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**Orenburg State Medical Academy of the Ministry of health of Russia»**

Faculty of surgery.

Tutorial to prepare for practical classes in the Faculty of surgery for the students of the course 4 medical, Pediatric, medical-preventive and dental faculties

ACUTE PANCREATITIS

Orenburg-201 3

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**Acute pancreatitis. Tutorial. -Orenburg, 2013. -28 s.**

Acute pancreatitis is one of the most frequent hirurgichekih diseases of the abdominal cavity organs and different gravity currents and high fatality.

Tutorial contains basic information on pathogenesis, peculiarities of clinic diagnosis and treatment of acute pancreatitis.

The manual is intended to prepare for practical classes in the Faculty of Surgery students 4 course medical, Pediatric, medical-preventive and dental faculties.

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Tutorial considered and recommended for printing FIGURE OrGMA.

**Introduction**

One of the most difficult problems in emergency surgery is the diagnosis and treatment of patients with acute pancreatitis. Technological progress in the improvement of methods of diagnosis and complex treatment of acute severe pancreatitis, achieving pharmacotherapy certainly changed the situation, but now remains the cornerstone of pancreatic necrosis "urgent Pancreatology. The so-called "early" poliorgannye violations and "late" postnekroticheskie infectious complications is one of the leading places in the overall structure and postoperative lethality.

According to the world statistics, mortality in pankreonekroze remains high, despite the improvement of different methods of conservative and surgical treatment of this debilitating disease. This is due to the following reasons us. Firstly, the development of the necrotic forms of acute pankrea of Titus, associated with the formation of a variety of purulent-septic complications, in which maximum lethality. Secondly, causing high mortality is still extended leg hospitalization of patients in the hospital, late diagnosis sticks to its varied complications. The third reason is underestimating the severity of the disease and, accordingly, neadek cotton selection medical tactics. In many respects a wide variation of lethality data explains the lack of uniform classification of acute pancreatitis. However, to date, has no objective evidence Xia facts with respect to the optimum combination of conservative activities "early" feel and the optimal method of surgical treatment in various ERS living with forms pancreatic necrosis.

Within this tutorial assumes development of students following competencies in accordance with the requirements of the GEF 3 generation: OK-1, PC-5, 17, 19, 20, 27.

**Definition:** Acute pancreatitis-nonspecific primary aseptic inflammation pancreas demarcation character based on nekrobioza pankreatocitov processes and enzyme autoagressija, proceeding with the development of the system inflammatory response and organ dysfunction.

Patients with acute pancreatitis accounted for 5-10% of the total number of surgical patients. In 15-20% of cases develop acute pancreatitis is severe destructive nature. 40-70% of patients with pankreonekrozom infection foci of necrotic destruction occurs with the development of severe abdominal sepsis. Pancreatonecrosis ranks third among the causes of deaths in surgical hospitals. Postoperative lethality when pankreonekroze is 15-18%.

**Anatomy and physiology of the pancreas.**

The pancreas is located on the border of the abdominal cavity and retroperitoneal tissue, hence the particularities of clinical picture of the disease. Inflammatory ekssoudat in case of pancreatitis is distributed as the abdominal cavity with the development peritonitis and zabrjushinnuju tissue, causing the formation of necrotic phlegmons. Most often the process of parapankreaticheskoj fiber through the left parocolon descends into the kletchatochnoe pelvic space. Iron is a capsule, anterior surface, moreover, covered with parietal peritoneum stuffing bags. The lowest severity of capsule of the gland is in the area of the tail, in the predominantly left-wing divisions suffered pancreatitis, retroperitoneal fiber.

Anterior surface of pancreas to grease bag and most patients examined, without opening the packing bags, is unavailable. Anatomically, the authority consists of three divisions: the head, body and tail. Blood supply of the gland is made of three arteries:

-                      the head of the upper krovosnabzhaetsja (branch of splanchnic trunk) and bottom (a branch of the superior mesenteric artery) pankreatoduodenalnymi arteries;

-                      the body and tail are glands receive arterial blood from the splenic artery.

Outflow of venous blood is carried out in the selezenochnuju vein.

The autonomic innervation of the iron gets from splanchnic Plexus located in the retroperitoneal tissue under the body of the gland. It is the defeat of splanchnic Plexus inflammatory exudate if pancreatitis causes the development of severe paresis of intestine as well as intensive pain syndrome Zoster nature.

