction. Unlike mechanical ileus dynamic paralytic ileus of abdominal pain are of an ongoing nature, shvatkoobraznoe their escalation not expressed. Identifies the symptoms of the underlying condition that caused the dynamic ileus. When the paralytic ileus belly swollen evenly bland, weakened from the outset motility or missing. In spastic obstruction pain shvatkoobraznogo character, not belly swollen and sometimes embroiled.

Acute intestinal obstruction should be differentiated with acute pancreatitis, acute appendicitis, acute thrombosis of mesenteric vessels, its stomach ulcer and 12 - duodenal ulcer, renal colic.

When intestinal obstruction pain shvatkoobraznogo character, whereas in acute pancreatitis unbearable, pain in epigastria. encircling a common symptom is bloating. However if pancreatitis there is swelling in the upper division belly, when intestinal obstruction bloating occurs in different departments, depending on the level and type of obstacles, there is an asymmetry of the abdomen. In acute pancreatitis vomit the agonizing, often mixed with bile and intestinal obstruction in it in the early hours of the profuse, bringing short-term relief, and then acquires kalovyj smell. In acute pancreatitis are determined by positive symptoms: Mayo-Robson, Kerte, Resurrection, and there are no symptoms: Mathieu - Sklyarov, Valea, Hose, Kivulja. Rising levels of blood amylase, urinary incontinence that is not characteristic of acute intestinal obstruction. When you review the abdominal x-ray found reduced tours aperture, duodenostasis and deployed a horseshoe 12-duodenum, unlike bowls Klojbera characteristic of intestinal obstruction. ULTRASOUND reveals a violation of jegogennosti structure of the pancreas, resizing, the presence of fluid in the abdominal cavity bag stuffing.

In acute appendicitis, as with intestinal obstruction, acute beginning. A common symptom is abdominal pain. However, when appendicitis pain constant, harakternee symptom of its migration (a symptom of Kocher-Volkovich), and intestinal obstruction pain shvatkoobraznaja and corresponds to place obstacles in the intestine. In acute appendicitis in early disease no bloating, can depart Gaza and Chair, while the intestinal obstruction, these symptoms are signs of disease. In acute appendicitis identifies positive symptoms of Rovzinga, Karavaevoj, Sitkovskogo, obraztsova, Voskresensky, Bartome-Mihelsona, which will be missing when intestinal obstruction. Radiographically in acute appendicitis does not identify the Bowl Klojbera characteristic of acute intestinal obstruction.

When acute tromboze mezenterialnah vessels also raises strong, sharp pain, bloating, vomiting. The pain is permanent, kolikoobraznyj nature without explicit localization. Acute coronary mezenterialnah blood vessels often occurs in patients with elderly and senile patients with disturbances of the heart rhythm, arteriosclerosis, heart disease. Notes with a touch of liquid stool blood, whereas in acute intestinal obstruction Chair and Gaza detained. Vomiting is rare, with the occasional dash of "coffee grounds", but when repeated vomiting, ileus with fecal odor. Auskultativno in acute mezenterialnom trombose noted oppression peristalsis, while the intestinal obstruction in initial stage of peristalsis strengthened. Radiographically, with scoping study of abdominal cavity in tromboze mesenteric vessels noted swelling of the intestinal loops, free fluid in sloping field of the abdominal cavity, and in acute intestinal obstruction, Klojbera Bowl "arches". When ultrasound and laparoscopy is determined by the fluid in the abdominal cavity-free.

For its stomach ulcer and 12 duodenal ulcer is characterized by a sharp, sudden onset, the "kinzhalnogo" nature of the pain, apply immediately around the abdomen, anterior abdominal wall sharply strained-doskoobraznyj "belly". Often patients have ulcerative anamnesis. Such pains in the initial period of intestinal obstruction. Vomiting when its throat is rare, there is a reflex, does not have a kalovogo smell like in acute intestinal obstruction. In the first minutes and hours of the perforation in the patient State of shock, there is pallor of the skin, cold sweat, aetiology. Retracted belly due to reactive muscle tension, and in intestinal obstruction, by contrast, has a bloating. Anterior abdominal wall when its ulcer dramatically tense-"doskoobraznaja", percussion notes the disappearance of liver dullness (sipmtom Spizharnogo), a positive symptom Schetkina-Bljumberga, which is not typical for acute intestinal obstruction. When the review of screening in its abdominal cavity ulcer is determined by free gas under right dome diaphragm. And for intestinal obstruction characterized by bowls, intestinal Klojbera "arches".

Renal colic begins suddenly strong bouts of pain. This raises the tension of muscles of the anterior abdominal wall, sometimes false symptoms of peritonitis, moderate bloating, vomiting, which is a similar sign of acute intestinal obstruction. But in case of renal colic pain constant, irradiiruet in the groin, thigh, scrotum, removed introduction spasmolytics, and when intestinal obstruction the pain is shvatkoobraznyj nature, do not leave Gaza, no chairs. In case of renal colic taped positive symptom in acute Pasternackogo ileus symptoms valia Hose, Kivulja, Sklyarov. When review x-rays of the abdominal cavity in patients with renal colic abdominal pathology is not detectable in acute intestinal obstruction-multiple bowls, Klojbera "arches". In the analysis of urine in patients with renal colic fresh erythrocytes, leukocytes, cylinders, when there are no changes to the data of intestinal obstruction. When renal ultrasound pielojektazii signs, presence of concrements in the ureters-lohanochnoj system, hydronephrosis, demonstrating in favor of Urologic pathology.

Treatment of acute intestinal obstruction

Principles of therapeutic measures when the pathological condition of the following:

1. Urgent hospitalization in the surgical hospital all patients with ileus.

2. For all types of stranguljacionnoj intestinal obstruction, as with any type of bowel obstruction, complicated by peritonitis should urgent surgical intervention. Intensive preoperative preparation lasts till 2:00.

3. Dynamic ileus is subject to conservative treatment, because the surgery itself leads to or paresis bowel usuglubleniju.

4. Doubt in the diagnosis of mechanical intestinal obstruction point to the need for conservative treatment.

5. Conservative treatments should not be used to justify undue delay surgery unless the vote is already overdue.

6. Surgical treatment of mechanical intestinal obstruction involves persistent postoperative therapy vodno-elektrolitnykh disorders, endogenous intoxication and paresis of the gastrointestinal tract,that may lead the patient to death even after the Elimination of obstacles to the passage of intestinal contents.

Principles of conservative treatment are as follows: you must provide decompression proximal gastrointestinal tract by aspiration of gastric contents through or nazointestinalnyj (installed during surgical intervention) probe. Setting the cleaning and siphon enema when their efficiency allows you to empty the colon above obstacles and, in some cases, allow the obstruction. When colorectal obstruction desirable intubation narrowed plot guts to unload causes Division. Correction vodno - elektrolitnykh violations and elimination of gipovolemii. Volume of infusion therapy, under the control of the CVP and diureza (desirable central vein catheterization and the presence of a catheter in the bladder), should be not less than 3 - 4 liters. to address in addition to adequate hemodynamic disorders rehydration should use rheologicaly active funds - reopoligliukin, Pentoxifylline and etc. Normalizing the protein balance using protein hydrolysates transfusion, mixtures of amino acids, protein, albumin, and in severe cases - blood plasma. it should affect peristalticheskuju activity of intestines: at enhanced peristalsis and shvatkoobraznyh aches appoint antispasmodics (atropine, platifillin, but-Spa), pareze - means stimulating the motor recovery ability of the intestinal tube: intravenous gipertoniceski solution of sodium chloride, ganglioblokatora, proserin, ubretid, polyol, for example, sorbitol. In addition, necessary measures providing detoxification and prevention of purulent-septic complications. To this end, in addition to considerable quantities of liquid ments transfusion need to use infusion of low molecular weight compounds (gemodes, sorbitol, mannitol, etc.) and antibacterial agents.

Conservative therapy is usually eliminates the need for some dynamic (perhaps some kinds of permission of mechanical non performance). This is her role of diagnostic and therapeutic tool. If the phenomenon of obstruction are not resolved, held therapy is a measure of preoperative preparation.

