Chronic pancreatitis: differential diagnosis of pain with a syndrome approach treatment

T. N. Hristich, D. O. Hontsariuk
Bukovina State Medical University, Chernivtsi, Ukraine

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For the clinical picture of chronic pancreatitis (CP), the following main syndromes are characteristic: pain, dyspeptic, syndrome of external and intracerebral insufficiency. In addition to the above-mentioned manifestations, the course of chronic respiratory syndrome is characterized by an allergic syndrome, an enzyme intoxication syndrome, adrenal compression syndrome, hepatorenal, DVS syndrome, encephalopathy, intestinal paresis, etc.

Pain syndrome — is one of the most significant manifestations of CP. It is the pain that usually debute the CP, which is the cause of the loss of working capacity of patients suffering from this disease, determining the need for outpatient, and often also inpatient treatment.

Abdominal pain is subdivided into acute, which develops, as a rule, rapidly or gradually (which is less common) and have a short duration (minutes, rarely several hours), as well as chronic, which is characterized by gradual increase.

According to the mechanism of occurrence of pain are considered as visceral, parietal (somatic) (Table 1), reflected (irradiating) and psychogenic.

Table 1
Characteristic visceral and somatic pain

Symptoms	**Type of pain**	
	Visceral	**Somatic**
The mechanism of occurrence	The presence of pathological stimuli in the internal organs is carried out by sympathetic fibers. The main impulses for the emergence: a sudden increase in pressure in the hollow organ and stretching of its walls, stretching of the capsule of the parenchymal organs, tension of the mesentery, vascular disorders.	The presence of pathological processes in the parietal peritoneum and tissues that have endings of sensitive spinal nerves. The main impulses for the occurrence: damage to the abdominal wall and peritoneum.
Character	Pressing, spastic, dull	Acute Intensive
Localization	Spilled, indefinite, on the median line	Spot in the place of irritation
Duration	From one minute to one month	Constant
Rhythmicity (connection with food intake, time of day, act of defecation, etc.)	Characteristic (the rhythm can be right and wrong)	Absent
Irradiation	Occurs when the character is intense and corresponds to the affected organ	Present in most of the cases
Painful on palpation	In the place of pain localization	In the place of localization of the diseased organ
Drug therapy	Effective drugs normalizing the motor function of the affected organ	Ineffective and contraindicated
Clinical examples	Uncomplicated peptic ulcer, biliary colic, Oddi sphincter dysfunction, pancreatitis	Perforating and penetrating ulcers of the stomach or intestines, spastic dyskinesia of the colon, peritonitis, tumors with irritation of the parietal peritoneum

Irradiation pain is localized in various areas remote from the pathological focal point. Occurs in those cases where the visceral pain pulse is excessively intense (for example, the passage of the stone) or in the anatomical damage of the organ (for example, stomach upset). Transferred to areas of the body surface, which have a common root infarction with the affected organ of the abdominal region.

Psychogenic pain occurs in the absence of peripheral effects, or when the latter plays a role of a trigger or a predisposing factor. A special role in its occurrence belongs to depression. The close connection between depression and chronic abdominal pain is due to general biochemical processes and, first of all, to the lack of monoaminergic (serotoninergic) mechanisms. This is confirmed by the high effectiveness of antidepressants in the treatment of pain syndrome, especially serotonin reuptake inhibitors. The nature of psychogenic pain is determined by the peculiarities of the personality, the influence of emotional, cognitive, social factors, psychological stability of the patient and his past "painful experience". Often, psychogenic pain can be combined with other types of pains mentioned above and remain after a dying, substantially transforming their character, which should be taken into account during therapy.

The cause of abdominal pain is one of three vast nosological groups:

- diseases of the abdominal cavity (including acute, requiring urgent surgical intervention);
- irradiating pains in diseases that are located outside the abdominal cavity (this is the so-called pseudoabdominal syndrome (PAS) — a symptom complex that includes manifestations resembling the clinical picture of "acute abdomen", but is formed by the pathology of other organs — the heart, lungs, pleura, endocrine organs, intoxication, some forms of poisoning, etc.);
- systemic diseases.