The head of the pancreas is closely interlinked with the duodenum, bearing with it common sources of blood supply. In addition, the thicker the pancreas head passes intrapankreaticheskaja exeresis part that leads to the development of obstructive jaundice syndrome in acute pancreatitis.

Tail gland has a common blood supply with the spleen and reaches the gate of this body.

The most important functions of the pancreas are the implementation of external and internal secretion.

The pancreas is the only organ producing all groups of enzymes:

-proteolytic (trypsin, elastase, carboxypeptidase);

-                      amiloliticheskie (alpha-amylase, maltase, lactase);

-                      lipolytic (lipase, phospholipase)

The peculiarity of the secretion of the gland is to produce its acinusami inactive enzymes which ductal system comes in the PCT, where in the presence of bile acids activates enzymes. The exception is phospholipase, generated in the active form. The average amount of pancreatic secretion is about 2.0 l/24 h.

Ductless glands are represented by two entities: the main pankreaticheskim channel (Virsungov) and extension (Santoriniev), in 15-20% of cases.

In 80% of cases of Virsungov duct has a total ampoules with holedohom, opening at the major duodenal papilla in the descending part of the DUODENUM. Related to this is the frequent combination of holedoholitiaza and acute pancreatitis.

Endocrine function is ensured by ostrovkovym apparatus, comprising the following cells:

-                      α-cells that synthesize glucagon;

-                      β-cells that synthesize insulin;

-                      (D) cells that synthesize somatostatin, as well as several cells relating to the APUD -System.

The principal is the synthesis of gland of insulin. It is known that when the gland parenchyma destruction in the amount of 70 percent or more of patients developing hyperglycemia. Thus, Hyperglycemia when pankreonekroze is an adverse prognostic sign, demonstrating the magnitude of the destruction.

**Etiology:**

1. Pathology of biliary tract:

        Choledocholithiasis

        Papillit stenoses or OBD

        Congenital anomalies of the biliary tract

2. Toxic effects:

     Ethanol

     Organophosphorus substances

3. Trauma:

        Abdominal

        Operating (including after jendobiliarnyh interventions)

4. Diseases of the gastrointestinal tract:

        Penetrirujushhaja ulcer of DUODENUM

        Tumors of the pancreas

        Duodenal obstruction

5. Metabolic disorders:diabetes mellitus

**The main links of pathogenesis:**

1. Primary alteration (etiological factor);

2. Lipolysis under the influence of lipases and phospholipase;

3. Vnutriorgannaja activation of trypsinogen into trypsin;

4. Damage, destruction of the gland parenchyma histohematic barrier;

5. System activation cascade mechanisms of regulation of homeostasis;

6. Activation of polymorphonuclear neutrophils and macrophages, synthesis provospapitelnyh cytokines, the launch of the systemic inflammatory response syndrome;

7. System damage of vascular endothelium;

8. Organ dysfunction and failure;

9. Translocation of enteric microflora;

10. Sepsis, septic shock;

11. Infection of necrosis in the gland and surrounding tissue with the development of infectious complications.

**Classification (V. Saveliev, 2005)**

1. Otechny (intersticialny) pancreatitis.

2. Sterile pancreatic necrosis

       by the nature of the necrotic lesions (fatty, bloody, mixed).

        the scale of the defeat (focal, subtotal, total).

3. Infected pancreatic necrosis

4. Complications of acute pancreatitis.

        Parapankreaticheskij infiltration.

        Pancreatic abscess.

        Pseudo cyst:

-sterile,

-infected

        Peritonitis:

-enzymatic (abakterialnyj)

-bacterial

        Necrotic Phlegmon retroperitoneal fiber:

-parapankreaticheskoj,

-parakolicheskoj,

-pelvic

        Mechanical jaundice

        Arrozivnoe bleeding

        Internal and external digestivnye fistulas.

**The clinical picture of acute pancreatitis.**

The task phase primary Diagnostics-clinical differentiation of the oedematous pancreatitis and pankreonekros. Oedematous pancreatitis is a form of the disease, the culture does not require surgical treatment and is not fatal. In contrast, pancreatonecrosis is destructive form of pancreatitis, which are prone to the development of multiple organ failure and infectious complications requiring surgical intervention. Exactly pankreonekros causes mortality in acute pancreatitis.

The clinical picture of acute edema of pancreatitis.

(A). Abdominal Pain Syndrome.

Characterized by the constant intense pain in epigastria, irradiirujushhaja in lumbar area in the left shoulder. Usually, the pain occurs after eating, stimulating the secretion of the pancreas (fatty) or alcoholization. The pain is not docked spazmolitikami and analgetikami.

