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**ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**

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**МЕТОДИЧНІ РЕКОМЕНДАЦІЇ**  
**ДЛЯ СТУДЕНТІВ**  
з англomовною формою навчання

<i>Навчальна дисципліна</i>	Основи внутрішньої медицини
<i>Модуль №</i>	2
<i>Змістовний модуль № 2</i>	Основи діагностики, лікування та профілактики основних хвороб органів травлення
<i>Тема заняття</i>	<u>Виразкова хвороба та інші пептичні виразки шлунку та 12-ти паллої кишки</u>
<i>Курс</i>	4
<i>Факультет</i>	Медичний

**KHARKOV NATIONAL MEDICAL UNIVERSITY DEPARTMENT OF  
INTERNAL MEDICINE N3**

**METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS**

**“Peptic ulcer and other symptomatic ulcer of stomach and duodenum”**

**Kharkiv 2010**

Content module №2 "Bases of diagnostics, treatment and preventive maintenance of the basic illnesses organs of digestive tract"

Practical class №6

"Peptic ulcer (PU) and others peptic ulcers of stomach (PSU) and duodenum (PDU)"

Urgency

PU of the stomach and duodenum in many countries remains to one of the most actual problem of gastroenterology. It is connected with its high prevalence (10-15 of all adult population), a prevailing debut of disease in young and to an average age, a high level of occurrence of relapses and complications at wrong treatment. Results of the basic researches of last years and clinical supervision over patients after introduction of essential new kinds of therapy have completely changed existing representations not only about the reasons and mechanisms of occurrence PU, but also an opportunity of treatment for PU.

The educational purposes:

- to teach students to distinguish the basic symptoms and syndromes of PU;
- to acquaint students with the methods of physical examination of PU;
- to acquaint students with the methods of researches which are applied to the diagnostics of PU; with indications and contra-indications they have; with the techniques of their performance; with the diagnostic value of each of them;
- to teach students to interpret the results of the lead researches independently;
- to teach students to distinguish and diagnose the complications with PU;
- to teach students to institute therapy for PU.

What should the student know?

- the frequency of PU occurrence;
- the etiological factors of PU;
- the nosogenesis of PU;
- the cores of clinical syndromes of PU
- the general and disturbing symptoms of PU;
- the physical symptoms of PU;
- the methods of physical examination of patients with PU;
- the diagnostics of PU;
- the diagnostic opportunities of esophagogastroduodenoscopy with PU, the indications and contra-indications;
- morphological researches of mucous membrane of the stomach at PU;
- the technique of carrying out intragastric pH-metry, clinical estimation of results;
- the methods of diagnostics of *H. pylori*;
- radiological methods of diagnostics of PU;
- complications with PU;
- treatment of PU (change of the way of life, balanced diet, medication).

What should the student be able to do?

- to define the cores of clinical and physical syndromes with PU;
- to interpret the results of biochemical and immunoenzym researches;
- to interpret the data of esophagogastroduodenoscopy;
- to interpret the data of intragastric pH-metry;
- to interpret data of radiological methods of diagnostics at PU;
- to estimate the conformity of the concrete patient to criteria of successful peroral antihelicobacterial therapy;
- to institute the therapy for the patients with PU.

The list of practical habits which the student should acquire

- inspection of the belly;
- examination of the belly;
- superficial palpation of the belly;
- deep methodical sliding palpation of the organs of a belly cavity according to Obraztsov-Strazhesko;
- the symptoms of peritoneum irritation;
- the review of skin and mucous membrane;

The contents of the theme:

## DEFINITION

PU – a chronic disease of the stomach or duodenum with antecedent current, which has the propensity to progressing in which basis formation of ulcer defect in a mucous membrane of a stomach or a duodenal gut during an aggravation with the subsequent scarring lays.

## ETIOLOGY

PU – a multifactorial disease with polygenic type of the heredity. At presence of "critical" number of genetically caused attributes propensity to PU is formed, that can be realized at influence on an organism of a complex of adverse factors of an environment. Hereditary propensity to a stomach ulcer appears in 40-50 % of patients. Risk of development PU at blood relatives of patients in 3-4 times above, than in a population as a whole. " A family ulcer syndrome " - ulcers of one localization, more often duodenal, appear in parents and their children, at all thus 0 (I) group of blood.

## PROVOKING FACTORS of the ENVIRONMENT

1. Psychoemotional stress, chronic overpressure of nervous system at which in subcortical structures is formed the center of "stagnant excitation", cortical-subcortical mutual relations with development of the vegetative nervous system, dystonia, infringement of hormonal balance are broken.

2. Bad habits - smoking and an alcoholism, sick of a stomach ulcer smoke 95 %. Nicotine causes hyperplasia lining cells in a mucous membrane of a stomach, oppresses formation of bicarbonate by a pancreas, increases level of the pepsinogen-1 in blood, oppresses mucusproducing in a stomach and a duodenal gut, strengthens a motility of the stomach, causes spasms, duodeno-gastral reflux. Alcohol damages a mucous barrier of the stomach, strengthens return diffusion H of  $H^+$ -ions through the mucous membrane. Low concentration of ethanol stimulate the gastric secretion, high - oppress, but cause erosion of a mucous membrane. The regular use of alcohol is accompanied by a dystrophy and an atrophy of the stomach mucous membrane with the advent of zones intestinal metaplasia.

3. Alimentary factors - regular infringement food stereotype - rare and irregular reception peep, without wash down meal, in a hurry, a unbalanced meal with deficiency of fibers and vitamins, abusing rough, sharp products, strong coffee.

4. The infectious factor (*Helicobacter pylori* - HP) plays an auxiliary role in development PU. *Helicobacter* - the dependent form are ulcers of a duodenal gut, associated with a chronic B-type gastritis.

5. Adverse meteorological factors - sharp fluctuations of meteorological conditions, characteristic for autumn and spring, cause dysfunction of system neurohypophysis - a hypophysis - a bark of adrenal glands, during this period function of a stomach raises{increases} acidulous element.

## NOSOGENESIS

There are a significant genetic, clinical, functional and pathogenetic differences between the stomach ulcer (mediogastral ulcer) and the ulcer of duodenum (pyloroduodenal ulcer).

Nevertheless, in both cases turning point is infringements of balance between factors of "protection" of mucous membrane and factors of "aggression", that cause a self-digestion of a mucous membrane with formation of ulcer defect.

## FACTORS OF "AGGRESSION"

### 1. A hypertone of a wandering nerve.

Increase of a tone parasympathetic nervous system is accompanied by superfluous allocation neuromediator of acetylcholine which directly stimulates parietal and the main lining cells gastric glands, and also increases allocation of the gastrin from G-cells of a stomach and histamine from corpulent cells. The wandering nerve stimulates (the truth, in a different measure) all three phases of gastric secretion, especially brain phase. Hypervagotonia it is observed in 2/3 patients with duodenal ulcers.

### 2. Sufficient production of a gastrin.

Gastrin – is the gastrointestinal hormone which is synthesized by G-cells a pyloroantral department of the stomach. Secretion of the gastrin is stimulated with the stretching of the stomach food and influence of the products of partial hydrolysis of the fibers of the food. A gastrin is the core mediator, that provides a gastric phase of secretion of a hydrochloric acid. Besides the hormone renders trophic influence on a mucous membrane of a stomach - serves as the reason hyperplasia the cores glands.

### 3. Hyperhistaminemia.

Histamin is the final mediator which is the intermediary of influence of the gastrin on gastric glands, one of the strongest stimulators of gastric secretion. At use blocker H<sub>2</sub>-receptor of histamine gastric secretion which is stimulated both of the histamine, and pentagastrin is oppressed. Histamine is formed in corpulent cells of the stomach mucous membrane, influences on histamine H<sub>2</sub>-receptors lining cells of the gastric glands.

### 4. Increase in weight of the stomach lining cells.

Reorganization of a mucous membrane of the basic department of a stomach with sharp hyperplasia and increase in weight of the lining cells can be congenital or got.

### 5. The acidopeptic factor.

The acidic-peptic aggression consists in long hyperacidity and the increased enzymes contents in gastric juice. Are allocated 7 types proteoclastic a gastric juice enzymes. From them 5 fractions unite in group pepsinogen-1 (or pepsinogen) which show the maximal activity in the sour environment at pH 1,5-2,0. 2 fractions of enzymes is formed group pepsinogen C, or gastropepsinogen), their maximal activity is observed at pH 3,2-5,0. Proteolytic enzymes cathepsin D and C active at pH 2,0-3,5. Stimulators of secretion pepsinogen is acetylcholine and in a smaller measure gastrin and histamine, inhibitor - somatostatin, prostaglandin E-2, anticholinergic substances.

At a stomach ulcer of a duodenal gut in 60 % of cases a level of the pepsinogen-1 in gastric juice, blood and urine increased, at PU a stomach, as a rule, normal. Ulcerogenic action of the pepsin-1 is realized through damage of protective slime.

6. A gastroduodenal dyskinesia. Infringement motor and evacuation functions gastroduodenal zones increases duration of contact of "aggressive" gastric juice with a mucous membrane.

7. Infringement of a mucous barrier helicobacteritic. A mucous barrier - system of protective factors gastroduodenal zones: slime, high regenerative ability superficial epithelial tissue, adequate regional blood circulation. The mechanism of action mucous to a barrier - prevention of return diffusion H<sup>+</sup> of +-ions through a mucous membrane. At damage of a mucous barrier sharply increases retrodiffusion H<sup>+</sup>, that is one of key factors of formation of the ulcer. Slime will forming additional cervical cells of the cores glands a stomach and all cells superficial epithelial tissue, in a duodenal gut - ampullaceous cells and duodenal glands. The mucous-bicarbonate barrier is the first line of protection of a mucous membrane of a stomach.

The second line of protection - superficial high-prismatic epithelium a stomach which differs high regenerative activity, continuous restoration of cellular membranes. At PU speed proliferation epithelial cell is sharply increased, and they are not capable to carry out the protective functions.