Operative treatmentacute intestinal obstruction surgery involves the following medical problems:

1. The removal of obstacles to passage intestinal contents;

2. Liquidation (if possible) of the disease, leading to the development of this pathological condition;

3. Perform bowel resection in its impossibility;

4. Warning of rise of endotoxicosis in aftercare period;

5. Prevention of recurrence of obstruction.

Surgical treatment of acute intestinal obstruction involves intubative jendotrahealnyj anaesthesia with miorelaxanthami. Carry out a broad median laparotomy. After the evacuation of the effusion (by its nature can be roughly gauged the severity the pathological process: serous exudate is typical for an initial period of obstruction, bloody testifies to circulatory disorders in the intestinal wall, muddy -Brown - about necrosis bowel) produce novokainovuju blockade bryzhejki thin root and cross - colon. Audit of the abdomenshould identify the exact localization of bowel obstruction and its Approximate location of reason. This zone is judged as the bowel: the above obstacles causing gut inflated, is full of gas and liquid, it is usually thinned and colour differs from other divisions, placing the gut is in spavshemsja condition, its walls with the absence of peritonitis have not changed. The obstacle, which has led to the development of the obstruction can be in several places at different levels, therefore, a tour of the entire colon: from Greeter to the rectum. In the process of auditing the colon should move very cautiously, wrapping them with a towel dipped in hot saline. Should guard against attempts by the Canal back into the abdominal cavity, as this may lead to rupture of the thinning of the intestinal wall. In such cases, primarily empty leading sections of the intestine from the gases and liquid contents. Method of choice should be considered intestinal intubation via nasal passages, pharynx, esophagus and stomach using dvuhprosvetnogo probe Miller - Abbot, whose exercise progresses, the intestinal extraction content; using a gastrostomy, cekostomy or through the anus. Nazointestinalnaja allows to perform adequate audit intubation of the abdominal cavity, provides bowel movements on the operating table and in the postoperative period. After executing the nazointestinalnoj intubation and detect obstacles start to fixing it.

How to overcome the obstruction are diverse and are defined disease etiology, pathological changes in the inferior Division of the bowel, the general condition of the patient. Run unfolding (detorsija) at zavorote; dezinvaginacija with intussusception; adhesiotomy in adhesive ileus; the autopsy bowel with removing gall stone changes in biliary obstruction; Elimination of stranguljacionnoj obstruction on the grounds of infringement of the external abdominal hernia by herniotomy with subsequent plasticity herniorrhaphy. Sigmoid colon resection, together with tumor due to low obturative obstruction, however such radical intervention is not always feasible due to the severity of the condition and character of the changes in the bowel. During the operation, in addition to the Elimination of obstruction bowel condition is evaluated, which necrosis may occur as with stranguljacionnom and obturacionnom nature of this pathological condition. Extent of changes of the affected area is determined after the Elimination of obstruction and bowel decompression. The main signs of bowel viability are saved pink color, the presence of peristalsis and ripple boundary bryzhejki vessels. In the absence of these indicia, except explicit gangrene, bryzhejku small intestine enter 150 - 200 ml of 0.25% solution novokaina, its obkladyvajut napkins soaked hot saline solution. Through 5 - 10 minutes to re examine suspicious plot. the disappearance of the intestinal wall, coloring sinjushnoj the emergence of a distinct ripple of boundary and bryzhejki vessels, the resumption of active peristalsis suggest it viable. If this procedure does not change the colour, appearance of peristalsis and pulsation of blood vessels, the colon should be regarded as unviable to remove line crossing the colon in proximal direction should be held at the not less than 40-60 cm of space constraints in the distal-at a distance of 15-20 cm away from it. After small bowel resection surgery complete overlay mezhkishechnogo anastomosis. This rule does not apply to colonic obstruction, surgical treatment which one overlay mezhkishechnogo anastomosis often leads to failure of welds and development of peritonitis. Necrotic changes appear first in the mucous membrane, and serous veils are amazed at the least and may be little changed when extensive necrosis intestine mucous. If in doubt refer to a broad division of the bowel, resection of which the patient could not move, we can restrict removal of obviously nekrotizirovannoj part of the intestine, anastomosis, which do not apply and a lead gut repair ends tightly. Intestinal contents in the postoperative period for evacuating nazointestinalnomu probe. Via 12:00 am after stabilization of the patient against a backdrop of intensive therapy perform re-laparatomied for follow-up audit of questionable plot. Ensuring its viability, the proximal distal and anastomose ends of bowel.

At the conclusion of surgery, the surgeon must consider whether the patient relapse obstruction*.* If it's highly likely it must take measures to prevent such a possibility.

Operation complete thorough washing and drainage of the abdominal cavity*.* With a significant amount of exudate and defeat nekroticheskom bowel syndrome (after its resection) should drain through kontraperturycavity of pelvis and maximally expressed changes. In view of the persistence of paresis of intestine in the immediate postoperative period and increased risk of jeventracii, abdominal wound is sutured, especially carefully, in layers.

The peculiarity of the nearest postoperative period in acute intestinal obstruction is to maintain bowel paresis, water - electrolyte disorders, disorders of the acid - the main condition, severe intoxication. all activities aimed at eliminating these pathogenetic points developed in the preoperative period and during surgery, must necessarily be continued and after the operation. Of great importance in the prevention and treatment of paresis of intestine belongs to his decompression. This effectively achieved long-term aspiration of intestinal contents through the probe Miller - Abbot and, to a lesser extent - aspiration of gastric content. Aspiration, combined with washing and by means of selective decontamination bowel exercised within 3 - 4 days, to reduce the intoxication and the emergence of active peristalsis. During this time, the patient is on injecting nutrition. The daily volume of infusion Wednesday is at least 3 - 4lt Restore bowel function contributes to the correction vodno-elektrolitnykh disorders. For stimulation of motor function of the bowel use antiholinesteraznae preparations (proserin, ubretid), ganglioblokatora (dikolin, dimekolin), hypertonic solution of sodium ristogo cotton, Toki, Bernard, cleaning syphon and enemas. More than 75% of all complications developing in the postoperative period in patients undergoing surgery at the acute intestinal obstruction associated with infection (peritonitis, festering wounds, pneumonia). So be sure to conduct an antibacterial treatment.

MECHANICAL ILEUS

***Obturazionnaya ileus*** can be caused by closing the lumen of the gut from within items unrelated to its wall (actually obturation blackout kalovymi "stones", bezoarami, biliary stones, foreign bodies).

Obturation colon can occur when squeezing it outside: large tumors, cysts, emanating from other bodies, fibrous tension bars and spikes. The lumen of the gut can be closed pathological formations, coming from the walls of the colon (large bowel polyps and tumors, cicatrical stricture of intestine).

*Obturation of the bowel tumor* is 9-10% of all forms of acute bowel obstruction, causes are mostly malignant tumors that localizing in the large intestine, at least-tumors of the small intestine.

Symptoms of bowel obstruction develop gradually, subacute, usually combined with symptoms of malignant tumours (exhaustion, anemia, intoxication).

The disease may be of type as high and low obstruction. A dramatic swelling of the colon tumor, obturirujushhej sigmovidnuju colon leads to drastic violations of Microcirculation in the bowel wall, izjazvleniju and perforation.

Used surgical treatment. When tumors of the small intestine produce bowel resection with primary anastomosis mezhkishechnym (fig. 2, 3).

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| Figure. 2. small bowel Resection. The intersection of guts |

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| Figure. 3. small bowel Resection. General view of the superposed anastomosis by type  side-by-side |

Treatment of colon cancer complicated by acute obstruction, presents great difficulties, which arise from a variety of clinical manifestations, late diagnosis, the severity of the condition of the majority of patients, the peculiarity of localization and other factors. However, the combination of a malignant tumor and acute intestinal obstruction of direct threat to the life of the patient in such cases is all the same intestinal obstruction. Treatment should be aimed primarily at eliminating the complications of tumor and its effects.

Half of patients with tumor obstruction it may allow conservative activities. The Elimination of this pathological condition contributes to tumor and intubation colon during colonoscopy. Mild obstruction phenomena allows to prepare the patient to radical an elective surgery at the tumor. Emergency surgery demonstrates the ineffectiveness of conservative treatment.

Choosing the most appropriate surgical intervention depends on:

1) the condition of the patient;

2) the extent of tumour spread;

3) the presence or absence of peritonitis and abdominal dropsy;

4) the condition of the small intestine with the participation of her in anastomoze;

5) skill of the surgeon.