B. Dyspeptic syndrome.

For acute pancreatitis is characterized by paresis of the gastrointestinal tract irritation resulting from splanchnic plexus:

-                      repeated vomiting large amount of stagnant gastric contents, without bringing ease

-                      symmetrical bloating, stool and gas delay.

(B). Intoksicazionny syndrome:

-                      subfebrilitet

-                      dryness in the mouth

G. Hypovolemic syndrome:

-                      paleness

-                      tachycardia

-                      hypotension

When **objective examination** the condition of the patient. Usually, patients are restless. The skin with the phenomena of akrocianoza jaundice may occur.

Changes in the cardiovascular system are characterized by pronounced tachycardia, hypotension may occur.

In the study of the digestive system, pay attention to the dryness of the tongue and oral mucosa. Language, as a general rule, imposed by bloom.

Signs of acute pancreatitis, during the examination of the abdomen are its symmetrical swelling of limiting participation jepigastrija in breathing.

When surface palpation abdomen is detected the sharp pain and tension of the anterior abdominal wall in epigastria, left and right podrebernyh areas. If auscultation define languid irritative bowel. Percussion of the abdomen may identify blunting in sloping ground through clusters of effusion.

Specific **symptoms,** characteristic of acute pancreatitis:

1.                   **Symptom Kerte** -painful resistance of anterior abdominal wall in the projection of the pancreas

2.     **Symptom Of Resurrection** -abdominal aortic pulsation extinction when its palpation in the projection of the body of the pancreas.

3.      **Symptom Of Mayo-Robson** -pain by palpation in the left costal-spinal corner.

Clinic pancreatic necrosis can be conventionally divided into three periods:

1. the period of hemodynamic violations and pankreatogennogo shock (first 2-3 days);

2. the period of multiple organ failure (3-14 night);

3. Period of infectious complications (14 days)

**Clinical criteria for sterile pancreonecrosis:**

-                      medical history;

-                      triad-Mondor (characteristic pain attack, vomiting, bowel paresis);

-                      the manifestation of systemic inflammatory response syndrome;

-                      signs of organ dysfunction;

Period of hemodynamic violations and pankreatogennogo shock is characterized by the formation of foci of necrosis in parapankreaticheskoj tissue and gland development of peritonitis. Clinical manifestations, in addition to those described above are symptoms **systemic inflammatory response** and **multiple organ failure.** Characterized by intense pain around the belly. Often there is a need to conduct a differential diagnosis with its gastroduodenal ulcer. Progresses of paresis bowel Clinic: characterized by repeated vomiting stagnating gastric contents, not bringing relief, bloating, lack of flatus and defecation. Increasing manifestations of the syndrome and remain intoxic index amplified weakness, dry mouth, thirst, vomiting, hyperthermia is observed up to 380 c, gekticheskaja fever.

The expressed intoxication is accompanied by the excitement and euphoria. Often the patient is not in a position to objectively assess the gravity of his condition develops clinic intoxic index psychosis. Despite the euphoria, the patient's condition must be regarded as serious. The severity of the condition is due to a build-up of endotoxicosis, signs of organ dysfunction. Skin pale, possible jaundice. For pancreatic necrosis is characterized by disorders of microcirculation and decrease the temperature of the distal limbs as a manifestation of the defeat of the Microcirculatory bed:

**1.                   Symptom-Mondor** -cyanosis as purple spots on your face.

**2.                   Symptom Grey-Turner** -stain cyanosis on side walls of the abdomen

**3.                   Symptom Of Grunwald** cyanosis-okolopupochnoj area.

**4.                   Symptom Cullen** -painting okolopupochnoj-yellowish area.

Due to hypovolemia skin is usually dry, sharpened the facial features, feverish eyes shine appears. In the study of respiratory system detects a shortness of breath mixed nature as compensation for metabolic acidosis may develop respiratory distress syndrome adult.

Characteristic changes in the cardiovascular system-sharply (more than 110-120 strokes in 1 min) quickens the pulse, dropping its filling and tension, appears a tendency towards hypotension hypovolemic shock may develop.

In the study of the digestive system are stored dry tongue and mucous, hedged language thick white bloom. The belly is usually symmetrical and evenly swollen, practically does not participate in the Act of breathing. Data is characterized by pain, palpation of the spilled almost all of the abdominal wall, the maximum voltage is expressed in epigastria. Appear positive symptoms of irritation of the peritoneum, peritoneal symptoms covers practically the whole abdominal wall. When percussion timpanit, which detects the development of dynamic ileusa. Characterized by reduced urine output to 200-400 ml. per day.