Adequate regional blood circulation necessary for sufficient power supply, receipt of plastic substances. Microthromboses, infringements of microcirculation, a zone of an ischemia assist formation of the ulcer.

8. Neurotrophic infringement. For PU characteristic infringement of trophic processes in a mucous membrane gastroduodenal zones, is caused by change of a tone and reactance sympathetic-adrenalis systems. The sympathetic department of vegetative nervous system has ergotropic action, improves regional blood circulation and trophism fabrics, increases formation of the protective slime, a level cAMF prostaglandins. Pathogenic action shows as excessive accumulation catecholamine in a mucous membrane gastroduodenal zones, and an exhaustion of stocks catecholamine.

#### PROTECTIVE FACTORS

1. A mucous-bicarbonate barrier of the stomach and a duodum.

2. Active physiological regeneration superficial epithelium full updating of cells superficial and ferruteros of the epithelium happens during 1-5 day, every minute with pit epithelium and cells of a cervical department gastric glands will forming up to 500 thousand cells. Cells superficial epithelium densely adjoin one up to one, the apical membrane contains them lipoprotein which interfere of penetration deep into cells of ions and water-soluble substances. On a surface of a mucous membrane of a stomach pH - 2,2, and on a surface superficial epithelium, covered a mucous-bicarbonate layer, - 7,6.

3. The duodenal brake mechanism - oppression of gastric secretion at receipt chymus in a dodecadactylon gut (DG) owing to allocation gastrointestinal hormones - secretin, somatostatin, G I, V I, cholecystikinin-pancreozimin. The given hormones block secretion gastrin. Atrophic duodenit which is accompanied by decrease in production gastrointestinal hormones a duodenal gut, leads hyperacidity and to development of ulcer of duodenum.

#### CLINICAL DISPLAYS

##### PAINFUL SYNDROME

Leading clinical display PU is the painful syndrome. Painful sensations at PU are caused by increase intragastric and intraventricular duodenal pressure with irritation painful baroreceptor, spastic reduction cardial and pyloric sphincters with an ischemia c their wall and intensive gripping pains, jet periureteritis an inflammation of a mucous membrane, irritation of a ulcer active gastric juice, an inflammation of serous environments. The painful syndrome at a stomach ulcer has a number patognomic features.

1. **Pains have** the proof daily rhythm caused by a food mode. The interval between reception of food and caused this episode of a pain depends on localization of the ulcer. The "above" located ulcer, the there are pains after food more quickly.

- "EARLY PAINS" appear in 15-30 minutes after meal, develop at mediogastral ulcers.
- "LATE PAINS" arise in 45 minutes - 2 hours after meal, are characteristic for pyloroduodenal ulcers.
- "HUNGRY PAINS" appear on an empty stomach, through 3-4 h after last reception of food, and disappear after the use of any products, even after the patient will drink a glass of water, are characteristic for duodenal ulcers.
- "NIGHT PAINS" is a variant of "a hungry pain", are facilitated by reception of food. Patients with night pains on a night little table always have something from food - a glass of milk or a white loaf.
- Depending on localization of a ulcer at patients different character of interrelations between pains and meal.
- At mediogastric ulcers a characteristic stereotype: " meal - a pain, famine - simplification  
At duodenal ulcers the stereotype is observed: "famine - a pain, meal – simplificatio"

2. **Pains are localized** on the small, limited site, the patient can precisely specif} their accommodation. A zone hurt it is limited 1-2 see

The most typical zones of accommodation of a pain:

1. epigastric area, below a ensiform shoot on an average line of the belly or a little to the right (duodenal ulcers);
2. epigastric area, below a ensiform shoot, on the left side from an average line c the belly (mediogastric ulcer).

At height of the expressed painful attack a zone hurt can increase a little.

3. **Cyclicality** of each painful attack - gradual increase hurt, achievement of the maximal expressiveness, slow decrease in intensity of a pain to its full elimination. Duration of one painful cycle can achieve 2-3 hours.

4. **Expressiveness and character** hurt very much variable. Pains of the minimal expressiveness can be perceived as painful, aching sensation of famine. Pprobable sensation of discomfort in epigastrium, sensation of overflow, spreading. Expressiveness of sensations can increase, creating sensation of a compressing pain, burning, pressing, drilling to achieve intensity of a cutting, breaking off pain.

Intensity hurt attraction to it of serous environments, expressiveness perifocal inflammatory process, a threshold of a pain and reactance of the patient depends on activity of ulcer process.

5. **Regularity, stereotype** of painful sensations, their daily rhythm are kept at each next relapse.

6. **Irradiation** pains appears only at occurrence of complications. Penetration (germination) of a ulcer in the next bodies, development of adhesive process (perigastritis, periduodenitis), occurrence of accompanying diseases (the cholecystitis, a pancreatitis) are accompanied by infringement of a usual rhythm, character and localization of a pain.

Penetration a duodenal ulcers in a head of a pancreas or a deep ulcer of a back wall of a stomach which achieves a serous environment, are accompanied by a pain, which irradiated in a back at a level 10th chest — 1st lumbar spondyle. Penetration ulcers in a small omentum it is clinically shown irradiation pains in right (seldom - in left) hypochondrium. Penetration ulcers in hepatic-duodenal a sheaf it is characterized irradiation pains in the right half of thorax. Penetration ulcers in a gastrolial sheaf it is accompanied irradiation pains in the left half of thorax.

The irritation n. phrenicus a subcardial ulcer is shown by distribution of a pain for a brest, on frontocardio, supraclavicular area at the left.

#### 7. **Factors which discharge a painful attack:**

1. reception of soda, alkalis, alkaline mixes (open pylorus, stimulate evacuation, cause a facilitating air eructation and reduce intragastral pressure);
2. orders cholinolytic or miotropic spasmolytics;
3. local heat (resolve a spasm sphincters, reduces a tone of corpulent muscles, improves microcirculation, reduces intraorganic pressure);
4. the spontaneous or induced vomiting, sounding of a stomach.

8. **Seasonal prevalence** of aggravations and pains - autumn and spring. The aggravation lasts 3-5 weeks, is accompanied by a characteristic painful syndrome. After that remission, sometimes even spontaneous, without carrying out of adequate therapy develops. In a basis of seasonal prevalence PU seasonal changes in character of the meal lay circadian rhythms of systems neurohumoral regulation.

#### THE DYSPEPTIC SYNDROME

At not complicated PU a dyspeptic syndrome can not be at all.

HEARTBURN happens expressed, intolerable, can cause sensation of a burning pain. The constant heartburn, especially its amplification in a prone position on a back, is an attribute of insufficiency cardioesophageal sphincter or hernia esophageal apertures of a diaphragm with the gastroesophageal reflux of sour gastric contents. At duodenal ulcers the heartburn meets in 80 % of cases, at mediogastral ulcers - in 30-40 %.

ERUCTATION (50-60 % of patients) on PU. The eructation can be caused by air aerophagia - ingestion at breath of a significant amount of air. The second condition of development of a symptom is decrease in a tone cardial sphincter a gullet.

Eructation sour and a heartburn are characteristic for duodenal ulcers (" a syndrome acidism "). The eructation bitter is an attribute duodeno-gastral to a reflux of bile. The eructation recently eaten or with " a smell of rotten eggs " is observed at: to a long delay of food in a stomach, organic a pyloduodenal stenosis, an inflammatory hypostasis and a long spasm pylorus. Gastrostasis it is

accompanied by settling of the stomach by microorganisms, microbic disintegration of food fiber with formation of the hydrogen sulphide.

THE NAUSEA precedes to vomiting.

VOMITING - classical symptom PU (40-60 % of cases), arises spontaneously at height of a painful attack and facilitates or completely liquidates a pain. At absence of spontaneous vomiting patients it is quite often artificial cause its pressing a root of language.

APPETITE at patients on PU is kept or increased. The anorexia develops at a pyloduodenal stenosis or gastric ulcer (GU) with the lowered acidity. Sitophobia (fear of reception of food) characteristic for a heavy aggravation.

SPASTIC REDUCTIONS (in 50 % of patients on PU) - a delay defecation for 2-3 days, the complicated act defecation, allocation firm fecal matter in the form of dense fine balls ("sheep fecal matter"). Infringement of function of intestines is caused by vagotonia, increased segmented peristalsis, spasms of thick intestines, and also non-slaggy by a diet and hypodynamia of the patients.

METEORISM (50 % of patients), caused by a secondary dysbacteriosis with the advent of the hemolyze strains, mushrooms, staphylococcus, sharp oppression bifidobacteriums and lactic acid bacillus. Quite often develops secondary colitis, mostly proctosigmoiditis.

#### THE ASTHENONEUROTIC SYNDROME

At PU prominent features the psychoemotional charter: the increased uneasiness, egocentrism, demonstrativeness, a high level of inquiries. Quite often there are psychopathological syndromes - disturbing-depressive, is disturbing-phobia, hypochondriac, asthenic with hysterical reactions, often happen neurotic neurosis-like conditions. The increased sensitivity changes of meteorological factors - meteorotropica.

#### PHYSICAL INSPECTION

During attacks hurt patients quite often accept the characteristic forced position - lay on one side (or a back) with pressed to belly marrowbones or sit having bent, carrying out, thus, pressure upon a pole under a breast the hand compressed in a fist. In the extrafisted period the general condition of the patient satisfactory, a condition active.

At the review of a belly wall pigmentation epigastrium owing to regular use of local heat (hot-water bottles) for elimination of a spastic pain can come to light.

Glosso at mediogastral ulcers which are accompanied by a gastritis more often, has a grey-yellow strike. Glosso at duodenal ulcers pure, damp, with well expressed torulus. Dry, imposed plentiful brown for a short while language is observed at complication PU penetration in the next bodies or punching.

PALPATORILLY in the epi- and mesogastrium increased sensitivity of the skin (hyperesthesia-hyperalgesia) is defined. At an aggravation of disease probable occurrence of the protective muscular pressure, the increased resistency of the belly wall, caused by reaction a parietal leaf abdominale membrane on active ulcer process. At deep palpation in a zone of accommodation of ulcer defect (especially at palpation zones of "niche" behind the x-ray screen, during roentgenoscopy) local morbidity is defined.