From the first group of diseases, the diseases most interesting to us are those that begin with pains and are accompanied by the development of jaundice:

a) acute and chronic calculous cholecystitis;

b) choledocholithiasis;

c) acute or exacerbation of CP;

d) progressive stenosis of the terminal department of the common bile duct;

e) gall bladder cancer, common bile duct and pancreas;

f) liver disease: acute and exacerbation of chronic hepatitis, cirrhosis of the liver, primary sclerosing cholangitis, metastatic liver.

The main symptom to be analyzed is jaundice. Of the laboratory tests, the determination of alkaline phosphatase is of greatest importance for suspecting its mechanical nature. A further study program, clarifying the nature and pathogenesis of jaundice, should be constructed as follows:

Ultrasound examination (detecting biliary hypertension — duct and intrahepatic, often at the same time determining the level of obstruction).

Endoscopy of the upper gastrointestinal tract (gastrointestinal tract) (relative signs of lung damage can be obtained, nipple fateris lesions, tumors of the stomach and duodenum, paraphtherial diverticulum with diverticulitis).

Retrograde pancreatic cholangiography (lesions of pancreatic, common bile and hepatic ducts, stones in them, swelling pathology).

Laparoscopy (with the ineffectiveness of previous methods, and the rise of clinical symptoms).

With chronic pancreatitis you can conditionally distinguish between several variants of abdominal pain syndrome:

- ulcer-like (hunger or early pain, night pain);
- in the type of left-sided renal colic;
- right hypochondrium syndrome (in 30-40% of cases of jaundice);
- dysmotoric (in combination with a sense of gravity after eating and vomiting);
- common (without precise localization).

In patients with CP, the following pathogenesis variants of pancreatic pain:

I. "Disease of small ducts" — while imaging methods (ERCPG, ultrasound, CT, etc.) do not reveal the expansion of at least one or more pancreatic ducts. Pathophysiological common

mechanisms are considered:

- ✓ inflammatory-destructive changes in the parenchyma, interstitium, pancreatic capsules
- ✓ increased pressure in the pancreas tissue (dilatation of the capsule)
- ✓ pancreatic ischemia (as a component of CP or as a consequence of general abdominal ischemia)
- ✓ pseudocysts and cysts of the pancreas, exocrine pancreatic insufficiency

II. "Disease of large ducts" — when visualization methods reveal the expansion of at least one pancreatic duct (main or lateral). The pathogenesis of this phenomenon is due to:

- ✓ intraductal hypertension
- ✓ destruction of ductal epithelium

III. Parapancreatic pain occurs upon:

- ✓ parapancreatitis;
- ✓ para- and peripancreatic fibrosis involving nerve trunks, the development of choledocho- and/or duodenostenosis, cysts of the omentum bag

IV. Pain associated with complications of CP from other organs due to:

- ✓ pancreatogenic gastroduodenal ulcers
- ✓ thrombosis of the spleen, portal veins
- ✓ abdominal ischemic syndrome (ischemia of other abdominal organs as a consequence of CP)
- ✓ irritation (inflammation) of the peritoneum; pleurisy
- ✓ compression and/or displacement of the stomach, duodenum (duodenum), portal vein
- ✓ solarium

V. Pseudopancreatic pain

The presence of pain abdominal syndrome requires in-depth examination of the patient to clarify the mechanisms of its development and the choice of treatment tactics.

- ✓ ***Differential diagnosis of abdominal pain syndrome.***

- ✓ ***Anamnesis.*** The questioning begins with the clarification of the circumstances of the onset of pain. Anamnesis should provide answers to the following questions:
- ✓ ***Pain localization*** (Table 2)**.** Diseases of some internal organs are accompanied by pain of a well-defined localization. The appearance of pain in the projection of the affected organ is due to irritation of the parietal peritoneum. Therefore, in the first place, one should assume the disease of those organs that are located in the immediate vicinity of the focus of pain. Diseases of the organs of the retroperitoneal space (kidneys, pancreas) are usually accompanied by pain in the back or in the side, but often cause and acute pain in the abdomen. Diseases of organs that do not contact the parietal peritoneum, as well as non-inflammatory diseases of the abdominal cavity are accompanied by diffuse pain without clear localization. Diseases of organs located in close proximity to each other often give such a similar clinical picture that the differential diagnosis is difficult for an experienced doctor.