**Clinical criteria form infected pancreatic necrosis:**

Pankreatogennaja infection develops, usually on 2-3 week of onset and have common features:

1. lack of improvement of the patient.

2. Preserving or worsening manifestations of systemic inflammatory response syndrome

3. "second wave" of organ dysfunction caused by the development of pankreatogennogo sepsis.

**Parapankreaticheskij infiltration** developing on the 3-5 day of the disease, characterized by a reduction of pain, fever 37.5-38.0° c palpiruemam in the upper divisions of the abdomen a painful infiltration. When overriding right-handed infiltration localization can be observed manifestations of KDP compression as phenomena of duodenostasis.

**Necrotic Phlegmon retroperitoneal fiber** developing in the 2-3 week of the disease and is characterized by neotgranichennym infection foci of necrosis in retroperitoneal tissue. In addition to the liquid-purulent contents has a mandatory component of tissue submitted sekvestrom. This is a complication of pancreatic necrosis is manifested expressed a systemic inflammatory reaction, the advent of peritoneal symptoms persistent bowel paresis, pankreatogennym or infectious-toxic shock and multiple organ failure.

**Pancreatic abscess** formed on 2-3 week disease. After the clinic "light pancreonecrosis period: the condition of the patient is stabilized, pain syndrome is. However, later occur manifestations of parapankreaticheskogo infiltration with the outcome in his abscedirovanie. Appears fever, shivers,

intoxic index syndrome. For an abscess is not characteristic of the development of septic shock and multiorgan failure. When abscesse its contents, usually represented by only the liquid component, which facilitates the application of puncture treatment methods.

**Additional diagnostic methods.**

**Laboratory Protocol:**

-                      complete blood count (erythrocyte, hemoglobin, hematocrit, leukocytes, leukocytic formula);

Typical gemokoncentration, manifestations of systemic inflammatory response syndrome.

-                      urinalysis;

Characterized by a high density of urine the appearance of loose, zilindruria

-                      biochemical blood analysis (amylase, bilirubin, urea, sugar, ALT, ACT, LDH);

For pancreatitis is characterized by increased serum amylase, giperglikemia. Devitalised tissue volume indirectly characterizes the level of intracellular enzyme LDH. Other biochemical markers characterize the presence and severity of organ dysfunction.

-                      electrolytes (k, Na, CA);

**Instrumental studies Protocol:**

1. **ULTRASOUND**

informativity-40-86%. Not always helps reliably verify form of acute pancreatitis, characterized the State of retroperitoneal fiber.

2. **Diagnostic laparoscopy.**

informative method of 70-90%. Traditional laparoscopy is not able to directly explore the RV, zabrjushinnuju cellulose, to assess the scope and nature of lesions of the PANCREAS and retroperitoneal space.

Indications for diagnostic laparoscopy:

1. Clinically diagnosed pankreonekros for verification of its shape and the drainage of abdominal cavity when enzymatic peritonitis.

2. differential diagnosis of various etiologies, peritonitis requiring urgent surgical intervention.

3. execution of laparoscopic holecistostomii in biliary hypertension.

Absolute signs of pancreatic necrosis in laparoscopy:

-                    Plaques, steatonekroza

-                      gemorragicheskoe impregnation apparatus stomach retroperitoneal tissue,

-                    hemorrhagic exudate with a high activity of amylase.

Indirect signs:

-                      swelling of ligament and retroperitoneal tissue,

-                      paretichnye loops of small intestine

-                      serum "impregnation" of gallbladder wall,

-                      the presence of serous fluid in the abdominal cavity.

3. **Computed tomography (CT).**

Informative 71-100 method%. Should be performed in all patients with diagnosed pankreonekrozom in time from 3 to 10 days from the onset of the disease. The results of the study should be obektivizirovany in accordance with the criteria Ranson - Balthazar (see annexes).

The goal when pankreonekroze CT:

-                      restaging if insufficient information on the clinical, laboratory and instrumental data;

-                      assessment of the scope and nature of the lesion of PANCREAS and retroperitoneal fiber;

-                      diagnosis of complications;

-                      definition of operational access and volume of surgical intervention.

**Diagnosis of infectious complications:**

1. Dynamic CT and ULTRASOUND;

2. B. puncture with fluid aspiration for bacteriological research;

3. Prokalcitoninovyj test.

4.