The main task of the surgical intervention in acute colonic obstruction in the first stage, is bowel movements from the content and removing obstruction. This task can be solved in two ways: the imposition of the fistula to remove intestinal contents outwards or anastomosis to lead him inside.

In acute ileus caused by tumor of right half colon as well as the right and middle third of the transverse colon, can be conducted the following operative interventions:

1) right gemikoljektomija;

2) overlay bypass anastomosis between the anterior and the transverse colon, the rectum (ileotransverzoanastomoz);

3) overlay dvustvolnoj ileostomy;

4) the blind intestine fistula overlay (cekostoma).

-Gemikoljektomija with ileotransverzoanastomoza (fig. 4, 5, 6) in acute colonic obstruction, obturative as radical surgery, shows only when the general condition of the patient udovletvritelnom, good condition ileum in the absence of peritonitis or abdominal dropsy.

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| Figure. 4.resection of right half colon.  Mobilization of blind and ascending colon.  The intersection of the bandaged "bryzhejki" ascending colon |

When you run gemikoljektomii right, it should be borne in mind that the proximal bowel resection border crossing is the ileum at a distance of 20-25 cm of cecum in any tumor. For tumors of the blind and the rising Division colon distal border resection is determined between the right and the middle third of the transverse colon.

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| Fig. 5. Resection of right half colon. The intersection of the transverse colon |

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| Figure. 6. Resection of right half colon. Anastomosis of type side-by-side between the ileum and the transverse colon, the rectum. Imposition of the first series of nodal joints on the back wall anastomosis |

When tumors right bend and the right third of the transverse colon distal border passes between the middle and the left third of the colon. With cancer of the middle third of the transverse colon distal border is the left third of the transverse colon.

Imposition of a by-pass ileotransverzoanastomoza in the case of acute colonic obstruction obturative right when you have neudalimoj tumors and distant metastases can be justified only when the overall satisfactory condition the patient, in the absence of the phenomena of peritonitis and abdominal dropsy.

Patients with acute obstruction obturative located right in serious condition, as well as patients with aszitom or phenomena of peritonitis in the tumor in a blind and ascending colon, intestines shows overlay dvustvolnoj ileostomy. In addition, testimony to the imposition dvustvolnoj ileostomy under any conditions are multiple tumors of the colon or ileum Dystrophic changes. Colon tumors with multiple overlaying dvustvolnoj ileostomy may be the final operational intervention.

In some cases, the location of the obturirujushhej tumor in distal sections of right half colon and the critical condition of the patient, when any surgery carries risks and operation time must be reduced to the minimum you need to confine the imposition cekostomy.

In acute intestinal obstruction caused by cancer of the left half colon, mainly used two types of surgery:

1) resection of the affected lot colon tumor with proximal colostomy;

2) overlay only colostomy.

In patients with tumor of the left half of the colon in a case of sigmoid resection produce operability or left-handed gemikoljektomiju, depending on the location and extent of the cancer process. In acute intestinal obstruction operation performed in two or even three stages that the extremely high risk of insolvency seams primary anastomosis. In the first case after removing tumors impose comprises a colostomy (Hartmann operation-fig. 7), the second phase of the recovery operation performed.

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| Figure. 7. Operation Hartmann  A plot of the gut to resection, colored red;  B-after bowel resection produced leading end sewn in  the front abdominal wall by type odnostvolnogo anusa, abducens  -closed tightly |

In the first stage, radically removed tumor-a source of intoxication and metastasis, eliminate bowel obstruction and provide free discharge of the contents of the large intestine to the outside. In these circumstances, manage to deal more effectively with postoperative intestinal paresis, and, in addition, the risks associated with isljucheny anastomosis. At the same time preserving distal colon allows you to restore the continuity of the intestinal tract. Hartmann type operation volume disposable body must conform to the oncological principles. Bryzhejki excision of abnormal gut must be carried out with the main trunk of the inferior bryzheechnoj ligation arteries or only its main branches. At the same time eroding regional lymph nodes within the intersection of sigmovidnyh vessels, while maintaining the integrity of the left into the artery. The second phase of the recovery operation performed.

Trehmomentnaja Cejdlera-Shloffera operation performed in cases where there are phenomena of peritonitis, or heavy patient's condition (fig. 8).

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| Figure. 8. Trehmomentnaja resection of the left half of the colon. Way To Cejdlera-Shloffera  The first stage is the blind gut seized the fistula. The second step is the left half colon rezecirovana; between leading and diversion Division gut seized anastomosis of type end-to-end. The third stage is a fistula cecum is closed |

The first phase consists in the imposition of handling colostomy proximal to the tumors, such as the blind, transverse colon or colon sigmovidnuju. After the normalization of the patient's condition, the vodno-elektrolitnogo balance and protein (this may take 2-3 weeks) start the second phase. The second stage is to plot the colon resection of the tumor and the imposition mezhkishechnogo anastomoza. The third phase of the operation, usually through 2-3 months to produce the closure of the colostomy. In some cases, rapid vmeshatelsto is limited to imposing only the proximal towards tumor fistula on the large intestine (colostomy) or ileum (Ileostomy) colon. Under the kolostoma realize artificial anus imposed operational by at one of the polling stations the colon with a view to permanent or temporary lead content from the distal part of the intestine.

More often than not a colostomy impose on transverse colon and bowel sigmovidnuju, those departments who have colon long bryzhejku. There are following types of colostomy stomas: pristenochnuju, lap, split dvustvolnuju and comprises end. Often resort to rapid vmeshatelstu in the form of a formation loop colostomy. Malotravmatichna operation, most often a colostomy impose on a lap sigmovidnuju or transverse colon. Indication for this operation is the acute colonic obstruction in left-hand obturazionnaya inability to remove the tumor. In patients who are in critical condition, when any surgery is associated with a high risk operation is limited to imposing parietal colostomy-cekostomy-irrespective of the localization of the tumor.

*Arteriomezenterialnaja occlusion the intestine* is caused by squeezing the bottom horizontal branch duodenum superior mesenteric artery, running in some cases from the aorta at a sharp angle. Gastric contents incoming in the jejunum, intestine pulls it together with the superior mesenteric artery inferiorly. This leads to a compression of the duodenum between spine from behind and stretched as string superior mesenteric artery and the bryzhejkoj of the small intestine.

Characterized by a sharp pain in the upper abdomen and profuse vomiting with a dash of bile. The patient's condition is improving quite quickly in the knee-elbow position, where the degree of compression of the duodenum is significantly reduced. Radiographically reveal a significant expansion of the stomach and duodenum. When contrasting study note delay evacuation radiopaque from dvena dcatiperstnoj gut when upright and improved evacuation is in the knee-elbow. Variants of chronic disease.

First applied conservative treatment: frequent fractional feeding, rest after eating in a horizontal position, better on the right side. The ineffectiveness of conservative activities shown surgery is duodenoejunoanastomoza overlay.

*Obturation biliary konkrementami* is 0.5-2% of all cases of ileus. Chronic calculous cholecystitis due to destructive changes in the gallbladder (sore lower wall of the bladder) happens spajanie the wall with the duodenum or colon. When you increase the bedsore formed cystic-duodenal or cystic-tolstokishechnyj fistula, which konkrement of gallbladder falls into the lumen of the bowel. Obturation occurs when konkrementah with a diameter of 3-4 cm or more. Development of acute obstruction in doing so promotes the secondary bowel spasm. Most often the obturation konkrementami bile occurs at the level of the Terminal segment of the ileum.

The phenomenon of obstruction occur acutely and proceed with shvatkoobraznymi pain, repeated vomiting. When review x-rays reveal belly bloated gas loop of the small intestine with a distinctive "spiral" pattern of folds of mucous membrane. Often detect gas in psoriasis ducts.

TreatmentProduce decompression surgery alone. bowel, distal to the jenterotomiju of ureteral stones (fig. 9), remove its further according to perform holecistjektomiju.

*Corking kalovymi "konkrementami"* occurs mainly in the colon. Occurs in elderly people suffering from chronic colitis, prolonged constipation. Conducive factors are often anomalies (megacolon, megasigma, congenital membranes mucous membranes, etc.).