The pyloroduodenal stenosis which complicates course UDG, is shown by visible peristaltic waves of a stomach which go from left to right, after jerking palpation in epigastrium. Jerking palpation of the epigastrium leads to occurrence of "noise of splash" at patients with pyloroduodenal stenosis and expressed gastropnoia.

Sometimes at deep palpation the gut is defined spastic, dense, painful sigmoid.

THE SYMPTOM OF MENDEL - local morbidity at percussion in a site of the ulcer in epigastrium. During a breath are lunge short discrete impacts by two bent fingers (index and average) the right hand in symmetric sites of a belly wall in epigastrium - under a ensiform shoot, on the right and to the left of it. At a positive symptom of the patient feels on the limited site a pain. Expressiveness of a symptom (+, ++, +++) answers activity of process. Mendel's positive symptom connect with irritation of the zone parietal a leaf abdominale membrane which adjoins to a ulcer.



THE SYMPTOM OF OBRAZTSOV-STRAZHESKO - proof tympanic at percussion by a medial part of the right costal arch, appears at solderings between a stomach, a duodenal gut and a liver (perigastritis, periduodenitis).

THE SYMPTOM OF OPENHOVSKY - morbidity at pressing area of awned shoots 8- 9 chest spondyles.

THE SYMPTOM OF BOAS - morbidity at pressing both sides from a backbone at a level 10 chest - 1 lumbar spondyles, is observed at penetration ulcers.

THE SYMPTOM OF LAENEK - morbidity at palpation in over-abdominal areas at the involved belly.

THE SYMPTOM OF BERGMAN - disappearance hurt in the belly after the beginning of a gastroenteric bleeding.

THE SYMPTOM OF BRUNNER - noise of friction under a costal arch at punching a ulcer.

THE SYMPTOM OF GUNZBURG - the localized rumbling between a bilious bubble and pylorus, a probable duodenal ulcers symptom.

SYMPTOM OF REICHMANN - excessive allocation of gastric juice, the sour eructation, an intolerable heartburn, vomiting on an empty stomach gastric juice (at quite often night), a short wind owing to a reflex spasm of vocal chords. It is observed at duodenal ulcers or a stenosis of pylorus.

THE SYMPTOM OF BENEDICT - to the patient allow to drink the sated solution of sodium of bicarbonate and carry out auscultation a stomach: at hyperacidity it is listened expressed crepitation, at normoacidity - tempered, at anacidity crepitation is not present.

THE SYNDROME OF UDEN - reflex infringements of activity of heart: sensation of pressure in a site of heart with irradiation in the left shoulder, attacks of a stenocardia, a hypotonia, a short wind, aerophagia, meteorism.

THE SYMPTOM OF SLISSENER (SHLIZENGER) - changeable displacement omphalus sideways defeats at a pressure of the patient, is observed at prepyloric ulcers.

THE SYMPTOM OF EFLEIN - reduction of muscles of a back at a level 7-10 chest spondyles at percussion the patient in a prone position.

THE SYMPTOM OF TROITSKY - threefold cyclicity of a ulcer pain: change hurt during day depending on reception of food, change hurt during a year depending on a season, alternation of the periods of an aggravation and remission.

## **ADDITIONAL METHODS OF INSPECTION**

### **RADIOLOGICAL RESEARCH**

Radiological research is the most widespread method of diagnostics of a stomach ulcer as practically has no the contra-indications, widely accessible. Nevertheless, sensitivity of radiological research ulcers - 75-85 %.

It is most often used of the roentgenoscopy a stomach and UDG with baric suspension contrast. Special methods roentgenoanalysis have higher diagnostic sensitivity:

1. double contrast with additional insufflation air in a stomach;
2. parietography with additional introduction of gas in emptiness of a stomach and belly emptiness;
3. relaxational duodenography in conditions of artificial hypotonia UDG with additional introduction to the patient aeron or atropine, methacin - thus functional spasms are opt out, transit of contrast is slowed down.

Radiological research should be multiple, in vertical and horizontal positions of the patient for achievement of "hard" filling of the roentgenocontrast all departments of a stomach and a duodenal gut.

THE SYMPTOM OF "NICHE" holding as a direct radiological attribute of the ulcer. Distinguish planimetric "niche" - depot of baric weight with precise contours, the conic, extended or trapezoid form which is defined{determined} on a contour of a gastric shadow. "Relief-niche" it is located on a forward or back wall of a stomach or a duodenal gut and represents proof depot of barium among folds of a mucous membrane - "spot" on a relief. "Nish" it can not be defined at tamponing a ulcer crater by fibrin or clots of blood.

Other radiological symptoms are indirect, among them allocate a number of the functional symptoms.

**HYPERSECRETION ON AN EMPTY STOMACH** - incomplete filling of a stomach with contrast owing to presence endogenous secret in the fasting stomach. **INFRINGEMENT** of the **MOTILITY** And **TONE** of a stomach and **UDG** - a characteristic hypermotility and a hypertone of a stomach, acceleration of evacuation of contrast from a stomach and its fast passage on **UDG** in a combination with short-term pylorospasmes and gastroduodenal or gastroesophageal refluxes. At a stomach ulcer of a stomach it is more often observed hypotonia and hypomotoric, can be defined aperistaltic zones in the field of deep ulcers.

**LOCAL MORBIDITY** in the field of "niche" is observed at deep palpation the patient of the radiological screen.

**RESTRICTION** of the **PERSONAL PROPERTY** of bulb **UD** owing to periduodenitis and formation of solderings.

Consider also presence of indirect attributes **PU**.

**DEFECT** of **FILLING** in the field of a ulcer, which will forming at significant " an inflammatory shaft " around of a ulcer and interlocking the swelled folds of a mucous membrane above a ulcer crater.

**CONVERGENCE** of **FOLDS** of a mucous membrane owing to a periulcerous spasm of muscles and cicatricial pulling up of a mucous membrane in a direction to ulcer defect.

**SYMPTOM** of the "**INDEX FINGER** " or a contralateralis spasm of De Kerven - defect of filling on the opposite side of a stomach from localization of a ulcer or **UDG** owing to a spasm or scarring of circular or slanting muscles. The symptom of the digitiform indrawing can be functional or constant, be defined on the big curvature of the stomach, in an initial department of the stomach or in bulb **UD**.

**CICATRICAL-ULCERATED DEFORMATION** of a stomach and **PDU** is caused by cicatricial pulling up of muscular fibres. The most frequent form of deformation of bulb **PDU** is fine serration contours of a wall, non-uniform narrowing of a gleam of a duodenal gut, formation of the some people diverticulo-shaped pockets in the form of a trifolium, moth, hammer. For differentiation of morphological changes from functional spend relaxational duodenography.

Probable radiological diagnostics of complications **PU**. The proof penetration stomach ulcers in a small omentum is the wrong form of "niche", its greater sizes, a erected contour of small curvature and its fixing on the big site. Diagnostics penetration ulcers **PDU** complicated, the most frequent attributes - greater, the wrong form, with indistinct contours of a niche which do not change the form after a summer residence spasmolytics.

Occurrence of punching of the ulcer is accompanied by a concentration of free gas in most highly placed department of belly emptiness under a diaphragm in position standing, i.e. ruptured pneumoperitoneum. At change of position of the patient gases moves.

Attribute of an organic cicatricial stenosis of the pylorus is presence of contrast in a stomach through 24 h. after research. Deformations are often observed at ulcers the pylorical channel - corner or a knee-shaped curvature of the channel, a spasm or its proof expansion, "ostium" of the pylorus.

#### **ENDOSCOPIC RESEARCH**

Fibergastroduodenoscopy (**FGDS**) - the most sensitive and informative method of revealing of ulcers which allows to authentically value localization and the sizes of ulcers to define of the ulcer process stage, to carry out the dynamic control over process of scarring. Formation of a ulcer occupies 4-6 day, conditionally shares on some stages:

1-st stage - a red spot (1) is characterized by formation on a mucous membrane of the limited site expressed hyperemia.

2-nd stage - erosion: in a zone hyperemia there are numerous dot haemorrhages which merge among themselves, and erosion.

3-rd stage - an ulcer with flat edges, has the wrong form and extends only on depth of a mucous membrane.

4-th stage - a full ulcer goes deep to a muscular and serous environment, " an inflammatory shaft " on perimeter forming a deep crater.

THE SHARP PHASE of a chronic ulcer differs the roundish or oval form of ulcer defect. If a submucous environment fibroused wing to scarring the previous ulcers, the form of a sharp ulcer can be polygonal or fissured. Edges of the fresh ulcer precise, glabrous, juicy, easily bleed at contact with fiberscope. The bottom of the ulcer is covered by yellow-grey imposings of fibrin. A mucous membrane around of a ulcer sharply swelled, hyperemic, on perimeter of a ulcer will forming "an inflammatory shaft". Folds of a mucous membrane sickened, do not finish completely at insufflation air, is frequent perifocal are defined numerous punctulate erosion.

THE PUBACUTE PHASE of a chronic ulcer is characterized by reduction of expressiveness a periulcerous hypostasis and depth of "inflammatory shaft", the bottom is filled granulation with a fabric, the ulcer becomes deplanated, its diameter decreases, there is a convergence of folds of a surrounding mucous membrane to edges of the ulcer. Such ulcers quite often are not defined any more roentgenologically.

THE PHASE OF SCARRING is shown by a flat relief of ulcer, comparison of its edges to formation fissured defect or several defects.

THE PHASE OF RED CICATRIX is accompanied by formation on a place of the ulcer bright red cicatrix the linear or star-shaped form, surrounded a hyperemic mucous membrane with expressed convergent folds.

THE PHASE OF WHITE CICATRIX is characterized to constants white cicatrix the linear form, extended, quite often surrounded convergent is pale -grey taeniaes. Perifocal hyperemia disappears.