The severity of the patient's condition should be evaluated on the criteria Ranson indicating the points in the diagnosis (see annexes). \* based on an assessment of the patients stratificirujutsja to 2 groups:

1. < 3 points is not acute pancreatitis (oedematous pancreatitis);

2. scores > 3-severe acute pancreatitis (pancreatic necrosis);

Patients with diagnosed pankreonekrozom must be inspected reanimator.

**The diagnosis.**

The wording of the diagnosis should include the following sections:

        A form of acute pancreatitis with an indication of the magnitude Ranson.

        Complications (local and system).

**Behavior doctor on netjazhelom (otechnom) acute pancreatitis.**

1. All patients with suspected acute pancreatitis hospitalized urgently in the surgical hospital.

2. the primary Task of clinical and laboratory examination is differentiation of oedemas of pancreatitis and pancreatic necrosis. Clinical diagnosis indicating forms and possible complications must be installed in the first 2:00 stay the patient in the hospital.

3. basic principles for the treatment of acute pancreatitis:

Treatment of acute edema of pancreatitis-only drug. Otechny acute pancreatitis is not an indication for surgical interventions on the pancreas.

Components of drug therapy:

1. Hunger.

2. Nazogastralnoe drainage.

3. Local hypothermia.

4. m-holinoblokatora.

5. Antisekretornaja therapy

6. Nonnarcotic analgesics.

7. Miotropona antispasmodics.

8. infusion therapy:

-                      volume 30-40 mL/kg of body weight;

-                      composition-kristalloidy;

Performance criteria for medical treatment:

-                      regress of clinical symptoms within 48 hours;

-                      normalization of clinical and biochemical parameters.

Patients with experienced swollen pancreatitis are issued under the supervision of a therapist outpatient services. It is recommended that the diet and eating habits.

Patients with GSD should be recorded at a scheduled holecistjektomiju.

**Basic principles for the treatment of patients with severe acute pancreatitis (pankreonekrozom).**

Patients with diagnosed pankreonekrozom for intensive care are hospitalized in RAO. Severity must be assessed using the integral scales (APACHE, Ranson). Surgical the tactic is determined by the stage of the process. Pancreatic necrosis treatment components:

1. Hunger.

2. Nazogastralnoe drainage.

3. Local hypothermia.

4. m-holinoblokatora.

5. Analgesics.

Excludes the use of morphine and its analogues (papaveretum)

1. Miotropona antispasmodics.

2. infusion therapy. the volume 40-50 mL/kg body weight, the ratio of colloidal and solutions kristalloidnyh-1:4.

3. the blockade of secretion of the pancreas.

Drugs of choice are synthetic analogues of somatostatin (sandostatin, oktreotid), Proton pump blockers. Dosage-100 mcg of Octreotide x w r SC (up to 1200 mg/day), kontroloka-40 mg/day. It is possible to use citosgatikov (5-fluorouracil-10 mg/kg body weight/day) or dalargina (intravenously to 1-2 mg 6:00)

4. antibacterial therapy.

Drugs of choice:

-                      zefalosporin III (medical and cefotaxime) or IV (cefepime) generation + metronidazole;

-                      fluoroquinolones (ciprofloxacin, ofloxacin, pefloxacin) + metronidazole;

-                      carbapenem (meropenem, imipenem/cilastatin).

5. nutritional support.

Nutritional support is shown when the severity of the patient's condition pancreatitis on the scale Ranson > 2 points, on a scale APACHE (II) > 9 points to normalize the level of amylase, permissions, paresis bowel shows parenteral nutrition. Subsequently the patient to jenteralnuju nutritivnuju support through nazoejunalnyj probe installed distal to the ligament Trejca Endoscopic means.

6. Correction of organ failure.

7. Extracorporeal detoxification.

Hemo-and limfosorbcija, hemo-and plazmofiltracija, plasmapheresis, intestinal chelators.

Effect of drug therapy should be evaluated on a daily basis in accordance with the systems of the integral evaluation of the severity of the condition of the patient (Ranson, APACHE II). Surgical tactics should be determined during the 12-24 hours from receipt of the patient.

**PRINCIPLES OF SURGICAL TREATMENT OF PANCREATIC NECROSIS**

1. the operation of choice in pankreonekroze-nekrsekvestrjektomija.