Table 2

Differential diagnosis based on the localization of pain (characteristic of pancreatic diseases)

Localization	Right hypochondrium	Epigastric area	Left hypochondrium	Umbilical area
Lung and thoracic cell	right-sided lower-share pneumonia, fractures right-wing lower ribs, embolism pulmonary artery and pulmonary infarction		left-sided lower-share pneumonia, fractures left lower ribs	
Heart	with angina and infarction myocardium, pericarditis	angina and heart attack myocardium, pericarditis	angina and heart attack myocardium	
Esophagus		GERD, hernia esophageal hole line diaphragm and its complicated neniya, perforation esophagus, achalasia cardia, varicose veins esophagus expansion		
Stomach	exacerbation ulcerative disease stomach, gastritis, acute expansion stomach, perforated stomach ulcer	gastritis, peptic ulcer and duodenal ulcer, gastric cancer	tumors stomach, gastritis, ulcerative disease stomach and its complications	
Intestines	duodenal ulcerative disease and its complications, appendicitis	duodenal ulcerative disease, Crohn's disease, diverticulitis, umbilical or stuffing box hernia.	colon tumors in the region of left flexure	mechanical obstruction of the intestine, appendicitis, thrombosis and embolism of the mesenteric vessels, intestinal infarction, infringement of the inguinal hernia, umbilical hernia, exfoliating aneurysm of the abdominal aorta, aneurysm rupture, diverticulitis, enteritis, greater omentum volvulus
Liver	hepatitis, hepatomegaly, sequestration crisis with the deposition of blood in the liver (sickle view but-cell anemia), tumors liver, abscess liver, liver injury	tumors liver (benign and malignant veins), an abscess liver		
Biliary tract	acute cholecystitis and bilious colic, chronic cholecystitis, dyskinesia biliary tract, calculous pancreatitis			

Pancreas	pancreatitis, cancer of the head of the pancreas	pancreatitis, pancreatic tumors	pancreatitis, cancer of the tail of the pancreas, cyst and false cyst Pancreas	pancreatitis, tumors of the pancreas
Kidneys	pyelonephritis (sensitivity in the costal vertebral corner), renal colic		pyelonephritis, renal colic	
Spleen			splenomegaly, trauma to the village zen ki, abscess spleen, ane vriz ma splenic arteries	
Other reasons	shingles, subdiaphragmatic abscess	fracture of the sternum, Tietze syndrome, exfoliation vayuschaya aneurysm bryush Noah aorta, retroperitoneal sarcoma		uremia and others violations metabolism, leukemia, aneurysm of the abdominal aorta

Irradiation of pain is an important diagnostic sign that complements the clinical picture. When the organs of the sub-diaphragmatic space are damaged (rupture of the spleen, hemoperitoneum, abscess), the pain irradiates in the foreleg and the side of the neck on the side of the lesion, since the diaphragm is innervated by the IV cervical spinal nerve. In biliary colic, pain, as a rule, covers the right hypochondrium and radiates to the right shoulder and under the right scapula. Pain in pancreatitis usually radiates into the back, it is often called a shroud. Pain in renal colic usually begins in the side, irradiates in the groin along the ureter and is accompanied by frequent and painful urination.

The nature of pain. Pain in the abdomen can be permanent or cramping (colic). Constant pain can intensify and weaken, but does not go away completely and does not occur as seizures. It is characteristic for inflammatory and neoplastic diseases of internal organs. Cramping pain usually occurs when the hollow organ is obstructed or when the pressure in the organ lumen increases due to other causes.

Duration of pain. Episodic short-term pains, not accompanied by other clinical symptoms and changes in laboratory parameters, are rarely a consequence of a serious illness. Prolonged permanent or paroxysmal pain almost always indicates a pathological process. Intensity of pain. As a rule, the heavier the disease, the greater the pain it accompanies. Almost all patients intuitively correctly assess their own condition and intensity of pain. Therefore, one should not ignore complaints about newly appeared painful sensations in the abdomen, even with an apparently healthy person.