Duodenal ulcers differ from gastric smaller depth and more compound form - polygonal, star-shaped. The ulcer is formed during 4-6 days, and process of selfrestriction and scarring occupies at duodenal to a ulcer of 4-6 weeks, at mediogastral - 6- 8 weeks.

In 1/3 patients on a stomach ulcer of a duodenal gut cicatricial-ulcerous deformation of a bulb of a duodenal gut which is shown by the expressed thickening and deformation of folds of a mucous membrane, is formed by non-uniform narrowing of a gleam of a duodenal gut.

During endoscopic researches in patients on PU often carry out chromogastrosocopy with additional introduction in a stomach of dyes. Methylene blue (15-20 ml of 0,5 % of a solution) paint zones intestinal metaplasia and tumoral growth in deep-blue color. Congo red (30-40 ml of 0,3 % of a solution) paints zones active acid production in black color, acidulous sites - in bright red. Researches a biopsy material on helicobacteritic infection are obligatory, for this purpose sample a mucous membrane of the pyloric department and zones gastric metaplasia in a duodenal gut and carry out special dyeing.

#### MORPHOLOGICAL RESEARCH

Morphological research supplements endoscopic: through fibergastroduodenoscope under the visual control spend aim biopsy from a bottom and edges of the ulcer, from surrounding sites of a mucous membrane. At morphological research punctate from edges and a bottom of a ulcer find out detritus - a concentration of slime, enucleate epithelium and necrotizing cells under which are necrotizing collagenic fibres. In a paroulcerous zone attributes of sharp inflammatory process - a hypostasis, plethora vessels, leukocytal infiltration, proliferation of a fibroplastes, a hypostasis and necrosis paries vessels, a dystrophy and necrosis nervous elements are observed. In a phase of healing ulcer defect is filled granulation with a fabric, decreases inflammatory infiltration and happens cuticularization ulcers - the layer single-layered epithelium from edges of the ulcer "crawls" over ulcer defect.

#### DIAGNOSTICS OF INFECTION H. PYLORI

Bacteriological research - crop of the biopate CO with on the differential- diagnostic environment;

Morphological: histologic - painting of a bacterium in a histologic preparation CO according to Gimze, Vartin-Starrey, Gent, toluidine blue; cytologic - painting of bacteria in swab-prints CO a stomach according to Gimze, to Gram;

Definition of products of ability to live H. Pylori: ureasious - definition ureasious activity in biopate from a stomach in liquid or gelatinoid to environment which contains a substratum, the buffer and the indicator; respiratory - definition in exhaled air of isotopes  $^{14}\text{C}$  or  $^{13}\text{C}$  which are

allocated owing to splitting in a stomach of the patient labeled urease under action urease bacteria *H. Pylori*;

Enzymoimmunoassay - definition of antibodies to *H. Pylori*;

PCR - definition *H. Pylori* by means of polymerase chain reaction in fecal matter.

## RESEARCH OF THE SECRETORY FUNCTION OF THE STOMACH

### 1. THE ASPIRATING-PROB METHOD

Research of gastric secretion is spent by a standard technique, with research of 3 phases a secretory cycle: on an empty stomach, basal and stimulated by the standard irritators. Character of infringement of the acid production significantly differs at ulcers of different localization. At PU following law is observed: the "above", proximal there is a ulcer in a gastroduodenal zone, the below parameters acid production and secretions pepsin.

Duodenal ulcers differ substantial growth of acid production in all phases of gastric secretion. Most often it appears panhyperchlorohydria type of gastric secretion, with increase as basal acid production (BAP), and maximal stimulated acid production (SAP). Characteristic more substantial increase BAP that leads to change of parity {ratio} BAP: SAP - makes 1:4-1 :3 (at healthy 1:6). Discharge a hydrochloric acid in a basal phase of secretion (BAP) at patients on duodenal ulcers exceeds 5-7 mmol/h, achieving sometimes 12-15 mmol/h, that does not meet at other diseases of a stomach (except for syndrome Zollinger-Ellison).

Increase of acid production is connected with increase of a discharge of the pepsin in 3-4 times, up to 100-200 mg/J) owing to increase of quantity and functional activity main (pepsin-forming) cells of a mucous membrane of a stomach.

Ulcers pyloroantral areas are characterized by high enough parameters acid production and secretory functions of a stomach. Ulcers of the pyloric channel on intensity acid production come nearer to the duodenal. Parameters acidulous functions of a stomach at patients with antral ulcers it is usually lower, than at patients with ulcers of a duodenal gut, but higher, than at patients with ulcers of a body of a stomach and cardia.

Mediogastral ulcers are accompanied by normal functional characteristics or changes on the hyperactive type.

Ulcers subcardial and cardial departments differ the lowered parameters of secretion of a hydrochloric acid and pepsin. Nevertheless, it is expressed the achlorhydria, the absence secretory answer to the maximal stimulation is not characteristic, exception primarily-ulcer forms of a cancer of a stomach demand.

### 2. INTRAGASTRAL PH-METRY

Research allows to carry out separate definition pH in different departments gastroduodenal zones and long monitoring of parameters.

For pyloroduodenal ulcers the characteristic syndrome continuous acidulous in the stomach which lasts and at night at absence of food stimulation. If at healthy in basal conditions in the morning reaction in a body of a stomach subacidic, pH 3.0-6.9, on the average 4,5 ET at patients with a ulcer of a duodenal gut in the morning basal acidity is sharply increased, no more than 2,0, reaches achieves } 0,9-1,0 ET.

The second functional feature of the given ulcers is the syndrome "sour a decompensated stomach" - an absent normal gradient of acidity between pyloroantral and the core departments of a stomach. At healthy the difference pH between these departments makes 4,0 ET and more, at pyloroduodenal ulcers is absent absolutely ("sour a decompensated stomach") or makes 1-1,5 ET ("the sour subcompensated stomach"). At pyloro-fundic differences pH 1,5-2,0 ET "the sour compensated stomach" is diagnosed.

Loss acid-neutralizing pyloric glands in a combination to hyperactivity of the acidulous fundic glands of the stomach leads to function "acidulation" of the duodenal gut. At healthy in an initial department duodenum there is an alkaline environment (pH 7,2-8,0) with periodic "peaks acidulation" (1 for 20 seconds) at evacuation of gastric contents. In patients with duodenal ulcers it is observed steady acidification duodenal environments to pH 3,4-2,8. Insufficiency alkalify functions gastroduodenal zones proves to be true also significant reduction of alkaline time (AT). In norm at basal conditions of secretion acid character of the environment of a stomach after reception

1 r soda in 30 ml of water is kept 20-25 minutes, in conditions pentagastrin stimulations - 8- 10 minutes. In patients with duodenal ulcers alkaline time in basal the period is reduced till 7-10 minutes.

Pharmaco-secretory tests which are spent during monitoring pH, allow to find out features of the mechanism of hypersecretion from the given patient. At reflex vagus- dependent hypersecretions it is observed positive chlorozilic (atropinic) test - after introduction of hypodermically standard doze of M-cholinolytics (1 ml) acidulous it is partially blocked, intragastral value pH raise{increase} on 1,5-2,5 FROM. In treatment of these patients it is expedient to use M-cholinolytics.

At patients with pylorododenal ulcers more informatively research basal secretions - parameters pH, size of alkaline time at carrying out of stimulating tests (histamine, pentagastrinal) change slightly as secretory the device constantly functions on border of the opportunities, substantial growth acidulous is already impossible.

At mediogastral and cardial ulcers the condition secretory processes research in conditions histamine or pentagastrinal stimulations, on the contrary, is more exact displays. Basal secretion at these patients can be normal or slightly increased (pH 2,0- 4,0), or moderately lowered to pH 4,5- 6,0. For ulcers of any localization it is not characteristic true anacidity with pH more than 6,0. Results intragastral pH-metry display in the developed clinical diagnosis. Criteria of the basic variants of a condition of secretion of a stomach after standard stimulation: pH 0,9-1,2 - expressed hyperacidity; pH 1,3-1,5 - hyperacidity; pH 1,6-2,2 - normoacidity; pH 2,5-3,5 - tempered hypoacidity; pH 3,6-6,0 - expressed hypoacidity; pH it is more 6,0 - anacidity.

#### ELECTROGASTROGRAPHY

Duodenal ulcers are characterized hyperdiskinetic by the condition gastroduodenal zones. At electrogastrography there is an increase of waves of gastric reductions (over 3  $\wedge$ /Wmines), increase in average amplitude peristaltic waves (from above 300 mkV) and total capacity of biopotentials of a stomach (over 900 %~io/mines), curves gastrogramm is an asymmetric.

At mediogastral ulcers on the contrary, it is observed a hypokinesis and hypodiskinesis of the stomach.

#### RADIOISOTOPE SCANNING OF THE STOMACH

The most informative and accessible method of an estimation clearing functions of a stomach are nuclear research - scanning of a stomach after a summer residence of" a trial breakfast" from a porridge which contains trioleateglycerine, which labeled 1-131.

At patients with duodenal ulcers evacuation from a stomach non-uniform - accelerated during the first hour, in 75 minutes is slowed down, probably, owing to jet pylorospasm. At mediogastral ulcers the tendency to delay clearing functions of a stomach is observed.

Researches supplement with pharmacological tests which allow to show the leading mechanism motored-clearing infringements and to predict efficiency of therapy of these infringements.

Positive chlorozilic (atropinic) test - delay of evacuation with normalization of a rhythm - typical for patients duodenal ulcers with leading the vagal mechanism of the nosogenesis. In these cases of M-cholinolytics show proof medical effect. At the negative test {dough; father-in-law} it is observed resistance to treatment by these preparations. At mediogastral ulcers, as a rule, positive tests with metoclopramide (coerucal), blocker of the receptors dopamine. The preparation stimulates and normalizes a motility gastroduodenal zones.

#### CLINICAL VARIANTS OF PU

Gastric and duodenal ulcers of various localization have essential differences in clinical semiology, various definability the basic diagnostic methods, are characterized different secretory and motor deviations. The account of these features is obligatory for correct diagnostics and treatment PU.