1. Pancreatic Resection are not applied in the treatment of pancreatic necrosis due to their high traumatic and insufficient pathogenetic cruel (do not provide adequate sanitation of retroperitoneal fiber)

2. Priority should remain for minimally invasive surgery. Use as operational access traditional laparotomy shows only when the development of surgical complications that cannot be eliminated with endoscopic methods (destructive cholecystitis, jeludern-kisherne bleeding, acute ileus, etc.). In this case, the tactics determined diagnosed complication.

3. Execution of nekrsekvestrjektomii is only possible on the 14-21 day of the disease. patients included in the early stages, need programmable bailouts stuffing bags.

4. Performing one-time nekrsekvestrjektomii impossible. In this regard, should apply programmable intervention.

**Indications for operative treatment:**

Enzymatic peritonitis.

1. Select Operation-laparoscopic suction and drainage of the abdominal cavity.

2. Biliary pancreatitis with obstructive jaundice and/or holangitom, confirmed by ULTRASOUND data (holedohojektazija).

Shows drainage of the extrahepatic bile ducts. The method of choice is endoscopic retrograde papillotomija without contrast. If you cannot perform JeRPT shows holecistostomija (laparoscopic or mini access), in the absence of gallbladder-exterior drainage choledochitis of mini access or the General Chapter.

3.          Persistent or progressive multiple organ failure, despite a comprehensive intensive conservative therapy for **12-24 h.**

The amount of the operation, laparoscopic suction and drainage of the abdominal cavity, according to-holecistostomija (laparoscopic or from access) or external drainage exeresis of mini access, abdominizacija of the pancreas formation bursoomentostomy of mini access. With the defeat of the pancreas head shows the mobilization of KDP and the head of the gland by Koheru.

To assess the State of the pancreas can be performed laparoscopic bursoomentoskopija or bursoomentoskopija of mini access. As you use transrectal laparotomy in the upper quadrant of the left rectus length of 4 cm. Through the hole in the stomach and colon, bundle opened gland bag. With the help of special tools is carried out audit of stuffing bags with assessment of pancreatic and parapankreaticheskoj fiber. In case of retroperitoneal fiber shows **abdominizacija** the pancreas. It is in the parietal Peritoneum is cut along the bottom and top of the pancreas with the body from retroperitoneal fiber blunt way. The meaning of abdominizacii is parapankreaticheskoj, fibre breeding seal gland of the retroperitoneal space in the abdominal cavity and prevent income toxic exudate from the back surface of the gland in zabrjushinnuju fiber.

Formation of bursoomentostomy intervention ends by filing edges gastro-colon, ligaments to the parietal peritoneum of the anterior abdominal wall. Thus formed the course for the future of the planned renovation of stuffing bags and timely evacuation of the highly toxic pankreatogennogo effusion.

**Infectious complications of pancreatic necrosis.**

Volume interference-opening and draining of abscesses, nekrsekvestrjektomija.

When you have formed an abscess with liquid content selection operation is transkutannaja puncture and drainage under ultrasound control or KT.

If the abscess cavity sequesters (large arrays of non-viable tissues) shows nekrsekvestrjektomija. Nekrsekvestrjektomija can be both one-time and step-up, and both traditional and miniinvasive. Formation of free laying sequesters occurs in the third week of the disease. In this connection, the fulfilment of nekrsekvestrjektomii when bursoomentostome was stated earlier, perhaps at the same time.

Operating access applied for nekrsekvestrjektomii are defined by the localization of seizures.

For nekrsekvestrjektomii of stuffing bags and parapankreaticheskoj fiber shows a transrectal mini laparotomy in the left hypochondrium with formation of bursoomentostomy.

The impact of parakolicheskogo kletchatochnogo space ljumbotomija is running to the right or left.

Development of pelvic Phlegmon requires vnebrjushinnogo retroperitonealnogo kletchatochnogo space intrusion of inguinal access.

**The postoperative period.**

Patients included are subject to surgical treatment in programmable mode bailouts through the generated primary intervention bursoomentostomu. The first planned audit is performed on the 4-6 day after primary surgery, urgent development of complications-in on-demand mode.

In a subsequent run threshold programmable readjustment to full cupping inflammatory changes. The purpose of programmed interventions is to run nekrsekvestrjektomii. In the postoperative period a comprehensive continuing medical therapy

1. Enteral nutritional support.

2. antibiotic therapy.

After the inflammatory process edema patients are discharged from the hospital under the supervision of a surgeon. It is recommended that the diet and diet replacement enzyme therapy. Through 6 months. After discharge, the patient should be examined (ultrasound, CT) and examined by a surgeon to exclude manifestations of chronic pancreatitis that require operational correction.