The onset of pain. With some surgical diseases (hollow organ perforation, arterial thromboembolism, torsion of a well-blood-tight organ), acute pain in the abdomen appears suddenly, often against the background of good health. The state is deteriorating rapidly. The patient willingly and in detail describes the circumstances of the onset of pain. With other diseases — appendicitis, diverticulitis, mechanical intestinal obstruction — the pain develops not so quickly, but after a few hours the pain can become very strong.

Vomiting. Some diseases are always accompanied by persistent vomiting, while others are rare or absent. Frequent vomiting is characteristic of the initial stage of acute (or exacerbation of chronic) pancreatitis and acute cholecystitis. With mechanical intestinal obstruction, the frequency and intensity of emesis depends on the location of the obstruction: the higher it is, the more often it is vomiting. The absence of bile in the emetic masses means GI tract obstruction proximal to the Fater's nipple.

Other data

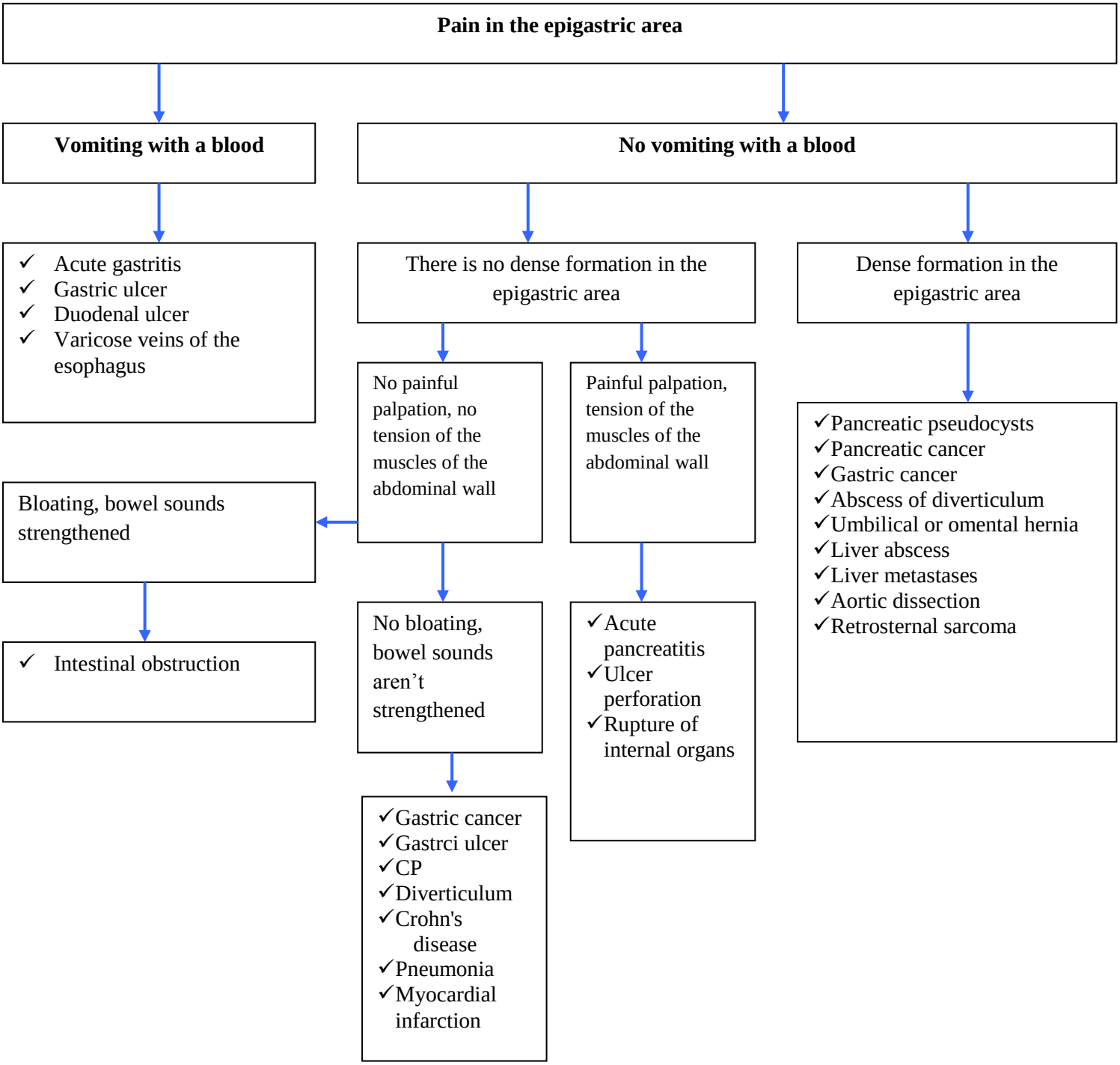
Age and gender of the patient are essential for the diagnosis, as some diseases occur at a certain age. For example, intussusception of the intestine usually occurs in children under 2 years of age; appendicitis — in patients not older than 50 years. Cholecystitis is more common in young women. At the same time, one should not forget about the possible exceptions to these rules.