#### THE ULCERS OF THE CARDIAL AND PUBCARDIAL PART OF THE STOMACH

Ulcers of the cardial part of the stomach settle down on 2-3 sm below border between epithelium of the gullet and stomach, a ulcer subcardial of the department - on 0,5-5 sm below. Ulcers of the given localization unite in uniform group, their frequency makes 3-5 % among all forms PU. The given area of a stomach has a powerful muscular layer at which spasm there is an

intensive pain which has compressing, pressing, burning, holding apart character, quite often simulates a stenocardia. To cause occurrence hurt, it is possible having transferred the patient in horizontal position - thus time of contact food chyme with ulcer defect increases. Pains are localized at a level of the ensiform shoot, behind a breast or more to the left, quite often give in precordial area, appear in 15-30 minutes after reception of food. Reception antacidities assists reduction of a pain.

At ulcers a cardial and subcardial department of a stomach locking function cardial presscake ("insufficiency of cardia") is broken, that defines character of the dyspeptic phenomena - typical attributes a gastroduodenal reflux are: a heartburn, an eructation, a nausea. For ulcers of the given localization decrease secretory functions of a stomach is characteristic.

Radiological and endoscopic diagnostics of ulcers of the cardial and subcardial department of a stomach is complicated. Shielding by a costal arch and an ensiform shoot, fast running off of baric suspension cause a significant amount of is doubtful- negative results at roentgenoscopy stomach. Research in vertical and horizontal positions of the patient, in slanting and lateral projections, with granting additional portions of contrast and performance of a series of pictures for following studying is necessary.

Ulcers a subcardial department differ fast scarring and the long periods of remission, nevertheless, high risk of the malignant change (8 % of cases) and gastroenteric bleedings (18 %) which happen significant intensity.

#### ULCERS OF SMALL CURVATURE OF THE STOMACH (MEDIOGASTRAL)

The most widespread gastric ulcers - 40-68 % of cases, are localized mostly in an average third or in a corner of a stomach.

For mediogastral ulcers characteristic indistinct interrelation with reception of food - possible {probable} episodes both early, and a late, hungry and night pain though the dominating form of a painful syndrome is the pain in 1-1,5 hours after reception of food. The pain has the aching character, the moderate intensity, is localized in epigastral areas to the left of a median line, quite often gives to the left half of thorax, right and left hypochondrium, lumbar area (in 1/3 patients). Aggravation PU and also ulcer pains have the expressed seasonal dependence. At occurrence of complications of a stomach ulcer character hurt changes, the usual interrelation with food rhythms disappears.

Are often observed of the dyspeptic phenomena of the reflux genesis - a heartburn, an eructation, less often vomiting, a nausea. Acidulous normal or lowered, decrease in appetite and weights of a body therefore is probable. Association with a atrophic antral gastritis is typical. The most frequent complication - a bleeding (14 %), is quite often observed penetration ulcers in a small omentum.

#### THE DIFFERENTIAL DIAGNOSIS

The differential diagnosis of a stomach ulcer is spent with a number of diseases of a gastroenteric path and other bodies.

1. A cancer of the stomach.
2. The syndrome of Mellory-Ways.
3. A varicose expansion of a gullet and a stomach veins.
4. A chronic gastritis.
5. A chronic gastroduodenitis.
6. A hernias esophageal apertures of a diaphragm.
7. A chronic cholecystitis.
8. A chronic pancreatitis.
9. A chronic enterocolitis.
10. A heart attack of the myocardium.

#### COMPLICATIONS

1. The bleeding
2. The punching
3. The penetration
4. The stenosis
5. The malignant change

## 6. The perigastritis and the periduodenitis

### FEATURES OF COURSE PU

In most cases course PU differs the expressed cyclicity that allows to allocate active and inactive stages of disease. Phasal nature is more precisely expressed at duodenal ulcers. The active stage conditionally shares on 3 phases: sharp and subacute phases of relapse and a phase of incomplete remission.

AN ACUTE PHASE of an active stage is characterized by the expressed clinical semiology of an aggravation, local morbidity at a palpation and a percussion, resistency of a belly wall. At the endoscopy - the ulcer defect surrounded by inflammatory shaft, an accompanying gastritis, duodenitis. Average duration of a phase - 10-14 days.

THE PUBACUTE PHASE of relapse of a stomach ulcer differs a reduction of displays painful and dyspeptic syndromes, absence of changes at functional inspection. Endoscopically - reduction of the sizes and depths of a ulcer, disappearance of an inflammatory shaft, growth of the granulation fabrics. Duration of a phase also on the average 10-14 days.

THE PHASE of INCOMPLETE REMISSION is characterized by full absence of clinical symptoms PU at presence the endoscopic changes corresponding a phase red cicatrix.

THE INACTIVE STAGE is accompanied by full clinic-anatomical remission.

DEGREE of weight of disease - easy, medium-heavy and heavy.

EASY CURRENT is characterized by rare aggravations (time for 2-3 years) with not expressed clinical semiology, a small and superficial ulcer (up to 0,5-1,5 sm in diameter) which cicatrizes during 4-6 weeks. In a stage of remission work capacity is unaffected.

MEDIUM-HEAVY CURRENT is describe by more frequent relapses (every year, 1-2 times for a year) which run across with the expressed clinical semiology, diameter of a ulcer from above 1,5 see Scarring of a ulcer happens in 6-8 weeks of hospitalization, a long phase of incomplete remission to restriction of work capacity.

HEAVY CURRENT is accompanied by frequent relapses with practical absence of proof full remissions. Clinical displays both functional infringements are expressed also steady. Are characteristic resistency to conservative treatment and presence of complications, significant decrease in work capacity.

### CLASSIFICATION PU

#### WORKING CLASSIFICATION PU

##### 1. ETIOLOGY

A. The PU of a stomach and a duodenal gut.

B. The symptomatic gastroduodenal ulcers:

- 1) caused by stress (at the widespread burns; at craniocerebral traumas, haemorrhages in a brain; at a sharp heart attack of a myocardium);
- 2) endocrine (at syndrome Sollinger-Allison; at hyperparathyroidism);
- 3) discirculator Ho-hypoxic (at sharp and chronic diseases of heart and lungs which run across with insufficiency of blood circulation and respiratory insufficiency; at a cirrhosis of a liver with a portal hypertension);
- 4) toxic (at chronic nephritic insufficiency);
- 5) inedicamentous (at reception of the acetylsalicylic acids, butadion. indometacin, reserpine and others);
- 6) others (pancreatogenic, hepatogenic, at the erythremia and the rheumatoid arthritis).

##### 2. CLINIC AND PATHOGENETIC FEATURES

- A pyloroduodenal ulcers (of the pyloric channel, the antral department of the stomach and duodenal gut).
- Mediogastral ulcers (bodies, subcardial and cardial departments of a stomach).

##### 3. THE MORPHOLOGICAL CHARACTERISTIC

- 1) Chronic recidivating stomach ulcers and a duodenal gut (mostly at PU).
- 2) Sharp gastroduodenal ulcers (mostly symptomatic).
- 3) Cicatricial changes of a stomach and a duodenal gut (after-ulcerous deformations).
- 4) Association with a stomach ulcer and a duodenal gut chronic a gastroduodenitis, a duodenitis, a gastritis with presence campilobacterious infection or without it {him}.

#### 4. LOCALIZATION

- 1) A stomach: cardial and subcardial departments; a body of a stomach; an antral and a pyloric departments; small and greater{big} curvature; forward and back walls.
- 2) A duodenal gut: a bulb (a forward wall, a back wall; small and greater curvature); exbulbar (above or below big a duodenal dummy).
- 3) The incorporated ulcers (a stomach and a duodenal gut); plural ulcers.

#### 5. CLINIC-FUNCTIONAL FEATURES

- 1) A painful syndrome (typical, atypical, expressiveness).
- 2) A dyspeptic syndrome (expressed, absent).
- 3) Functional infringements (character and expressiveness secretory and impellent dissonances of a stomach and a duodenal gut).

#### 6. COMPLICATIONS

- 1) A acute gastroduodenal bleeding.
- 2) A penetration ulcers in the next bodies
- 3) A punching of the ulcer.
- 4) A pyloroduodenal cicatricial stenosis (compensated, subcompensated, decompensated).
- 5) Perivisceritis (perigastritis, periduodenitis).
- 6) A malignant change (fig. 4.2.9).

The international classification of illnesses 10th viewing

— K25 the stomach ulcer

— It is included: a erosion (sharp) of the stomach

— A ulcer (peptic):

— Of the pyloric parts of the stomach

It is excluded: a sharp haemorrhagic erosive gastritis (K29.0)

— a peptic ulcer BDV (K27.)

— K26 the ulcer of the duodenal gut

— It is included: a erosion (sharp) of the duodenal gut:

— ulcer (peptic) of the duodenal gut of the pyloric parts

— It is excluded: a peptic ulcer BDV (K27.)

— K27 A peptic ulcer of not specified localization It is included: a gastroduodenal ulcer BDV  
peptic ulcer BDV

— It is excluded: a peptic ulcer of the newborn (P78.8)

— K28 A gastrojejunal ulcer

It is included: a ulcer (peptic) or erosion:

— anastomosis

— gastro-middle colic

— gastro-enteric (thin gut)

— gastro-caval gut

— jejunal (empty)

— regional

— inosculation

It is excluded: a primary ulcer of a thin gut (K63.3)

TREATMENT PU

DIET

In a phase of sharp aggravation PU the diet is orders to 2-3 days №1 A, after that - a diet №1E. At decrease in expressiveness of an aggravation, it is usual in 5-6 days after the beginning of treatment, the patient translate on a diet №1.

MEDICAMENTOUS THERAPY

1. LIQUIDATION OF THE CHELICOBACTERITIC INFECTION The basic modern principle of treatment PU and accompanying it chronic gastroduodenitis - eradication HP in a mucous membrane of a stomach and a duodenal gut.