**Application 1.**

Assessment of severity in acute pancreatitis on the scale RANSON

|  |  |
| --- | --- |
| **When you receive a** | **Through 48 hours of hospitalization** |
| Age > 55 years | Decrease in hematocrit by more than 10% |
| G blood ljukoza > 11 mmol/l | Calcium plasma < 2 mmol/l |
| Leukocytosis > 16000 MMZ | Deficit reasons > 5 mEq/L |
| LDH > 400 IU /l | Urea > on 1.8 mmol/l |
| ACT > 250 IU /l | RA 02 < 60 mm Hg. Church. » |
|  | BE > 4 mmol/l |
| Liquid deficit > 6 l |

**Annex 2.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Prognostic value of scale RANSON   |  |  | | --- | --- | | **The number of points** | **The projected fatality rate,%** | | 0-2 | < 1 | | 3-4 | 15 | | 5-6 | 40 | | > 6 | 100 | |

**Annex 3.**

Assessment of the severity of acute pancreatitis **on Ranson-Balthazar.**

Degree and is the normal appearance of the pancreas in — an increase in the size of the pancreas — degree signs, without infiltration parapankreaticheskogo focal accumulations of liquid propellant

The degree of (D) -increasing the size of the pancreas and the presence of vneorgannogo a single fluid accumulation

A degree of (e)-two or more liquid extraorgan clusters

The degree of a, b and c match the easy flow of acute pancreatitis with low fatality. When the degree of **(D)** and (e) for pancreatitis accompanied by a significantly higher mortality rate (total up to 15%). 30-50% of these patients developed purulent complications.

**TEST QUESTIONS ON THIS TOPIC:**

1. Classification of acute pancreatitis.

2. Etiopathogenesis of acute pancreatitis.

3. The clinical picture of acute edema of pancreatitis, sterile and infected pancreatic necrosis.

4. Diagnostic algorithm for examining the patients with acute pancreatitis.

5. Principles of conservative treatment of patients with swollen pancreatitis and pankreonekrozom.

6. Indications for surgical treatment of patients with pankreonekrozom.

7. Basic surgical technologies used for the treatment of patients with pankreonekrozom.

8. Conducting the postoperative period in patients with pankreonekrozom.

**TASKS AND GUIDELINES FOR THEIR IMPLEMENTATION:**

       Be able to clinically diagnose various forms of acute pancreatitis.

       Generate diagnostic plan activities in a patient with acute pancreatitis.

       Reproduce the specific symptoms of acute pancreatitis.

       Rate indications for surgical treatment of pancreatic necrosis.

       Place your sheet of appointments the patient was hospitalized for acute edema of pancreatitis, sterile and infected pancreatic necrosis.

**QUESTIONS TO FINAL CONTROLS ON THIS TOPIC.**

**Questions to watershed controls:**

1. The patient with pancreatitis in first day appoint:

-                      table 15

-                      Table 5A

-                      table 9

-                      Table 10

-                      + famine

2. Pancreatic toxaemia is due to:

-                      trypsin

-                      gistaminom

-                      bradikininom-kallikreinom

+ all the listed

3. Distinctive complication for acute pancreatitis is:

-                      adenoma cells

-                      pancreatic stones

+ pancreatic pseudocyst

-                      sclerosis of the pancreas

-                      pancreatic calcification

4. In the development of acute pancreatitis primacy belongs to:-microbial aggression

-infiltration of local immune response

-mikrocirkuljatornym violations

+ autofermentnoj aggression

-venous stazu

5. Pain by palpation in the left-corner of the spinal rjoberno characteristic symptoms:

-Resurrection

+ Mayo-Robson

-Grunwald

--Mondor

-Grey-Turner

6. Stain cyanosis on side walls of the abdomen are characteristic symptoms:

-Grunwald

--Mondor

+ Grey-Turner

-Kera

-Resurrection

7. identification with serous exudates and laparoscopy plaques steatonekroza is equal to:

otjochnomu-pancreatitis

+ fat pankreonekrozu

-gemorragicheskomu pankreonekrozu

-purulent pancreatitis

such changes are not typical for acute pancreatitis

8. acute pancreatitis include all forms except:

-dropsy

+ psevdotumoroznogo

-fatty pancreatic necrosis

-hemorrhagic pancreatic necrosis

-all named correctly

9. Major in patogeneticheskom treatment acute pancreatitis is:

+ suppress the secretion of pancreatic function gland

-Elimination of hypovolemia

-inactivation of pancreatic enzymes

-GASTROINTESTINAL decompression nazogastralnaja

-administering cytostatics

10. treatment of acute pancreatitis does not apply

 -analgesics

-infusion therapy

-cytostatics

-antispasmodics

+ morphine

**Questions in the course of examination tickets surgical diseases on 5 course:**

1. Acute pancreatitis: definition of the concept, etiology, pathogenesis, classification, pathological anatomy clinic Diagnostics, conservative treatment.