Medical history

- Some medicinal and narcotic drugs can provoke an aggravation of surgical diseases of the abdominal organs. Alcohol, thiazide diuretics, pentamidine and azathioprine sometimes contribute to the development of pancreatitis.
- Medicines that relieve pain. With peptic ulcer, GERD, pancreatitis, the use of antisecretory drugs can reduce the intensity of the pain syndrome. With peritonitis, it is almost impossible to reduce the pain with drugs from the "home medicine cabinet".

Table 3

Differential diagnosis of pain in the epigastrium



- ***Past diseases***. For a differential diagnosis, it is important to find out whether this painful attack is repeated or has occurred for the first time. For example, for cholelithiasis and chronic pancreatitis recurrent pain attacks are characteristic. The most frequent occurrence of pain in CP is preceded by alcohol intake, overeating (fatty, fried, meat food), especially in the evening and night. Injury to the pancreas, hyperparathyroid crisis, an attack of biliary colic can also be the cause of pain in CP. Be sure to find out what operations the patient has suffered. With frequent hospitalizations for the same type of pain for no apparent reason, one should suspect a simulation.

- ***Physical examination***

General condition and basic physiological parameters

Appearance of the patient. The posture that the patient takes to relieve the painful sensations is

important in the diagnostic process. With pancreatitis, the patient tends to adopt the "embryo posture" — the back is bent, knees and hips are brought to the stomach. In this position, the pain is weakened, as the lumbar muscles, affected by the inflammatory process, relax.

With retro-calcal appendicitis, patients sometimes flex their right leg in the hip and knee joints: this reduces the pressure of the inflamed appendix on the right lumbar muscle. With a diffuse peritonitis of any etiology, patients lie still, because the slightest movement increases pain.

Tachycardia with acute pain in the abdomen is due to fever and dehydration. In elderly people suffering from cardiovascular diseases and taking beta-blockers, there can be no tachycardia. Its absence does not exclude a serious disease of the abdominal cavity.

The reason for tachypnea with abdominal pain is a decrease in the respiratory volume. Superficial rapid breathing allows you to maintain at a proper level the minute volume of breathing.

Fever is characteristic of many inflammatory processes in the abdominal cavity. The combination of high fever (39.5-40.5 ° C) with abdominal pain occurs only with bacterial peritonitis and abscesses of the abdominal cavity. Chills in combination with a high fever are characteristic for bacteremia. In dehydrated and elderly patients, a temperature reaction to inflammation may also be absent.

Stomach examination.

Begin with an examination. Assess the general condition and posture of the patient. When examining the abdomen pay attention to the following signs:

- Scars and their localization. By the arrangement of the scar, one can draw a conclusion about the nature of the transferred operation and thereby accelerate the differential diagnosis, confirm or disprove the adhesive intestinal obstruction.
- Bloating. Local protrusion of the abdomen is often due to volume formation. It is necessary to find out what causes swelling of the abdomen — the accumulation of fluid (ascites) or gas. Assess the degree of bloating: as a rule, the distal the bowel obstruction, the more belly the stomach.

Auscultation.

- Attenuated intestinal noises or their absence for a few minutes indicate peritonitis or paralytic intestinal obstruction. With local peritonitis, intestinal noises are normal.
- Reinforced, sonorous noises against the background of cramping pain in the abdomen are typical for mechanical intestinal obstruction.
- Vascular noise caused by turbulence of the blood flow, occur with an aneurysm of the abdominal aorta, stenosis of the renal and mesenteric arteries.