As the first line of treatment Hp-associated peptic ulcers are recommended 2 7 plans of day time "threefold" therapy:

a inhibitor of the proton pump in a double dose (omeprazole or ezomeprazole 20 mg, lanzoprazole 30 mg or pantoprazole 40 mg 2 times per day) + clarithromycin 500 mg 2 times a day + amoxicillin 1000 mg 2 times a day;

a inhibitor of the proton pump in a double dose (omeprazole or ezomeprazole 20 mg, lanzoprazole 30 mg or pantoprazole 40 mg) 2 times a day + clarithromycin 250 mg 2 times a day + metronidazole of 500 mg 3 times a day.

In cases of absence eradication after initial antihelicobacteritic treatments the second "reserve" line treatment - "four-componental" therapy (quadrotherapy) is recommended:

A inhibitor of the proton pump in a double dose ((omeprazole or ezomeprazole 20 mg, lanzoprazole 30 mg or pantoprazole 40 mg) 2 times a day in a dose with 1st on 10th day, colloidal subcitrate of the bismuth on 1 tabl.4 times a day + tetracycline on 500 mg 4 times day, metronidazole of 500 mg 3 times a day with 4th till 10th day.

The control for eradication HP is desirable for spending by the noninvasive 1 SC- inspiratory test.

DE-NOL - colloid of the bismuth subcitrate, tablets on 120 mg. Except for antihelicobacteritic actions, reduces activity of the pepsin, increases production gastric mucin. Accept on 1 tablet for half an hour by a breakfast, a dinner, a supper and before a dream during 4-6 weeks. Other technique of treatment - on 2 tablets for half an hour till a breakfast and in 2 hours after a supper, washing down with water.

## 2. ANTISECRETORY PREPARATIONS

Antisecretory means constrain secretion of a hydrochloric acid and pepsin. Synthesis of a hydrochloric acid is supervised by three kinds of receptors which are placed on basal to a membrane of the parietal cells - H<sub>2</sub>-rHCTaMHHOBbiMn, gastrinous and M-cholienergic receptors.

Blockers H<sub>2</sub>-histamine receptors.

Preparations of the given group in therapeutic doses reduce on 80 % basal secretion of a hydrochloric acid, brake synthesis of the pepsin, on 70 % reduce night production of a hydrochloric acid, are considered as the most effective antiulcer means. Have the most powerful antisecretory action, stimulate production of protective slime, normalize a motility gastroduodenal zones. Are used for treatment duodenal and gastric ulcers with the increased secretion and for preventive maintenance of relapses.

RANITIDINE (RANISAC, ZANTAC, RANIGAST. ACILOCK) - blocker H<sub>2</sub>-peuenTopHB 2nd generations, has in 5 times greater(big) antisecretory activity, operates more for a long time - till 12 o'clock. Practically does not cause by-effects - seldom headache, nausea, locks. Tablets on 150 mg accept 1 time in the morning after reception of food and 1-2 tablets in the evening before a dream. Probable other plans of reception - on 1 tablet 2 times per day or on 2 tablets in one stage for the night.

Treatment should be continued during several months or the years, a supported dose - 1 tablet for the night.

FAMOTIDINE (PEPSIDE, ULPHAMIDE, QUAMATHEL) - blocker H<sub>2</sub>-peueriTopHB 3rd generations, on antisecretory effect surpasses ranitidine in 30 times. Tablets on 20 mg and 40 mg, ampoules on 20 mg. At aggravation PU orders on 20 mg in the morning and on 20-40 mg in the evening before a dream. Reception only on 40 mg before a dream during 4-6 weeks, supported therapy - 20 mg lumpsum for the night during 6 weeks is probable. The preparation is well transferred, practically does not cause by-effects.

NIZATIDINE (AKSIDE) - blocker 4th generations. Appoint tablets on 150 mg 2 times per day or 2 tablets to night, for a long time. Gastroduodenal ulcers cicatrize for 4-6 weeks in 90 % of patients. By-effects are absent.

ROXATIDINE - H<sub>2</sub>-6jioKaTop 5th generations. Tablets on 150 mg orders on 1 twice per day or on 2 tablets in one stage to night. By-effects are not described.

Blockers H<sup>+</sup>K<sup>+</sup>ATF-ase (of the proton pump) lydase.

A inhibitors of the proton pump (IPP) operate not on receptor the device parietal cells{cages}, and on endocellular enzyme H<sup>+</sup>, To + ATF-ase, blocking work of a proton pump, so, production of a hydrochloric acid. All IPP are inactive promedicines of selective action. After

peroral reception they are soaked up in a thin gut, get in a blood- groove and are transported to a scene of action - parietal to a cell of a mucous membrane of a stomach. By diffusion IPP collect in a gleam secretorinous canaliculus where pass in the active form - sulfenamide which connects with SH-groups N +, To +-ATF-ase. Molecules of the given enzyme inhibition it is irreversible, and consequently secretion H + is probable only owing to synthesis of new molecules H +, To +-ATF-ase.

OMEPRAZOLE (LOSEC, OMEZ, THYMOPRAZOLE) - tablets on 20 mg. PUppresses both basal, and stimulated secretion of a hydrochloric acid, practically does not cause by-effects. The most powerful the antisecretory preparation, causes scarring ulcers after a monthly rate of therapy in 100 % of patients, including at ranitidine-resistant ulcers. After a canceling "the syndrome of a ricochet" does not develop.

Appoint {nominate} into on 1-2 tablet in the morning before a breakfast or on 2 tablets into after a supper.

PARIETH (RABEPRAZOLE) - a doze of 20 mg a day.

EZOMEPRAZOLE (NEXIUM) - 40 mg a day.

Antagonists gastrinous receptors.

Preparations have not found wide application as at clinical researches were poorly effective.

PROGLUMIDE (MILIDE) - tablets on 200 mg and 400 mg. Accept into on 1-2 tablets of 4-5 times in day. Duration of a rate - 4 weeks. By efficiency does not differ from blockers of the H-2-receptors of the histamine.

### 3. ANTACIDS

An antacids will neutralize or absorb a hydrochloric acid and pepsin, accelerate opening pylorus and an output food of the lump in a duodenal gut, discharge pathological refluxes, reduce intragastric and internal-duodenal pressure which assists liquidation of a pain. An antacids find out easy gastrocytoprotective action. Apply preparations during aggravation PU, it is no more 4-6 weeks. At more long application " the acid ricochet" is observed - acid production in a stomach increases. An antacids are not effective as antirecurrent means.

The antacids which are soaked up.

Preparations are dissolved in gastric juice, operate quickly, but is short-term - 5- 30 minutes. Are used for elimination of a pain and a heartburn. Will neutralize a hydrochloric acid of gastric juice.

SODIUM HYDROCARBONATE - on 0,5-1 r in I and 3 hours after meal and for the night.

The antacids which are not soaked up.

Have slow neutralized action, adsorb a hydrochloric acid, forming with it buffer connections. Are not soaked up, do not change acidic-alkaline balance.

ALMAGEL - bottles on 170 ml. Contains gel of the aluminium hydrate, magnesium oxide, D-sorbite. Has antiacid, enveloping, adsorbing action, and also weakening and cholagogic effect. Accept deep into on 1-2 dosing spoons (1 dosing spoon - 5 ml) 4 times a day for 30 minutes to food or in 1 -1,5 hours after meal and before a dream. After reception of a preparation it is recommended to lay down and every 2 minute some times to turn with a side sideways for the best distribution of a preparation on a mucous membrane.

ALMAGEL A - bottles on 170 ml. On structure it is similar almagel, but contains also anesthesin, it is used at more expressed pains, vomiting.

PHOSPHALUGEL - bags on 16 r, contains colloidal gel of the aluminium phosphate, pectin and an agar-agar. Accept deep into in not dissolved kind on 1-2 bags, washing down with a small amount of water for 30 mines up to meal or through 1,5-2 m after reception of food and for the night.

GASTAL - tablets which contain on 450 mg of the aluminium hydrate and on 300 mg of the magnesium carbonate and the magnesium oxide. Accept on 1-2 tab. through 1 m after reception of food of 4-6 times per day.

MAALOX (MAALOXAN) - suspension in bags on 10 ml and 15 ml, bottles on 100 ml. tablets. Consists the aluminium hydrate, the magnesium hydrate, sorbite and mannite. Stimulates mucus production, synthesis prostaglandin E-2, will neutralize a hydrochloric acid. Accept on 1-2 bags (1-2 tablets) in 1 hour after meal and directly ahead of a dream.

MAALOX-70 - bags on 15 ml, bottles on 100 ml of suspension, tablets. Consists from aluminium hydrate and magnesium hydrate. Apply in 1 hour after food and directly ahead of a dream on 1 -2 bags or 1-2 tablets.

GELUCIL-LAC - antacid long action. Consists of the aluminium silicate, the magnesium silicate and a dry skim milk. Orders on 1 tab. through 1,5-2hrs after food and to night.  
. An adsorbing antacids.

A BASIC BISMUTH NITRATE - has knitting, adsorbing, easy antiseptic action, strengthens allocation of slime, forming a protective layer on a mucous membrane of a stomach. Tablets on 250 mg and 500 mg accept 2 times a day after reception of food. It is applied at a stomach ulcer or a duodenal gut irrespective of a condition of acidity.

VICALINE - contains bismuth subnitrate, magnesium a carbonate, sodium a hydrocarbonate, a powder of a calamus rhizome and buckthorn barks, routines and spasmolysant kelling. Accept on 1-2 tablets 3 times per day after meal in half of glass of water. Feces during treatment becomes dark green.

VICAIR - contains bismuth subnitrate, a carbonate of magnesium, sodium a hydrocarbonate, a powder of a calamus rhizome and buckthorn barks. Accept on 1-2 tablets 3 times a day in 1 hour after meal, washing down with water.

DE-NOLE - colloid bismuth subcitrate, finds out antiacid, enveloping, cytoprotective action, antihelicobacteritic effect. Accept on 1-2 tablets (everyone on 120 mg) 1 hour prior to meal 3 times a day and before a dream. Course of treatment - 4-8 weeks. Feces it is painted in black color.