2. Pancreatonecrosis: periods of currents, clinic, diagnosis, surgical treatment.

3. Suppurative complications of pancreatic necrosis, their diagnosis and treatment. Features of the postoperative period.

**Situational tasks.**

**A typical task.**

Patient p., 29 years old, unemployed, entered the reception area of the surgery as a matter of urgency. Complaints about constant, increasing during movement, severe pain in all abdominal dedication in waist, constant nausea, repeated vomiting, severe weakness, bloating. Sick 3 days, when there was a slight nagging pain in epigastria, which gradually increased and its irradiation illusion in the back. Joined by nausea, then vomiting and flatulence. As it turned out, the patient during the week he took alcohol in large doses.

Objectively: serious condition. Growth of 170 cm, weight 65 kg Braked, apathetic, adinamichen, hardly comes into contact. the situation of forced lying on his back. Skin pale, with cianotichnymi spots in lateral abdominal, petehialnymi rashes around navel, pronounced Acrocyanosis. t -38.2° c. Breathing shallow, no wheezing, CD 34 in 1 min. heart flush, rhythmic VARIATION-132 in 1 min AD 80 and 40 mm Hg Language dry, densely lined with Brown Belly swollen dramatically., does not participate in the Act of breathing; moderately painful in all departments; symptoms of irritation of the peritoneum are doubtful. Pulsation of the abdominal aorta is not defined. Palpation of the left costal-spinal corner sharply painful. Liver and gall bladder are not palpable. Percussion: liver dullness saved in the abdominal cavity is determined by the presence of free liquid. If auscultation intestinal noise dramatically weakened.

The results of the survey: hospital

KLA: Erythrocytes 3.0 x 1012/l.; 98 g/l hemoglobin; Color index

-                      8. Leukocytes 24.6 Giga/l.; Basophils-Eosinophils 0%-2%, neutrophils: Banded — 4%, Segmented-70%-20%, lymphocytes, monocytes-4%, ESR 38 mm/hour.

PRESCRIBED: straw yellow color; Specific density-1010; Reaction-sour; Protein-0.33%; Sugar-negative; Leukocytes-3-5; blood 1-2 in sight, cylinders hyaline 0-1 in sight, flat Epithelium-2-3 in sight.

Biochemical blood analysis: protein fraction: Total protein: 56 Gr./l; Albumins-48.6%; Globulin and 1-2, 7%; A2 globulin-9.5%; Globulins | 3-19.1%; Globulins *u* -22.7%; Albuminovo-globulinovyj index-0.9; Transaminases: ALT-2.72 mmol/l h; ACT -2.41 mmol/l h; Electrolytes; potassium-2.9 mmol/l sodium-100 mmol/l, Chlorine-92 mmol/l; Cholesterol-5.2 mmol/l; total bilirubin-58.0 μmol/l Bilirubin direct-28.0 µmol/l; serum Amylase-140 g/blank

Clotting time-8 minutes, bleeding time-5 minutes, Petit-78%. Sinus Rhythm ECG: 132 frequency per minute. Signs of hypoxia myocardium.

Panoramic x-ray of abdomen-standing domes diaphragm high, free gas, many in the small intestine fluid levels.

Ultrasonic examination of abdominal viscera-pancreas increased in sizes, with patches of reduced echogenicity, outlines its fuzzy and there is a effusion in stuffing the bag.

1. Specify the primary diagnosis and concomitant diseases, based on available in the task information.

2.                What laboratory and/or instrumental examinations It is necessary to undertake to verify diagnosis and conduct differential diagnosis? Give a convincing argument of necessity each additional research.

3. What urgent measures should be taken, based on the terms of the task and the diagnosis?

4. Do you need additional advice related professionals?

5. What are tactical activities involve conditions?

6. Would appreciate any errors dogospitalnogo phase.

LITERATURE FOR TRAINING TOPICS

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