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| Figure. 9. Jenterotomija |

Fecal concrements can depart with a Chair. In some cases, they lead to the development of bedsores and wall kalovomu peritonitu. Calculus can cause acute colon obstruction symptoms and the clinical course is characterized by low bowel obstruction: cramping, stool and gas delay, reinforced, the long-term persistence of peristalsis, sudden distention of the colon that takes the form of bloated car tires, empty, bloated ballonoobrazno rectal ampulla.

When the obturation kalovymi konkrementami surgery is indicated in rare cases where conservative treatments (siphon oil Enema, an attempt to finger or endoscopic removal of concrements and smashing through the rectum) do not give effect. Surgical treatment is kolotomii, delete the temporary imposition of concrements and colostomy.

***Stranguljacionnaja ileus*** inversion occurs as a result of the intestinal loops around its axis, education site between multiple loops of intestine, infringement of the intestinal loops in GRA zhevyh gate in external and internal hernias, bowel compression with bryzhejkoj spikes. With stranguljacionnoj obstruction occurs the squeeze of vessels and nerves in the strangulated loop of bowel, disturbed blood supply that distinguishes this kind of obstruction from obturative.

*Zavoroty* (volvulus) represent a tightening of the gut with her around the longitudinal axis bryzhejkoj. They make 4-5% of all kinds of ileus. Distinguish zavoroty thin, sigmoid colon and cecum. Among the reasons zavorotov colon secrete predisposing and producing factors.

**The predisposing causes include:**

          overly long guts, bryzhejku incomplete intestinal rotation;

          SCAR puckering, seam, adhesions between the loops of the intestines as innate and acquired nature;

          dramatic weight loss.

**To produce reasons for include:**

        sudden increases in intra-abdominal pressure, leading to a drastic displacement of intestinal loops;

        alimentarnye: skipping meals, fasting for long periods with subsequent bowel overload lots of roughage.

*Small bowel Volvulus* (fig. 10).In normal bowel loops commit substantial traffic and often do bends up to 90°, without causing any pathological disorders. When you turn the gut more than 180° overlapping its lumen and the blood vessels supplying the bryzhejki. Inversion may be involved in several loops, and sometimes the entire intestine.

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| Fig. 10. small bowel Volvulus |

Zavoroty small intestine begins. Disease with severe General and local kliniche the symptoms characteristic of acute high stranguljacionnoj obstruction.

In the first hours of the disease amid constant pain who had intermittently cramping, the intensity of which is growing synchronously with peristalsis, reaching unbearable character. Patients often become restless, screaming in pain, take forced position with the legs to the stomach. From the very onset occurs multiple vomiting, not bringing relief, first-unmodified stomach contents and bile, and then it becomes fekaloidnoj. Delay stool and gas is intermittent symptom: often initially happens a single chair at the expense of emptying lower divisions of the bowel, not bringing relief.

The general condition of the patient. Quickly appear and grow on misuse of water, protein and carbohydrate exchanges, microcirculation dermal and hemodynamic disorder, intoxication, decrease diuresis. The abdomen is moderately swollen, sometimes swelling manifests only transient podrebernyh areas. Often discover positive Valea syndrome.

When review x-rays of the abdomen are discovering Bowl Klojbera, which appear after 1-2 h of onset and localized in the left half of the epigastric area and mezogastralnoj area.

Treatmentsurgery. It is raspravlenii zavernuvshihsja bowel loops (detorsii) and emptying the bowel from content (decompression). If not doubt the viability of the gut are limited to detorsiej. With necrosis of the gut produce resection within healthy tissues with anastomosis "side by side". The line of intersection of the colon should be 40-60 cm above obstacles and at 15-20 below it.

*Volvulus caecum* possible when it has its own bryzhejku or shared with a thin gut. If the symptoms are pronounced in the same way as and when the small intestine zavorotah. Pain (both permanent and colicy) localized in the right abdomen and in the okolopupochnoj field. Usually there is vomiting. In most patients there is a delay of the stool and gas.

When inspecting reveal abdominal bloating due to asymmetries in the okolopu pochnoj field. At the same time the retraction of the right iliac region. By palpation of the abdomen often find positive symptom Schimana-Dance (feeling of "emptiness" by palpation in the right iliac region) and rigidity of muscles of the abdominal wall.

If auscultation of the abdomen characteristic sonorous, mark metal skim a tinge of Peristaltic noises. In the future, as development of peritonitis, Peristaltic noises become weaker.

Abdominal radiograph review reveal might broadly following Puiu gut, which is localized in the right half of the abdomen or displaced inside and up. In the zone of projection of the colon visible large (up to 20 cm) horizontal fluid level.

When zavorote the cecum showing emergency operation. Surgical treatment is raspravlenii zavernuvshihsja bowel loops (detorsija) and emptying the bowel from content (decompression). When necrosis of the bowel demonstrates her resection. In order to prevent the recurrence of the disease requires its fixation to the abdominal wall.

*Sigmoid Volvulus* occurs more often in older people, long suffering constipation. in addition to the considerable length bryzhejki, inversion helps umbilicus shrivelling bryzhejki sigmoid colon at mezosigmoidite. The consequence of this convergence is leading and outfeed stations, which are located almost in parallel ("pair"). With increased Peristaltic contractions or dense overflow and gas contents gut easily twists around its axis, leading to obstruction.

Pain occur suddenly, are intense, localized usually in the lower abdomen and rump area, accompanied by one-and double vomit. Fekaloidnaja vomiting usually occurs only when the development of peritonitis and paralytic ileus. The leading symptom of sigmoid colon inversion-delay stool and gas. Belly swollen dramatically. Celebrated its asymmetry-bulging upper sections of the right half of the displacement sigmoid upward and to the right. When the stomach becomes a characteristic "warped" views.

As a result of strong flatulence colon all viscera and diaphragm pushed upward. This leads to difficulty breathing and lower the heart activity of hepatitis.

Under fluoroscopy to identify the gases might sharply colon (ascending, transverse, descending), which occupies almost the entire abdominal cavity (characteristic symptom "light" belly) in which visible 1-2 bowls Klojbera with long fluid levels .

When zavorotah sigmoid apply surgical treatment.

Surgical treatment has two objectives: the Elimination of intestinal obstruction and prevent its recurrence. After the Elimination of inversion and releasing guts of content by using the probe entered through the rectum, determine its viability. If the gut is not viable, its rezecirujut. In this case the operation complete, sigmostomiej odnostvolnoj distal end is sutured closed. When necrosis do not have the following options are available for the operation to complete. First, if there are signs of history repeated inversion and the patient's condition allows you to perform primary resection a viable sigmoid colon with overlay anastomosis (radical surgery). If the severity of patient condition preclude such a possibility, spend mezosigmoplikaciju in Hagen-Tornu (fig. 11).

Fig. 11. Mezosigmoplikacija on I.e. Hagen - Tornu

After dissecting scarry adhesions in anterior and posterior leaflets of the elongated bryzhejki impose 3-4 parallel sborchatyh seam perpendicular to the axis of the intestinal tube. When they are of delaying mesentery is shortened. This reduces the risk of repeated inversion. Some surgeons in some cases resorted to other palliative operations-sigmopeksii, during which the intestinal wall anchor lock stitches to the parietal peritoneum.

*Uzloobrazovanie guts**(nodulus intestini)* -a rare but severe form of stranguljacionnoj ileus. Flows with severe disorders of blood circulation in the vessels, the stationery and early bryzhejki necrosis of large tracts of the small and large intestine (fig. 12).

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| |  | | --- | |  | | Fig. 12. Uzloobrazovanie | |

In uzloobrazovanii participated at least two intestinal loops. One of them, built in the form of a "pair" along with his bryzhejkoj, forms the axis around which the second loop of the bowel together with its bryzhejkoj twists on one or a few revolutions, squeezes the first loop and undergoes stranguljacii itself. As a result of the bowel lumen site turns out to be overridden at least two levels.

In uzloobrazovanii small intestine usually involved and moving bryzhejku, all with their own departments of colon. The most frequent types of mezhkishechnyh nodes are nodes across a thin gut and sigmoid colon or a thin gut and mobile blind, has its own bryzhejku.