#### 4.GASTROCYTOPROTECTORS

Preparations increase resistency of a mucous membrane of a stomach and a duodenal gut to aggressive factors of gastric juice.

MIZOPROSTOLE (CYTOTEC, SIGHTOTEC) - synthetic analogue prostaglandin E-1. The preparation raises {increases} synthesis by a mucous membrane of a stomach of slime, bicarbonates, surfactantcic phospholipids, improves microcirculation and stimulates trophic processes in a mucous membrane gastroduodenal zones, reduces return diffusion of ions of hydrogen. Preparations effective for preventive maintenance of formation of ulcers. Mizoprostole appoint in 0,2 mg 4 times a day right after meal, a rate of 4-8 weeks. By-effects - a passing {a taking place} diarrhea, an easy nausea, a headache, pains in a stomach. It is counter-indicative at pregnancy.

ENPROSTILE (ROPROSTILE, THYMOPROSTILE, ARBAPROSTILE) - synthetic analogue prostaglandin E-2. The mechanism of action similar mizoprostole. Apply in capsules or tablets on 35 mg 3 times a day after meal, a rate - 4-8 weeks. By- effects - an easy diarrhea.

BIOGASTRONE (SODIUM CARBENOXOLONE) - received from an extract of a licorice root. Stimulates secretion of slime, increases contained in it sialic acids, increases life expectancy of cells integumentary epithelium and them regeneration potential, prevents return diffusion of ions of hydrogen. It is most effective at stomach ulcers. Tablets on 50 both 100 mg and capsules on 150 mg which use for treatment duodenal ulcers, refers to duogastrone. In the first week of treatment accept on 300 mg day, further on 150 mg day during 5 weeks. Frequency rate of reception - 3 times per day to food. By-effects - hypokalemia, a delay of sodium and water, hypostases, increase of joint-stock company. The preparation is counter-indicative at an arterial hypertension, intimate and to nephritic insufficiency, pregnancy. Does not incorporate with cholinolytic and antacid.

PUCRALFATE (VENTHER) - aluminium salt sucrosulphate. The preparation forming complex connections with fibers of the lost fabrics and on a surface of ulcer defect appears a protective film, sucralfate will locally neutralize a hydrochloric acid, not influencing on pH all stomach, absorbs bilious acids, will neutralize pepsin, increases secretion of slime. Bags or tablets on I Accept on 1 r 40 minutes prior to meal 3 times a day and before a dream during 4-8 weeks. By-effects - a lock, a nausea, gastric discomfort. The preparation can be used for monotherapy, and also to unite with cholinolytic and blockers H-2-peu.enTopoB histamine. Does not incorporate with antacid.

SMECTA - stabilizes a mucous membrane gastroduodenal zones, forming a protective barrier. Accept on 1 bag 3 times a day during 3-4 weeks.

## PREPARATIONS WHICH NORMALIZE THE MOTILITY

**CAERUCAL (METOCLOPAMIDE, REGLAN)** - blocks dopamine receptors, suppresses liberation acetylcholine, oppresses an emetic reflex, a nausea, a hiccups, increases a tone sphincters in the bottom third of gullet, in a cardial department of a stomach, stimulates an excrement of a stomach and peristaltic thin intestines. On secretory processes practically does not influence. It is applied to oppression duodenogastral and gastroesophageal reflux. Accept deep into on 5-10 mg 4 times a day up to meal (a tablet on 5 mg) or intramuscularly on 10 mg 3 times a day (ampoules on 2 ml of 2,5 % of a solution). By-effects - galactorrhea, a headache, eruption on a skin, weakness.

**DOMPERIDONE (MOTILIUM)** - the antagonist of dopamine, accelerates an excrement of a stomach, discharges gastroesophageal and duodenogastral refluxes.

Apply on 1 tablet (10 mg) 3 times a day during 3-4 weeks.

**PULPIRIDE (EGLONIL, DOGMATILE)** - neuroleptic, central cholinolytic, the selective antagonist dopamine receptors. Normalizes a tone of the parasympathetic department of vegetative nervous system, brakes secretion of a hydrochloric acid and pepsin, normalizes a motility of a gastroenteric path - discharges spasms pylorus, accelerates evacuation food chymus. Capsules on 50 mg and 100 mg, tablets on 200 mg, ampoules on 2 ml of a solution of 5 %. By-effects - increase of joint-stock company, galactorrhea, gynecomastia, amenorrhea, infringement of a dream, dizziness, dryness in a mouth. At a stomach ulcer appoint all over again intramuscularly on 100 mg 2-3 times day, in 1-2 weeks pass on peroral reception on 100 mg 3 times a day.

## REPARANTS

Group of medical preparations which improve regeneration processes in a mucous membrane gastroduodenal zones and accelerate scarring ulcers.

**SOLCOSERYL** - a calf blood extract, separated from fiber. The preparation improves microcirculation, stimulates oxidizing processes in fabrics, accelerates epithelization and granulation of defects of a mucous membrane. A preparation 2-3 times enter into day before healing a ulcer, and after that on 2-4 ml once a day (intramuscularly on 2 ml 2-3 weeks). Ampoules contain 2 ml of substance.

**SEA-BUTHORN OIL** - contains a plenty of natural antioxidants tocopherol which block processes peroxide lipids. Accept deep into on 1/2 table spoons 3 times a day (3-4 weeks). Realize in bottles on 100 ml.

**ETHADENE** - stimulates reparative processes in epithelial fabrics, accelerates healing ulcer defect. A preparation enter intramuscularly on 10 ml of 1 times per day during 4-10 days. Realize in ampoules on 5 ml of a solution of 1 %.

**KALEFLONE** - the cleared a calendula flowers extract, has antiinflammatory and reparative action. Accept on 100-200 mg 3 times a day after meal during 3-4 weeks. Realize in tablets on 100 mg.

**SODIUM OXYFERRISCORBONE** - complex ferriferous salt gulonic and alloxonic acids. Stimulates processes reparation and healing of ulcers, especially a stomach. Enter intramuscularly on 30-60 mg daily into continuation of month at a stomach ulcer, at дуоденальной to the ulcer - till 2 months. In an ampoule 30 mg of dry substance contain. By-effects - an itch of the skin, hyperglycemia.

**GASTROPHARM** - the dried up bacterial bodies of a lactic Bulgarian stick. Stimulates reparative processes into the gastroduodenal zone. Accept on 1-2 tablets 3 times a day 30 minutes prior to meal in continuation of month. Realize in tablets on 2,5 **RHETABOLILE** - the steroid anabolic, is recommended to prostrate patients. Appoint on 1 ml of a solution of 5 % intramuscularly once a week (1-2 injections).

## 7. PREPARATIONS OF THE CENTRAL ACTION

**DALARGIN** - synthetic analogue enkephalin. Has anesthetizing action, improves a psycho-emotional condition, increases production of the somatostatin, oppresses acid production, assists healing of the ulcer. Apply intravenously or intramuscularly, on 1 mg in 10 ml of a physfluid 2 times a day. Realize in ampoules on 1 mg of dry substance.

When the Hp-infection is absent, treatment Hp-negative peptic PU and DG is recommended to be spent by monotherapy modern acid-reductive preparations. For effective healing ulcers it is necessary, that intragastric pH was above 3,0 during 16-18 hours per day. The most effective

antiulcers preparations are IPP. At their use in standard doses the duodenal ulcer is healed during 3-4, and the stomach - 4-8 weeks. At absence of effect therapy by locally operating preparations - sucralfate or colloid bismuth subcitrate of 2-4 weeks is recommended.

## INDICATIONS FOR SURGICAL TREATMENT

Absolute:

1. A punching a ulcer
2. A profuse gastroenteric bleeding
3. The stenosis which is accompanied expressed by evacuatorial infringements

Relative:

1. The Inefficiency of repeatedly lead adequate medicamentous therapy
2. Reusable gastroenteric bleedings in the anamnesis
3. Relapse of disease after suturing ruptured ulcers
4. A greater caliosic penetration ulcers, which resistant to medicamentous therapy

## PREVENTIVE MAINTENANCE

1. Improvement of psycho-social adaptation of the patient, elimination of negative emotions, psychotherapy which is directed on change of a stereotype of emotional reaction, social behaviour and valuable orientations.
2. The actions directed on change of a way of life and improvement of operating conditions.
3. The organization of a balanced diet.
4. Medicamentous-preventive treatment (the autumn-spring period and therapy on demand).
5. Sanatorium treatment

Stomach ulcer. The control of an initial level of knowledge

1. Which of the listed factors will play the role in etiology of stomach ulcer?

- A. alimentary;
- B. heredity;
- C. all listed;
- D. HP;
- E. chronic stress.

2 Which of this factors does not define the pathogenesis of stomach ulcer?

- A. infringement of cortical-subcrustal mutual relations;
- B. infringement of processes of regeneration mucous;
- C. disbalance factors of aggression and protection;
- D. increased production of the hydrochloric acid;
- E. allergic reaction of the slowed down type.

3. How does the painful syndrome change in case of stomach ulcer complicated by bleeding?

- A. amplifies;
- B. decreases;
- C. remains without changes;
- D. becomes gripping;
- E. loses touch with reception of food and time of day

4. Which hemodynamic changes are observed at a gastroenteric bleeding?

- A. bradycardia, ABP decrease;
- B. bradycardia, ABP increase;
- C. tachycardia, ABP decrease;
- D. tachycardia. ABP increase;
- E. arrhythmia, ABP does not change.