Percussion. There are following percussion sounds:

- Blunt sound — volumetric formations, loose fluid in the abdominal cavity, fluid filled intestinal loops.
- Tympanic sound — the presence of free gas in the abdominal cavity, the accumulation of gases in the intestine.
- The displacement of blunt sound when the position of the body changes is characteristic of ascites.
- Disappearance of hepatic dullness is observed when a free gas is accumulated between the abdominal wall and the liver, which indicates the perforation of the hollow organ.

Using percussion, peritonitis can be diagnosed without resorting to deep palpation. If percussion of the abdomen causes pain, peritonitis is very likely. Patients with peritonitis are very sensitive to the slightest concussions. If you insensibly or "accidentally" push the bed, the patient immediately complains of pain.

Palpation.

First, a surface orientation palpation is performed. Determine the areas of greatest soreness. The study of the abdomen is completed by deep palpation. With the help of deep palpation, all the organs of the abdominal cavity are methodically examined; assess the soreness, the tension of the muscles of the anterior abdominal wall, reveal volumetric formations and determine the size of the organs.

With the prevalence of inflammatory-destructive processes in the area of the head of the pancreas, palpable tenderness is noted in the choledochoconstrictive zone of Schofar and the point of

Desjardins. When the body and tail of the pancreas are involved in the process, the pain is localized in the Gubergritsa-Skulsky zone, the Gubergritsa point and the Mayo-Robson zone (the left costal-vertebral angle). Despite the fact that the indicated places of palpation are painful, the abdominal wall itself is soft and the protective reaction of its muscles to palpation is often absent. Zacharyin-Ged hyperalgesia zones can appear on the skin (VIII-X thoracic segments).

Examination of the perineum, examination of the genital organs and rectum with abdominal pain must necessarily be carried out both for men and women.

Laboratory research. As mentioned earlier, despite the association of pain with the processes occurring in the pancreas, it is only to a certain extent correlated with laboratory and biochemical markers characterizing CP as a whole.

General urine test is an available method for detecting kidney and urinary tract diseases. Hematuria confirms the diagnosis of urolithiasis. Leukocyturia and bacteriuria indicate a urinary tract infection. Proteinuria is a nonspecific sign. The specific gravity of urine makes it possible to estimate the water balance.

General blood analysis. For inflammation is characterized by leukocytosis, a shift of the leukocyte formula to the left (an increase in the relative amount of immature granulocytes), although there are many exceptions. With the activation of inflammation in the pancreas in the peripheral blood, a moderate (usually not exceeding 12-13 x 109/L) leukocytosis with a shift of the formula to the left can be observed. The combination of more pronounced leukocytosis and inflammation-specific changes in the leukocyte formula with an intense pain syndrome requires active diagnostic and therapeutic measures, since the development (progression) of pancreatic necrosis is possible and the risk of life-threatening complications is high. The presence and type of anemia is determined by the reduction of the absolute level of hemoglobin and hematocrit, by the change in the morphology of erythrocytes.

Determination of serum electrolytes, blood sugar, biochemical indicators of liver, kidney, pancreas, coagulogram is important not only for differential diagnosis, but also for determining the severity of the course and the prognosis of the disease..

The activity of amylase and serum lipase. The diagnosis of acute (or exacerbation of chronic) pancreatitis is always clinical. The increase in the activity of amylase and lipase confirms the diagnosis. It should be remembered that increasing the activity of amylase is a nonspecific symptom that is observed in many other diseases (mechanical intestinal obstruction, intestinal infarction, perforated ulcer, ectopic pregnancy). Since amylase is excreted by the kidneys, in the kidney failure its activity in the serum also increases. In acute pancreatitis, the activity of amylase usually reaches a maximum in 24 hours and is normalized by the end of 2-3 days. Therefore, to confirm the diagnosis, it is expedient to determine also the activity of lipase. Note that the increase in activity of both enzymes does not correlate with the severity of pancreatitis. Moreover, with CP, accompanied by necrosis of the pancreas, the activity of amylase and lipase may not change. This, as a rule, occurs with fibrosis of the pancreas. If the activity of blood amylase exceeds 2000 units/l, calculous pancreatitis should be suspected.