Uzloobrazovanie between loops of small intestine there is rare. Blood flow in the vessels of bryzheek ushhemljaemoj and harmful to the colon in the initial stages of the disease is impaired in varying degrees (usually more affected blood flow in ushhemljaemoj loop). Then quickly disturbed blood supply both loops, which develops a necrosis. Suggest gut uzloobrazovanie in cases where the clinical and radiological signs of stranguljacii small intestine combined with signs of obstruction of the colon (the "ballonoobraznaja" ampoule rectum rectal study the horizontal levels of fluid in the left colon departments along with the levels of fluid in the small intestine).

Treatmentonly surgical. In the early stage of the disease produce "Unleashing" site. Site liquidate after emptying the colon using a probe, previously entered through the anus. Node formed by non-viable loops, subject to resection. Resection of small intestine complete restoration of patency of the intestine through the anastomosis. When colon resection to list comprises a colostomy. Routinely restore passage on the colon.

***Mixed intestinal obstruction***

To mixedintestinal obstruction include spaechnuju occlusion and invaginaciju.

*Adhesive intestinal obstruction* -the most common form of ileus. In allocating adhesive ileus under cherkivaetsja only the etiological point of occurrence of obstruction is the presence of adhesions in the abdominal cavity, which can be the result of surgical procedures or inflammatory diseases of the abdominal cavity. It can leak for obturacionnomu or stranguljacionnomu type. Adhesions can appear between intestinal loops, commit them to other organs of the abdominal cavity or the parietal peritoneum. In addition to predisposing factors for the occurrence of intestinal obstruction and producing needed factors-violation diet, taking large doses of laxatives, physical tension, promoting violation of motor function bowel.

Clinical manifestations depend on the type of adhesive ileus. When stranguljacionnom the nature of the patient's condition heavy note repeated vomiting, sharp pain and bloating, delay stool and gas. When the obstruction of the intestine for disease is not as severe, symptoms of obstruction are increasing gradually. Important information can give the study passage suspended barium sulfate on the small intestine.

Spaechnuju intussusception occlusion, growing without stranguljacii, it is often possible to eliminate conservative measures. Patients enter antispasmodics, aspirirujut gastric contents, put group enema spend infusion treatment. Stranguljacionnaja adhesive ileus is subject to emergency operative treatment. Volume of operation depends on the nature of the changes in abdominal and bowel condition. Prejudicing the adhesions cross. With multiple srashhenijah and cicatricial stenosis of the intestine can be executed workaround mezhkishechnyj anastomosis. It is recommended that you conduct a long (7-9) nazointestinalnoj intubation with meticulous styling (shinirovaniem) intestinal loops, which ensures their fixation in the desired order and reduces the risk of recurrence of obstruction.

Currently widespread endoscopic treatment adhesive ileus tonkokishechnoj. The advantage of this method of treatment-minimal invasiveness, that significantly reduces the likelihood of the recurrence of adhesions in the abdominal cavity. However, we cannot fail to note certain difficulties often encountered when introducing trocar into the abdominal cavity.

To exclude iatrogenic complications adhere to certain zones of the abdominal cavity puncture, which depend on the type of the previous surgery and scar localization on the anterior abdominal wall.

*Invaginacija colon* it is possible at any age, but is more likely to occur in children under 5 years of age (75%). Introduced one of the divisions of the intestine to another. The result is a cylinder (invaginat), consisting of three intestinal tubes, passing one another. The outer cylinder tube called receptive or medium, and vagina. internal cylinder tubes are called generators. Plot, where the average cylinder goes into the internal, referred to as the head, place the outer transition invaginata cylinders in Middle-neck. In rare cases, the invaginat consists of 5-7 layers. Introduction of one guts to another occurs at a different depth. Closing the lumen of the gut invaginatom leads to obturative obstruction. Along with the gut is introduced and its mesentery, which leads to compression of blood vessels (strangling), circulatory disorders and necrosis of the inner and middle cylinder. The outer cylinder invaginata, usually not exposed to necrosis.

Most often invaginacija the ileum in blind (ileocekalnaja invaginacija) or the ileum and cecum ascending colon in (fig. 13)

|  |
| --- |
|  |
| Fig. 13. Invaginacija the ileum in thick |

The main cause of intussusception are tumors on the pedicle, hematoma, inflammatory infiltration, etc. that as a result of Peristaltic contractions move the distal direction, taking for himself the bowel wall. Cause of intussusception may become persistent bowel wall spasm, resulting in spazmirovannyj plot peristalticheskimi gut contractions is embedded within another segment of bowel that is in the paresis.

Children increasingly acute form of the disease, in adults is dominated by subacute and chronic forms. In acute form of the disease starts suddenly, sometimes amid enteritis or after taking a laxative remedy.

The leading symptom is a sharp, cramping, which are increasing in their intensity up to unbearable when Peristaltic cuts bowel and then gradually subside. Over time, the interval between contractions shorter pain become permanent, accompanied by repeated vomiting. However, the discharge of intestinal contents from the underlying divisions persist. In feces reveal blood impurity and mucus. Some patients have watched bloody stools and tenesmus. Spotting often have the appearance of "raspberry jelly."

When inspecting the belly reveal visible by eye peristalsis. By palpation abdomen is soft. When deep palpation is typically unable to determine painful, malopodvizhnoe, cylinder-shaped formation, located in the ileocecal intussusception in the right iliac region, the right podreberie or transversely above the navel (in deep Intussusception). Rectal study found extended empty ampoules of the rectum, and intussusception in children with deep and sometimes head spustivshegosja rectum invaginata. As a rule, in the rectum discover spotting.

Diagnosis is based on a characteristic triad of symptoms-different shvatkoob abdominal pain, palpable cylindrical shape education in the right half of the abdomen, bleeding from the rectum. Important differential diagnosis of intussusception and appendikuljarnogo infiltration. Correct recognition of contribute to the large intensity of pain in intussusception, their shvatkoobraznyj nature, lack of inherent appendicitu symptoms. In doubtful cases the diagnosis explained the review x-rays of the abdomen, which identify horizontal levels of fluid in the small intestine, and barium enema, which detected defect filling in a blind or ascending colon, with clear paths, having the form polulunija or dvuzubca.

Need emergency surgery. Conservative activities (SI fonnye enemas, the introduction of gas into the colon, the appointment of antispasmodic agents) are rarely effective even in the first hours of the disease.

During the operation carried out in the early stages, by careful and gentle, leg extrusion manages to produce dezinvaginaciju. If dezinvaginacija failed, determine the viability of the gut and try to find the cause of the development of this type of obstruction (intraluminal tumor, Meckel diverticulum). The detected anomalies remove surgically. If you spread your dezinvaginirovannaja cannot be invaginat or gut turns nezhiznespo sobnoj produce resection intestinal loops with observance of all rules of bowel resection in acute obstruction.

DYNAMIC ileus

Dynamic occlusionthe bowel is characterized by persistent PA clinch or paralysis of the bowel or persistent spasms. Functional disorders leading to paralytic dynamic obstruction, are attributable to acute inflammatory processes in the abdominal cavity and retroperitoneal tissue, injuries and traumatic operations, intoxication, acute circulatory disorders in the abdominal organs*.* Spasticheskuju intussusception occlusion cause lesions of the brain or spinal cord (Metastases of malignant tumors, spinal sclerosis, etc.), salts of heavy metals poisoning, hysteria.

***Paralysis occlusion*** bowel due to significant oppression or even complete discontinuation of Peristaltic activity of intestines, the weakening of the muscular layer of the intestinal wall tone. the absence of propulsive Peristaltic waves makes content stagnates in the gut. Most commonly paralytic ileus occurs in patients with peritonitis. The main cause is inflammation of the bowel wall, ischemia, impaired function of aujerbahova and mejsnerova nerve plexus in the intestinal wall.

The main symptoms are blunt, raspirajushhie pain, vomiting, persistent delay stool and flatus, bloating. Pain is usually constant, do not have explicit localization and irradiation, shvatkoobraznyj component is usually absent. As compared to the mechanical ileus vomiting with dynamic obstruction is observed less frequently, although development of the peritonitis it can be repeated.

Belly evenly swollen by palpation determine the resistance of the abdominal wall. If auscultation Peristaltic noises are loose or missing.

If paralysis occlusion is not combined with peritonitis, disease in the early hours of the general condition of the patient remains satisfactory positive. Subsequently, in the absence of pathogenetic therapy, with standing worsens, increasing symptoms of endogenous intoxication, gipovolemii expressed disorders vodno-elektrolitnogo balance, acid-base balance, there is multiple organ dysfunction failure of vital organs.