5. In which of the organs more often penetrates the duodenal ulcer?

- A. liver
  - B. spleen;
  - C. pancreas;
  - D. intestines;
  - E. diaphragm
6. What clinical symptoms are characteristic for development of the ulcer stenosis?
- A. loss of appetite;
  - B. unitary vomiting with blood;
  - C. vomiting by the food eaten on the eve;
  - D. nausea, bitterness in a mouth;
  - E. heartburn, an eructation sour.
7. How does the painful syndrome changes with malignant ulcers?
- A. amplifies;
  - B. decreases;
  - C. disappears;
  - D. loses cyclicity, rhythm, seasonal prevalence;
  - E. does not change.
8. Which group of drugs related to antisecretory?
- A. blockers of the H<sub>2</sub>-histamine receptors, inhibitors " proton pump ";
  - B. metabolics, cytoprotectors;
  - C. reparants, M-cholinolytics;
  - D. spasmolytics, enzymes;
  - E. bismuth's preparations, anabolics.
9. Which of the listed drugs is blocker H<sub>2</sub>-receptors?
- A. omeprazole;
  - B. methacin;
  - C. de-nol;
  - D. quamatel;
  - E. vicaline.
10. Which of the methods of instrumental research is the most informative at the stomach ulcer?
- A. x-ray of organs of the belly cavity;
  - B. irrigoscopy;
  - C. FGDS with biopsy;
  - D. cholecystography;
  - E. research of gastric juice.

Answers "Stomach ulcer"

- |      |       |
|------|-------|
| 1. C | 6. C  |
| 2. E | 7. D  |
| 3. B | 8. A  |
| 4. C | 9. D  |
| 5. C | 10. C |

The control of the final level of knowledge

1. Which of the stimulators is the most physiological in recruitment of gastric juice?
- A. histamine;
  - B. insulin;
  - C. aminophylline;

- D. pentagastrine;
  - E. caffeine
2. Which of the listed diseases is the contra-indication to carrying out of research of gastric juice?
- A. gullet stricture;
  - B. old myocardial infarction;
  - C. mental diseases;
  - D. hypertonic disease of II-III stage;
  - E. all listed variants.
3. What caused the color of vomit at ulcer bleeding?
- A. formation salino-sour hematin;
  - B. impurity of the bile;
  - C. presence of the food impurity;
  - D. impurity of the pancreatic juice;
  - E. all listed variants.
4. In what condition of acidity of the stomach pH 2,1 -5,9 in basal and 2.1-3,0 in stimulated phase of secretion?
- A. hyperacidity;
  - B. hypoacidity;
  - C. normal acidity;
  - D. achilia;
5. Which of this features does not applies to the attribute of the pyloric ulcer?
- A. refractory recurrent clinical course;
  - B. short and unstable remissions;
  - C. frequent complications by a bleeding and stenosis;
  - D. deformation of bulb DG and the gatekeeper;
  - E. expressed painful and dyspeptic syndromes
6. Bacteria helicobacter pylory is:
- A. acid unstable;
  - B. acid neutralizing;
  - C. hydrochloric acid neutral for a metabolism of bacteria;
  - D. acid resisting;
  - E. alkali adjective.
7. The indications for urgent hospitalization in surgical branch are stomach ulcer with following complications, except one:
- A. punching of the ulcer;
  - B. penetration of the ulcers;
  - C. the subcompensated stenosis of the gatekeeper;
  - D. bleeding from of the ulcer;
  - E. periduodenitis.
8. The direct radiological attributes of the peptic ulcer is:
- A. symptom of "niche";
  - B. inflammatory shaft;
  - C. convergence of folds;
  - D. defect of filling;
  - E. all set forth above.
9. Occurrence of "noise of splash" is connected with:

- A. presence of the functional pylorus stenosis;
- B. presence of the organic pylorus stenosis;
- C. association of functional and organic pylorus stenoses;
- D. hypersecretion of the hydrochloric acid;
- E. hyposecretion of the hydrochloric acid.

10. Vomiting by the "coffee grouts" is observed:

- A. gastrointestinal bleeding;
- B. bilious colic;
- C. nephritic colic;
- D. pulmonary bleeding;
- E. varicose-expanded veins of the gullet.

A final level of knowledge

Right answers.

- 1. A    6. D
- 2. D    7. E
- 3. A    8. E
- 4. B    9. C
- 5. E    10. A

Situational tasks

1. The patient has enter in the gastroenterology unit with complaints on heavy feeling in epigastrium, arising after meals, nausea, vomiting by food which is eaten on the eve, general weakness. Suffers from the stomach ulcer about 18 years, it was repeatedly treated. Present deterioration began gradually during a year, has grown thin for 5 kg. With palpation of the belly the constrained morbidity in epigastrium, greater curvature of a stomach is defined on 2 sm below of the omphalus, with percussion in epigastrium - "noise of splash ". What complication of the stomach ulcer has the patient?

- A. punching of the ulcer;
- B. penetration of the ulcer;
- C. pyloroduodenal stenosis;
- D. perivisceritis;
- E. malignant change.

2. The 36 year old man complains of dizziness, the general weakness during 2 days. She suffers from stomach ulcer of a bulb of duodenum about 8 years. Objectively: FB - 22 for 1 minute, pulse - 100 for 1 minute, blood pressure - 95/60 mm hg. The skin and mucous membranes are pale. Which of the researches will be the most authentically confirm a bleeding at this patient?

- A. Colonoscopy
- B. FGDS
- C. Proctoscopy
- D. Irrigoscopy
- E. Roentgenoscopy

3. The 27 year old man was directed to the doctor in occasion of an aggravation of the stomach ulcer. It has been taken the test on presence of pathological flora during gastroscopy. Which agent most likely will be detected?

- A. Lamblia
- B. Chelicobacterium
- C. S. Candidium
- D. Staphylococcus
- E. Clamydia



4. The 35 year old woman was entered in clinic with complaints of pain in epigastrium which arises in 1-1,5 hours after the meals, heartburn, vomiting which brings simplification. Objectively: glosso is imposed white for a short while, a belly soft, painful in epigastrium. It was observed the positive Mendel's symptom. What diagnosis is the most probable?

- A. peptic ulcer of the stomach
- B. peptic ulcer duodenum guts
- C. GERD
- D. functional dyspepsia
- E. chronic pancreatitis

5. The ulcer of a bulb of the duodenum for the first time is diagnosed for the young 18 year old man. The test on *Helicobacter pylori* - positive, pH of gastric juice - 1,0. Which of the plan of treatment is the most expedient in this case?

- A. Omeprazole + amoxicillin+clarithromycin
- B. De-nole + trichopol+almagel
- C. Gastrostat + omeprazole+metacin
- D. Omeprazole + oxacillin+atropine
- E. De-nole + cimetidine+papaverine

6. The 35 year old man complains of intensive hungry pain in epigastrium, heartburn, regurgitation the sour contents, propensity to locks. The data of FGDS: an ulcer of the bulb of duodenum. What symptom the most authentically testifies to efficiency orders of etiopatogenetic therapies at an early stage of treatment?

- A. Decrease of the pain
- B. Dissolution of the pain.
- C. S. Dissolution of the heartburn
- D. Normalization of the defecation
- E. Dissolution of the regurgitation symptoms

7. The 32 year old patient suffers from chronic gastroduodenitis during 5 years. Smokes, eats irregularly. Holds a supervising post. During last month there was a hungry night pain. Objectively: local morbidity in epigastrium is defined. Resistance and Mendel's positive symptom in the pyloroduodenal zone. Data FGDS: a ulcer on a forward wall of a duodenal gut. Which of factors is leader in occurrence of this pathology?

- A. Smocking
- B. Chronic gastroduodenitis in the anamnesis
- C. S. Infections by *Helicobacter pylori*
- D. Disruption of the feed and stresses
- E. All above-listed

8. At the 25 year old patient were appeared a heartburn, locks, pain in epigastrium which arise in 1,5-2 hours after meals, sometimes at night, in the autumn. The pain amplifies in case of the use of acute, salty, sour food, decreases after application of soda. Is ill {sick} during a year. The sick lowered fatness, language is not imposed, damp. During percussion and palpation of the stomach morbidity in mesogastrium is defined. In this area is defined resistance of the forward belly wall muscles. What diagnosis is the most probable?

- A. Autoimmune gastritis
- B. Diaphragmatic hernia
- C. Peptic ulcer of the duodenum
- D. Cholelithic disease
- E. Chronic pancreatitis

9. The patient was entered in gastroenterology department with complaints of multiple vomiting with the vomit of "a coffee grouts" color, the general {common} weakness, dizziness. In the

anamnesis – the stomach ulcer. During last week it was disturbed a pain in epigastrium after meals, it was not treated. Detect disappearance hurt after vomiting. What is the most probable diagnosis?

- A. gastrointestinal bleeding
- B. chronic pancreatitis
- C. pulmonary bleeding
- D. cholelithic disease
- E. thrombosis of mesenteric vessels

10. The 37 year old man was delivered in hospital with complaints of pain in epigastrium through 2 days after meals. Objectively: the blood pressure - 110/70 mm hg. Language damp, near a root is covered albescent for a short while. It was defined the morbidity and pressure of muscles in epigastrium. Endoscopy: a chronic ulcer with localization in bulb of duodenum. The doctor ordered to the patient a famotidine, 40 mg a day. With what purpose was famotidine order?

- A. Antisecretory action
- B. Stimulation reparative processes
- C. Decrease of the inflammatory and dystrophic changes
- D. Bactericidal effect
- E. Increase of the prostaglandins synthesis.

Right answers to situational tasks

- |      |       |
|------|-------|
| 1. C | 6. B  |
| 2. B | 7. E  |
| 3. B | 8. C  |
| 4. B | 9. A  |
| 5. A | 10. A |

Control questions

- 1. Definition of PU.
- 2. Etiopathogenetic mechanisms of PU
- 3. The basic clinical syndromes of PU
- 4. The characteristic of physical data at PU
- 5. Features of the course of stomach ulcers
- 6. Features of the course of ulcers of duodenum
- 7. Name the methods of diagnostics of PU
- 8. Name the complications with PU
- 9. Principles of antichelicobacterial therapy
- 10. Antisecretory therapy for the patient with PU
- 11. Medication therapy of the Hp-negative ulcers
- 12. Prevention of PU

Practical tasks

- 1. Curate the patients with PU
- 2. Give the interpretation of the received results of laboratory researches
- 3. Give the interpretation of the received results of instrumental researches
- 4. Lead the differentiated diagnosis with PU
- 5. Name the complications with PU
- 6. Write down the recipes concerning the treatment of PU