Instrumental research

X-ray studies

Survey radiography. With some diseases, the informative value of the survey radiography is so small that it is not justified. In particular, only 10% of gallstones can be detected on the roentgenogram. If survey radiography is necessary, four shots are taken:

- Chest X-ray in the posterior direct projection in the standing position is best suited for detecting free gas in the sub-diaphragmatic space. It can detect lung diseases, assess the size of the heart, detect a free gas in the chest cavity (rupture of the diaphragm) or hollow organs (hernia of the esophagus of the diaphragm), reveal a medial displacement of the gastric gas bubble and a high standing of the left dome of the diaphragm (if the spleen is injured) as well as other pathologies.
- X-ray abdominal cavity in the supine position allows to see the distribution of gas in the intestine, to establish the cause of bloating (accumulation of gas or liquid), to find fluid filled intestinal loops, soft tissue consolidation and concrements. 90% of urinary stones are visible on X-

rays (since they contain enough calcium) and only 10% of gallstones. You can see the calcification of the pancreas — a sign of CP. The center of calcification in the right iliac region together with the corresponding complaints and the data of physical examination testifies to acute appendicitis. The presence of gas in the biliary tract is a sign of the vesicouteral fistula. Absence of a shadow of the lumbar muscle indicates a pathological process in the retroperitoneal space — bleeding (with trauma) or inflammation (retrocelace appendicitis, pancreatitis, sigmoid colon diverticulitis). And finally, the picture allows to detect the pathology of the spine and pelvis.

- X-ray of the abdominal cavity in the standing position is used mainly to detect horizontal levels of fluid and gas in the loops of the small intestine. With mechanical intestinal obstruction the fluid levels in the adjacent knees of the intestinal loop have different heights.
- X-ray in the supine position on the left side. Before the study, the patient should lie on his left side for about 10 minutes, so that all free gas in the abdominal cavity is collected in the space between the liver and the diaphragm. The method makes it possible to detect even a small amount of gas, since it normally does not contain a subdiaphragmatic space. The presence of free gas in the abdominal cavity in itself is not an indication for the operation: it is necessary to establish its source.

Special techniques.

- Examination of the upper gastrointestinal tract with contrasting — if suspicion of perforation of the esophagus, perforated stomach ulcer or DPC, when other diagnostic methods are not informative. Almost all diseases of the upper divisions of the digestive tract and jejunum can be detected by endoscopy.
- Irrigoscopy is used to differentiate the small intestine and colonic mechanical obstruction in cases when the survey radiography of the abdominal cavity gives questionable results. Irrigoscopy has not only diagnostic, but also therapeutic value — for example, with intussusception of the intestine, curvature of the sigmoid colon. When assigning the study, one should keep in mind that the presence of barium in the intestine (even in trace amounts) will interfere with CT and angiography.

ECG is aimed to exclude heart damage accompanied by pain radiography.

CT is one of the best methods for diagnosing diseases of the abdominal cavity organs, retroperitoneum and small pelvis. When pancreatitis allows you to assess the extent of damage to the pancreas and its ducts. Diagnostic information is 90%.

There are moderate diagnostic changes (when there are 2 or more of the following signs): enlargement of the main pancreatic duct (2-4 mm); a slight increase in the pancreas (less than 2 times); heterogeneity of the parenchyma of the pancreas; small cavities (10 mm); irregularity of the ducts; focal acute pancreatitis; increased echogenicity of the wall of the main pancreatic duct; unevenness of the head, body of the pancreas.

Significant changes include those described above (with the addition of 1 and/or more of the following): large cavities; a significant increase in the pancreas (more than 2 times); intra-flow filling defects or RV stones; obstruction, marked irregularity or stricture of the prostatic duct; invasion of adjacent organs.

MRI/MRCPR have informative value in 90% of cases and more. Moderate changes in the pancreatogram include the pathology of the main and lateral ducts (more than 3).

Significant changes include pathology of the main and lateral ducts (more than 3), as well as 1 of the following criteria: a large cavity; obstruction; defects of filling; pronounced dilatation or unevenness.

Angiography is performed to detect the source of gastrointestinal bleeding, as well as with suspicion of mesentery vesicle thromboembolism.