Separate hard group consists of those paralytic neproho as arising from acute circulatory disorders in the mezenterialnah vessels (thrombosis and embolism verhnebryzheechnoj artery).

When the review of screening there is belly bloating all divisions evenly bowel predominance in the bloated gut with saving gas over a liquid, the presence of horizontal levels of liquid in small and in the large intestine at the same time.

Treatment. The first step is to eliminate the pathological about the process that led to the development of paralytic ileus.

To restore motor function of the intestine and eliminate its paresis apply aminazin, reducing dampening effect on peristalsis of the sympathetic nervous system, antiholinesteraznae preparations (proserin, ubretid) that trigger the peristalsis by enhancing the function of the parasympathetic nervous system.

Initially injected aminazin or similar medicines, through 45-50 min-proserin, then prescribe cleansing enema. Also effective stimulation of the bowels. In recent years, there are new drugs-prokinetiki (cisaprid and its derivatives) used for stimulation of motor activity of the intestine.

Ill always decompression of the stomach and intestines by aspiration using nazoejunalnogo probe installed in the jejunal lumen using an endoscope. violations of homeostasis adjust on the General principles of treatment of patients with acute metabolic disorders under different etiological factors.

Surgical treatment of paralytic ileus is shown only in cases of her amid peritonitis, thrombosis or embolism mesenteric vessels.

***Spastic occlusion bowel*** -a relatively rare type of dynamic obstruction. Difficulty or complete cessation of Pro motion due to the emergence of resistant intestinal contents acute muscular layer of the walls of the bowel spasm duration may be different-from a few minutes to several hours.

The leading symptom is severe pain without a certain visceral colicy localization. During labor patient is caught on the bed, screaming.

Despepsiceskie disorders uncommon. Delay stool and gas is not all patients, it rarely happens. The general condition of the patient is impaired slightly. The belly is often normal stereo walkie-talkie, if the abdominal wall is dragged, it takes the form ladevidnuju.

When the review of screening to identify atoniche spasticheski belly physical condition of the intestine. Sometimes in the course of the small intestine are visible small Klojbera bowls located chain in the course of bryzhejki of the small intestine. When contrasting study of the digestive tract with barium define slow passage of barium dredge on the small intestine, bowel bloating sites chetkoobraznye.

Conservative treatment. Patients are administered antispasmodics, physiotherapy procedures, heat on stomach, treating the underlying disease.

QUESTIONS FOR SELF-MONITORING

1. Determination of intestinal obstruction.

2. Etiological causes and contemporary insight into the pathogenesis of intestinal obstruction.

3. Classification of intestinal obstruction.

4. The clinical picture of acute intestinal obstruction.

5. Methods of laboratory and instrumental Diagnostics ileus.

6. Hold the differential diagnosis of acute intestinal obstruction with other acute surgical diseases of the abdominal cavity.

7. Tactics of the surgeon when mechanical and dynamic ileus.

8. General principles and methods of treatment depending on the form of intestinal obstruction.

9. Types of operations in mechanical bowel obstruction.

10. Features of preoperative preparation and conducting the postoperative period in patients operated on for intestinal obstruction.

Test tasks

Select one or more correct answers.

1. THE MAIN SYMPTOM OF OBTURATIVE INTESTINAL NON-DIVERGENCE IS

1) persistent pain in the abdomen

2) abdominal cramps

3) vomiting colors "coffee grounds"

4) bloating

5) Melena

2. THE MOST COMMON CAUSE OF MECHANICAL TONKOKISHECHNOJ-SKOY OBSTRUCTION IS

1) foreign bodies

2) gallstones

3) benign tumors

4) malignant tumors

5) abdominal adhesions

3. CAL AS A RASPBERRY JELLY CHARACTERISTIC

1) gastric bleeding

2) intussusception

3) spastic colitis

4) diverticulitis

5) lead poisoning

4. IN CASE OF ACUTE INTUSSUSCEPTION OCCLUSION PRODUCED PRIMARILY

1) panoramic x-ray of abdomen

2) study on passage of barium kishechniku

3) esophagogastroduodenoscopy

4) laparoscopy

5) biochemical blood analysis

5. CONSERVATIVE TREATMENT OF ACUTE INTESTINAL NEPROHO NEED ONLY APPLIES WHEN

1) zavorote

2) uzloobrazovanii

3) obturative intestinal obstruction

4) dynamic obstruction

6. THE MOST RAPID DEVELOPMENT OF BOWEL NECROSIS VOZNIKAETPRI

1) obturation ileum

2) the obstruction of the colon tumor

3) the obstruction clearance jejunum bilious stone

4) uzloobrazovanii

5) the obstruction of the lumen of the colon fecal stone

7.in ACUTE INTESTINAL OBSTRUCTION REVEAL SYMPTOMS

1) Valea

2) Resurrection

3) Sklyarov

4) Kivulja

5) «Obukhovskaya hospital

8.when the PARALYTIC ILEUS APPLICATION guarding

1) operative treatment

2) holinjergetiki

3) nazointestinalnuju intubation

4) novokainovuju blockade

5) all means of stimulation of bowel

9. FOR ACUTE TONKOKISHECHNOJ ILEUS CHARACTERISTIC

1) uncontrollable vomiting

2) cramping

3) rapid dehydration

4) bloating in the first hours of the disease

5) the rapid decline of BCC

10. PROVOKE ACUTE INTESTINAL NEPROHODI-ING CAN

1) weak abdominal muscles

2) alcohol abuse

3) the use of oily and spicy food

4) eating lots of food rich in fiber

5) psychological trauma for the

11. FOR ALL TYPES OF ACUTE INTESTINAL OBSTRUCTION HA-RAKTERNY

1) intense abdominal pain

2) sharp increase peristalsis

3) resistant Chair and gas delay

4) abdominal assimmetrija

5) abdominal muscle strain

12. WHEN UNSUSTAINABLE LOOP OF THE SMALL INTESTINE WAS DISCONTINUED

1) resection for loops, 20 cm from the title necrosis

2) bowel resection within visible borders of necrosis

3) overlay bypass anastomosis

4) intestine excretion

5) resection of outlet loops, title 15 - 20 cm from necrosis

13. CAUSE OF PARALYSIS INTESTINAL NEPROHO AS MAY BE

1) peritonitis

2) lead poisoning

3) acute pancreatitis

4) retroperitoneal hematoma

5) mezenterialnogo disorders of blood circulation

14. ACUTE COLONIC OBTURATIVE NEPROHODI-ING OBSERVED

1) abdominal cramps

2) bloating

3) gradual development of peritonitis

4) persistent pain in the abdomen

5) delay stool and gas

15. DEVELOPMENT OF INTESTINAL STRANGULJACIONNOJ-YOU CAN HELP

1) long narrow mesentery

2) abdominal adhesions

3) sudden increases in intra-abdominal pressure

4) overeating after prolonged fasting

5) prolonged fasting

16. TO LOW OF COLONIC OBSTRUCTION, BUT

1) a gradual build-up of symptoms

2) abdominal distention

3) the emergence of bowls Klojbera

4) delay stool

5) Quick (within 24 hours) dewatering

Situational tasks

Objective No. 1

Woman 43 years was admitted complaining of abdominal cramps, vomiting copious repeated mixed with bile. The pain gradually appeared three days ago, suffered a holecistjektomiju 5 years ago about acute cholecystitis is. The condition of the patient. The pulse is 80 beats per minute, rhythmic, satisfactory content. Language suhovat, lined with white bloom. Belly unsymmetrical, painful by palpation, of symptoms of irritation of the peritoneum not, defines "succussion".

EMERGENCY TREATMENT?

Task No. 2

Patient, 75 years old, enrolled in the later stages of the disease with acute ileus motivated sigmoid colon tumors.

THE OPERATIONAL BENEFITS?

Task No. 3

An elderly patient presented with severe pain shvatkoobraznogo character in the lower abdomen, nausea, vomiting. Sick around 3:00 ago, when after lifting the large cargo felt a sharp pain in the lower abdomen, broke out in a cold sweat, nausea, appeared twice was vomiting. From history we know that within 2 years suffers from constipation, sometimes in Calais was dark blood and mucus. Last 4 days condition deteriorated hassled delay gas and stool. Objective examination: suhovat language, skin a pale pink. Sick of low supply. Pulse-96 per minute. The abdomen is moderately swollen, timpanit, boleznenen and significantly stretched in the lower divisions, more to the left, slabopolozhitelny symptoms of irritation of the peritoneum in the lower divisions. The radiograph shows bloated loop of the small intestine with broad levels of liquids.

THE PRESUMABLE DIAGNOSIS? SURGICALAya TACTICS?

Task No. 4

A patient 44 years suddenly felt a sharp pain in the abdomen shvatkoobraznogo nature, soon joined by frequent vomiting. No Chair, no gases depart. When inspecting the condition of the patient periodically moderately loud shouts, behaving nervously, often changes position. Normal temperature, pulse 112 per minute. Tongue wet. Belly swollen more in the top half, by palpation is soft, moderately painful symptoms of irritation of the peritoneum is not. In the abdominal cavity is determined by the free liquid. Above and to the left of the navel is determined by the plotnojelasticheskoe education, Peristaltic noises heard not over him. Rectal pathology study revealed. There are multiple Klojbera Bowl radiographically, swollen small intestines.

DIAGNOSIS? TACTICS OF TREATMENT?

Task No. 5

Sick 28 years came into the clinic with complaints of colicy, severe pain in the abdomen. Sick hectic, seeks to change the position of the body, low supply. Tongue wet. Pulse-68 per minute. Swollen belly, soft. In the right half is determined by palpation mezogastrija plotnojelasticheskoe education 6 × 8 cm. Staff surgeon diagnosed the ileocecal intussusception. Sick operirovana urgently. During the operation in terminal ileum detected Division oblong formation with a diameter of 5 cm, with a bumpy surface plotnojelasticheskoj fragmented, not associated with the wall of the intestine. Propelling the Department has dramatically expanded. Colon spavshajasja.

DIAGNOSIS? TACTICS OF TREATMENT?

Task No. 6

Sick 52 years, operated 2 years ago at gap spleen, was admitted to the clinic complaining of severe pain in the abdomen, isolate the 2:00 ago, frequent urge to vomit. Pain are shvatkoobraznyj in nature. No Chair, no gases depart. Restless, loud shouts. Belly swollen more in the top half, peritoneal symptoms questionable, pronounced muscle of the anterior abdominal wall. Radiographically detected numerous levels and the Bowl Klojbera.

DIAGNOSIS? THERAPEUTIC TACTICS?

Task No. 7

Sick 56 years operated as a matter of urgency about acute intestinal obstruction. Severe concomitant pathology in the preoperative period. Before the operation was suspected acute adhesive intestinal obstruction, but during the audit of the abdominal cavity organs revealed, that the obstruction is caused by a tumor of the sigmoid colon. Tumor size 5.0 × 4.0 × 4.0 cm Circular narrows the lumen of the gut, seroznuju shell grows, unsteady, not linked to the surrounding organs. Following her gut spavshajasja. Thin and colon tumor to overcrowded and content.

DIAGNOSIS? WHAT SHOULD DRAW THE ATTENTION OF THE SURGEON WHEN CONDUCTING AN AUDIT OF THE ABDOMEN IN THIS CASE? OPERATIONAL MANUAL?

TaskNo. 8

The patient, 24 years old, was complaining of severe persistent pain in

the navel area, nausea, vomiting. The complaints appeared acutely 3 hours ago. Since the advent of the pains stopped depart Gaza.

Objectively: patient power saver, pale, restless, striving to make a difference. Language subject, moist. Pulse 100 per minute, high 36.90c. Stomach swollen, not soft. Palpable spasticheski slimmed-down loops of intestines. In the right abdomen, approximately at the level of the umbilicus, is defined by a dense oblong education. According to ultrasound, in the right iliac region is determined by the diameter of the infiltration of the 4-5 see. Above this section of the intestine for spasmodic 8-10 cm and above spazmirovannogo plot gut extended, defined by its majatnikoobraznaja motility. The duty surgeon diagnosed: "ileocekalnaja invaginacija". The introduction of funds with consequential spasmolytics sifonnymi enemas has not effect. The patient made laparotomy. In Terminal spasticheski Division reduced the ileum detected the formation with a diameter of about 5 cm. The serous shell of guts in this place there are small hemorrhages. The formation of a dense consistence with a rough surface. It gives the impression that it is in the gut lumen and is not related to her wall.

CAUSE OF INTESTINAL OBSTRUCTION IN A PATIENT? WHAT SHOULD I DO?

TaskNo. 9

52 years old patient underwent sequential surgery at acute intestinal obstruction. The condition of the patient. Before the operation was suspected, but obstruction adhesive abdominal audit showed that obstruction caused by tumor cecum. Visible metastases is not defined. Tumor size 10 x 8 cm, unsteady. Below her gut is in spavshemsja condition, and small intestine dramatically stretched full intestinal contents and gases.

WHAT IS THE OPERATIONAL ALLOWANCE SHOWN IN THIS CASE?

TaskNo. 10

Sick 64 years admitted to hospital complaining of abdominal cramps, nausea, vomiting. Never sick, concomitant diseases not found. The general condition of the patient. In connection with the failure of conservative treatment is taken for an operation, which discovered the tumor sigmoid, obturirujushhaja lumen of intestine. On

the move operation revealed that caused gut zabit kalovymi masses. There are no metastases visible. The tumor is movable, but when viewed it detected istonchennyj crumbling station where here-here should be perf.

WHAT SHOULD YOU DO IN THIS SITUATION?

TaskNo. 11

The reception Department delivered 30 years patient complaining of severe

abdominal cramps. Of history found that 3 years ago it

the operation took place about peritonitis caused by breakthrough purulent Gynecologic diseases in abdominal cavity. Operation was amputation of uterus and puncturing the abdomen. After the operation, periodically 1-2 times a year, there are bouts of acute adhesive intestinal obstruction, which stoped the conservative activities. This time the attack started more sharply, and much heavier than the previous ones. Objectively: the general condition of the patient, strong pain, heavy colicy, are located at the bottom of the abdomen. Repeated vomiting. Sick hectic, changes position. Pulse 100 beats/min. Blood pressure 90/60 mmHg. Church. The tongue dry. The abdomen is soft, painless. The General background of bloating to the left of the navel konturiruetsja neperistaltirujushhaja loop of intestine.

Why clinical picture obstruction this time differs from previous attacks? WHAT TACTICS SHOULD BE FOLLOWED?

TaskNo. 12

Patient m., 42 years old, enrolled in the Emergency Department complaining of severe abdominal cramps, frequent vomiting, neothozhdenie gases and the absence of the Chair. From anamnesis that suddenly felt a sharp pain in the abdomen shvatkoobraznogo nature about an hour ago, soon joined by frequent vomiting. Objectively: the condition of the patient periodically moderately loud shouts, behaving nervously, often changes position. Temperature

normal, pulse 112 beats per minute. Tongue wet. Belly swollen more in the top half, by palpation is soft, moderately painful symptoms of irritation of the peritoneum is not. In the abdominal cavity is determined by the free liquid. Above and to the left of the navel is defined by the oval plotnojelasticheskoe education, Peristaltic noises heard not over him. Rectal pathology study revealed. There are multiple Klojbera Bowl radiographically, swollen small intestines.

DIAGNOSIS AND TREATMENT?

TaskNo. 13

Patient r., 39 years old, delivered an hour after onset of the disease and has been hospitalized in the surgical hospital. From the history, it turned out that

at night he is awakened by a sudden violent pain in the abdomen of a permanent nature, accompanied by repeatedly recurring vomiting. Objectively: the condition of the patient. Concentrate facial features, skin cianotichny. Patient restless, all time changes the position of the body. Pulse weak filling, 112 beats/minute. Blood pressure 90/60 mmHg. Church. Normal temperature. The tongue dry, lined with white bloom. Stomach assimmetrichen, left, is determined by the elastic education.

DIAGNOSIS AND TACTICS?

TaskNo. 14

In the surgical Department is patient, 46 years of age, which made 2/3 resection of the stomach by type b-1. On the 4th day the patient have increased pain in the abdomen, bloating, appeared was a one-time vomiting, not pulling back. Temperature, the early days of former subfebrile, rose to 38.5° c. The pulse of 108 beats/minute. Language suhovat. The stomach dramatically and evenly swollen, mildly painful in all departments. Symptom Schetkina-Bljumberga questionable. Perkutorno and abdominal ULTRASOUND EXAMINATION is determined by the fluid. Liver dullness is not defined. Peristalsis is absent. WHAT HAPPENED TO THE PATIENT? TACTICS OF TREATMENT?