Ultrasound is the method of choice in the diagnosis of cholelithiasis, which makes it possible to identify gallstones and bile duct stones. In some complex cases, ultrasound, especially when combined with a color Doppler study, provides significant help in diagnosing appendicitis. Intraoperative ultrasound facilitates the diagnosis of liver and RV diseases. With cancer of the stomach with the help of endoscopic ultrasound can determine the stage of the disease. Women with

complaints of pain in the lower abdomen shows ultrasound of the small pelvis. Rectal and vaginal ultrasonography diagnostics are being used more and more recently.

Such diagnostic criteria of CP as ultrasound are informative in 80%, but, in all cases, it should be compared with clinico-laboratory data. Chronic pancreatitis is characterized by an increase in the size of the pancreas, calcification in the pancreas, indistinctness and unevenness of its contours, heterogeneity of the structure and changes in the organ's echogenicity, the presence of pseudocysts, widening of the Virpsong duct and/or additional ducts.

ERCP is considered the "gold standard" of diagnosis of pancreas cancer, but it is rarely used due to serious complications.

Diagnostic laparoscopy has recently become more widespread. It is used for critical states and questionable results of physical research. The study can be conducted at the patient's bed under local anesthesia, in this — his main advantage over the diagnostic laparotomy performed in the operating room. Diagnostic laparoscopy is indispensable in examining women with pain in the right ileal region. Up to 30% of appendectomies in this category of patients are erroneous. Laparoscopy can reduce the number of unjustified surgical interventions and get a more complete picture of the state of the abdominal organs.

Since the 90s of the last century, when neuroimaging methods were introduced into medical practice (single-photon emission computer tomography SPECT, positron emission tomography PET, functional magnetic resonance imaging fMRI), true verification of pain became possible. Using the methods of PET and fMRI, it was possible to confirm laboratory data that the sensation of pain arises as a result of activation and dynamic interrelation of sensory, motor, associative zones and limbic system.

Thus, differential diagnosis of the syndrome of abdominal pain in chronic pancreatitis is a difficult process that makes it necessary to take into account all the features of the clinical course of the disease, a differentiated and thoughtful approach to laboratory and instrumental research methods, as well as to the indicators obtained in this process.

References:

1. Губергриц Н. Б. Показатели ультразвуковой гистографии поджелудочной железы в динамике лечения больных с хроническим панкреатитом на фоне ожирения / Н. Б. Губергриц, О. А. Бондаренко // Гастроентерология. — 2013. — № 2. — С.64–67.
2. Ивашкин В. Т. Боль при хроническом панкреатите: происхождение и возможности коррекции / В. Т. Ивашкин, А. В. Охлобыстин // Российский журнал гастроэнтерологии, гепатологии, колопроктологии. — 2015. — Т. 25, № 3. — С. 4–11.
3. Новости европейской панкреатологии (по материалам 48-й встречи Европейского Клуба Панкреатологов, 6–9 июля 2016г., Ливерпуль, Великобритания) / Н. Б. Губергриц, Н. В. Беляева, Г. М. Лукашевич [и др.] // Вестник Клуба панкреатологов. — 2016. — № 4. — С. 11–20.
4. Показники здоров’я населення та використання ресурсів охорони здоров’я в Україні за 2013–2014 роки // ДП «Центр медичної статистики МОЗ України».
5. Уніфікований клінічний протокол протокол первинної, вторинної (спеціалізованої) медичної допомоги та медичної реабілітації хворих з хронічним панкреатитом // Український медичний вісник. — 2015. — № 1. — С. 54–57.
6. Христич Т. Н. Хронический панкреатит: нерешенные проблемы / Т. Н. Христич, В. П. Пишак, Т. Б. Кендзерская. — Черновцы, 2006. — 280 с.

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T. N. Hristich, D. O. Hontsariuk
Bukovina State Medical University, Chernivtsi, Ukraine

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The aim of literature review is to highlight the essential problem of internal medicine — a differential diagnosis of abdominal pain syndrome in chronic pancreatitis.

Features of the clinical picture of abdominal pain in the main diseases of internal medicine are presented. The effectiveness of laboratory and modern instrumental diagnostic methods and their significance in tactics and treatment strategies are discussed in detail.