Task No. 15

The patient, 26 years of operirovana about acute appendicitis appendectomy, and flegmonoznogo. For 5 days after the operation she has appeared at the bottom of the abdomen, pain first arose periodically, and then accepted a permanent character. Patient appeared bloating, gas and feces elimination, while Eve after enema from her chair and went to Gaza. Appeared to vomit. The general condition of the patient deteriorated noticeably, she became lethargic, adinamichnoj, facial features worsened. Language suhovat, belly swollen more in the right half, by palpation is soft, moderately painful in the right iliac region. Symptom Schetkina-negative Bljumberga, free fluid in the peritoneal cavity is not defined. Peristaltic noises are not heard. Pulse 112 beats per minute. Normal temperature. When digital rectal pathology study. Attempts to resolve the energetic use of paresis, stimulating the intestines, to success. The condition of the patient continues to deteriorate.

WHAT IS THE COMPLICATION AROSE TO THE PATIENT? WHAT SHOULD I DO?

TaskNo. 16

Patient r., 40 years working at the battery plant, with

complaints of growing weakness, irritability, poor appetite, nausea, insomnia, dizziness, sudden abdominal pain. Abdominal pain appeared the day before, all of a sudden, sharp, shvatkoobraznogo nature. Notes

delay stool and gas. Objectively: the patient is pale, restless, screaming, alters the position of the body. The general condition is satisfactory. Pulse 68 beats/minute. Blood pressure 170/90 mmHg. Church. Tongue wet, lined with white bloom. Retracted belly, if mild, slightly painful palpation in the lower divisions.

WHAT DISEASE CAN BE SUSPECTED IN A PATIENT? A FURTHER SURVEY TO REFINE THE DIAGNOSIS? TREATMENT OF THE PATIENT?

Standards of responses to the test tasks

|  |  |
| --- | --- |
| 1 - 2 | 9 - 1, 2, 3, 5 |
| 2 - 5 | 10 - 4 |
| 3 - 2 | 11 - 3 |
| 4 - 1 | 12 - 5 |
| 5 - 4 | 13 - 1, 3, 4, 5 |
| 6 - 4 | 14 - 1, 2, 3, 5 |
| 7 - 1, 3, 4, 5 | 15 - 1, 2, 3, 4 |
| 8 - 5 | 16 - 1, 2, 3, 4 |

Standards to answer situational tasks

|  |  |
| --- | --- |
| Objective No. 1 | Must be rinsed stomach, assign intravenous infusion therapy, lead antispasmodics. |
| Task No. 2 | To Hartmann. |
| Task No. 3 | Acute ileus amid swelling.  Laparotomy, resection of the audit with the guts. |
| Task No. 4 | Acute high mechanical bowel obstruction (node, entropion, etc.). Need surgery. Surgical treatment depending on the type of obstruction (dissection of adhesions, resection of the bowel). |
| Task No. 5 | Helminth infections. Acute obturazionnaya ileus. Mechanical Division of conglomerate without opening the guts. If this is not possible — offset conglomerate distal direction, jenterotomija, foreign body removal, suturing wounds jenterotomnoj. |
| Task No. 6 | Acute tonkokishechnaja obstruction. Urgent laparotomy, removal of obstruction, the definition of viability of the gut, bowel resection with dubious viability. |
| Task No. 7 | Sigmoid colon cancer. Acute obturazionnaya colonic obstruction. It is necessary to conduct an audit of the abdominal cavity organs for the presence of metastases. Obstructive sigmoid resection. |
| TaskNo. 8 | Patient obturazionnaya bowel obstruction on the grounds of his ball clearance obturation of Ascaris. For this reason indicates the dramatic accompanying bowel spasm. In bryzhejku the small intestine need to introduce 80 -100 ml 0.25% solution novokaina, put on your colon ileum tissue moistened with warm solution papaverina intravenously enter ganglioblokirute means. If under the influence of these events, reduced bowel spasm, bearing in mind that the tangle of Ascaris is in Terminal Division of the small intestine, try gently mash the ball and put it in the large intestine. On failure, as well as in the case of a higher location coil worms, it should be removed by jenterotomii. |
| TaskNo. 9 | The patient may have to plan two options transactions. If the condition of the patient allows, it is best to hold the right gemikoljektomiju with ileotransverzoanastomozom. When a serious condition patient or severe concomitant pathology it is advisable to first conduct a minimal operation - bypass ileotransverzoanastomoz. |
| TaskNo. 10 | Since there are no metastases visible, the operation may be radical. Because there is a plot of the gut with the possibility of perforation, sigmoid resection should be by Hartmann. The operation is resection of the intestine, tissues distal colon and immersing it into the abdominal cavity and removal of the proximal area of the skin in the form of odnostvolnogo of the anus. Perhaps in the future restoration of the continuity of the bowel. |
| TaskNo. 11 | Patient adhesive flows through stranguljacionnoj type occlusion, whereas during previous bouts of it, apparently, was obturacionnogo in nature. The patient clearly shows surgical treatment, because stranguljacionnaja obstruction early causes necrosis of strangulated bowel loops. If since the time stranguljacii has gone a bit, it should be between preoperative preparation to try to eliminate occlusion using conservative events. In the absence of success in conservative therapy need to operate on a sick. |
| TaskNo. 12 | The patient had a clinical picture inversion of the small intestine. Require immediate surgery. Conservative interventions in the form of a siphon enemas at high zavorotah inefficient and under clear diagnosis should not be wasting time. |
| TaskNo. 13 | Clinically, the patient uzloobrazovanie because at the same time, there are signs of high and low ileus, the patient's condition quickly and catastrophically deteriorating. The patient must operate without wasting a single minute. Deducing from shock and thorough anaesthetist is now on a course of anesthesia and surgery. |
| TaskNo. 14 | Ill have a paralysis intestinal occlusion, evolved as a result of peritonitis on grounds of insufficiency of seams of anastomosis, or simply the postoperative bowel paresis. Firstly, paresis, evolved in the 4-th day after the operation, the While post-operative paresis typically manifests itself by the end of the first or second day. Secondly, development of paresis was preceded by increased pain in the abdomen, whereas the postoperative pareze increased pain occurs after bloating. The - third, peritonitis is characterized by fever and convulsions - signs, not typical for postoperative paresis. In doubtful cases may assist contrast ultrasound, x-rays and specialist gastroduodenofibroskopija. Tactics in postoperative peritonitis should be surgical*,* and if postoperative pareze - only conservative*.* If, despite all the research, the cause remains unknown, paresis of the sick should operate. |
| TaskNo. 15 | Disease should differentiate between peritonitis and early acute adhesive intestinal obstruction. The usual postoperative intestinal paresis in this case may be excluded: firstly, it usually appears in the 1-2 days after surgery, secondly, vigorous treatment of paresis was ineffective. Against peritonitis causes obstruction the patient here would say such signs as periodic pain at the beginning of the disease, the normal body temperature, absence of symptom Schetkina-Bljumberga, the absence of explicit Leukocytosis, negative data rectal. The patient, the clinical picture of the disease is typical for early postoperative mechanical bowel obstruction. Ill be extra to operate. If a Postoperative wound no signs of purulent inflammation, the audit can be carried out through it. Otherwise, access will be through the bottom or the middle of midline laparotomy. |
| TaskNo. 16 | Apparently, the patient has severe spastic bowel obstruction has occurred on the grounds of chronic lead poisoning. Restaging should conduct further survey: exploring the gums (whether grey fringe on their edges), determine whether the ikterichnosti palate and sclera, examine blood bilirubin. For lead poisoning is characterized by the presence of Basophilic grit erythrocytes in urine has a high content of gematoporfirina, so she painted in reddish tones. Treatment of the patient only conservative. To relieve acute bowel applied bilateral lumbar novocaine blockade, anti-spasmodic, hot bath, Diathermy and other thermal procedures on your stomach. After removal of acute phenomena make cleansing enema. In the future, the patient should be treated from chronic lead poisoning in the Department of pathology. |

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