




**AID (acute infectious diarrhea).
Enteritis.**



□ The symptoms of damage GIT are characteristic for many **infectious** and **noninfectious** diseases :

1) dyspepsia,

2) vomiting,


3) **diarrhea**,

4) abdominal **pain** of different localization,


5) dehydration.


□ **DYSPEPSIA** (in accordance with the Roman criteria of II, 1999) is the syndrome, determined as being of pain or discomfort (heaviness, repletion, early satiation), localized in an epigastric area nearer to the midline.

Symptom	Determination
Pains localized in the epigastric area on a midline	Pains are subjectively perceived as an unpleasant feeling, some patients can feel like the damage of tissue. Other symptoms can disturb a patient, but not determined to them as pains. It is necessary to distinguish pains from feeling of discomfort.
Discomfort localized in an epigastric area on a midline	The subjective unpleasant feeling that is not interpreted by a patient as pain.



Symptom	Determination
Repletion	The unpleasant feeling of delay of food is in a stomach, constrained or unconnected with eating.
Swelling in epigastric area	Feeling of spreading in an epigastric area, it must be distinguished from the visible swelling of stomach.
Nausea	Feeling of faintness and coming vomiting.

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- A **dyspepsia** syndrome is characteristic for many infectious diseases of attended with diarrhea :
 - ✓ acute BACTERIAL FOOD POISONING,
 - ✓ salmonellosis, shigellosis,
 - ✓ esherihiosis, AID, caused by provisionally pathogenic bacteria,
 - ✓ gastroenteric form of yersiniosis,
 - ✓ rotaviral gastroenteritis of and other viral diarrhea,
 - ✓ initial period of botulism,
 - ✓ possible in the pre-icteric period of VH.



□ The syndrome of dyspepsia is also looked after at different organic damages and functional disorders of GIT :

✓ acute gastritis, ulcerous illness,


✓ GERD,

✓ malignant tumours,

✓ cholelithiasis,

✓ acute and chronic pancreatitis.

- It is accepted to talk about the syndrome of organic dyspepsia if at the careful inspection of patient the indicated diseases are not educed.




□ STOMACH-ACHES – one of basic symptoms of acute diarrheal infections, where localization and character of them depend on primary localization and prevalence of inflammatory process in bowels.

- ✓ At acute enteritis spastic pains in all stomach.
- ✓ At the acute colitis spastic pains are localized in iliac area.
- ✓ At the distal colitis (proctosigmoiditis) pains are localized in the left iliac area, painful spasmed sigmoid bowel is palpated.

At differential diagnostics of pain in stomach recognition of acute **surgical and gynaecological** pathology has main value :

- 1) acute appendicitis,
- 2) cholecystitis,
- 3) pancreatitis,
- 4) bowel obstruction,
- 5) thrombosis of mesenteric vessels,
- 6) perforation ,
- 7) ectopic pregnancy,
- 8) ovarian cysts,
- 9) pelvioperitonitis,
- 10) ovarian apoplexy.



□ Pains in an epigastric area, like at acute BACTERIAL FOOD POISONING, are possible at:

1) heart attack (more often – in area of back wall of the left ventricle),


2) pneumonias (especially low lobe).

- **At acute diarrheal infections pains are spastic without clear local tenderness and symptoms of irritation of peritoneum.**



□ **VOMITING** (at acute diarrheal infections is often).

- 1) single,
- 2) repeated,
- 3) frequent;
- 4) scanty or abundant («vomiting by a full mouth»);
- 5) by the eaten food,
- 6) with a bile,
- 7) with blood.




□ Vomiting at acute diarrheal infections appears as a result of:

- 1) **inflammatory changes** of mucous membrane,
- 2) **increases of permeability** of membranes of cells,
- 3) under the **actions of endotoxin** of causative agent (intoxication),
- 4) **considerable excretion** of liquid in the space of upper departments of GIT,
- 5) **antiperistalsis**.




■ **Syndrome of intoxication** has a large role in the origin of vomiting:

- 1) in the initial period of the infections not related to the group of acute diarrhea (erysipelas, meningococcal infection, malaria and other),
- 2) at acute surgical and gynaecological diseases,
- 3) toxicosis of the first half of pregnancy,
- 4) decompensations of diabetes mellitus,
- 5) abstinent syndrome for the patients with alcoholism and drug addiction,
- 6) poisoning by salts of heavy metals, mushrooms, organophosphorous compounds and surrogates of alcohol.

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- The account of preceding nausea and direct facilitation after vomiting allows to distinguish its **gastric or cerebral** genesis at:


- 1) cerebral edema,
- 2) hypertension,
- 3) subarachnoid hemorrhage,
- 4) stroke.



□ **DIARRHEA** is observed at most patients by acute diarrheal infections (diarrhoea is first cause for to call the doctor).

▪ Four types of diarrhea are known, conditioned by different pathogenetic mechanisms:

- 1) secretory;
- 2) hyperexsudate;
- 3) hyperosmolar;
- 4) hyper- and hypokinetic.
- 5) sometimes it's combination.




✓ **Secretory diarrhea** – strengthening of secretion of sodium and water in the space of bowel and/or decline of absorptive ability of bowel.

- The osmolality of the excrement masses is below than osmolality of plasma of blood; feces are watery, abundant.

✓ **Hyperexsudate diarrhea** – mucifying and transuding of plasma of blood and serum proteins in the space of bowel (at inflammatory processes in bowels).

- The osmolality of the excrement masses is higher than osmolality of plasma of blood; feces liquid, with the admixture of mucus, blood and pus.

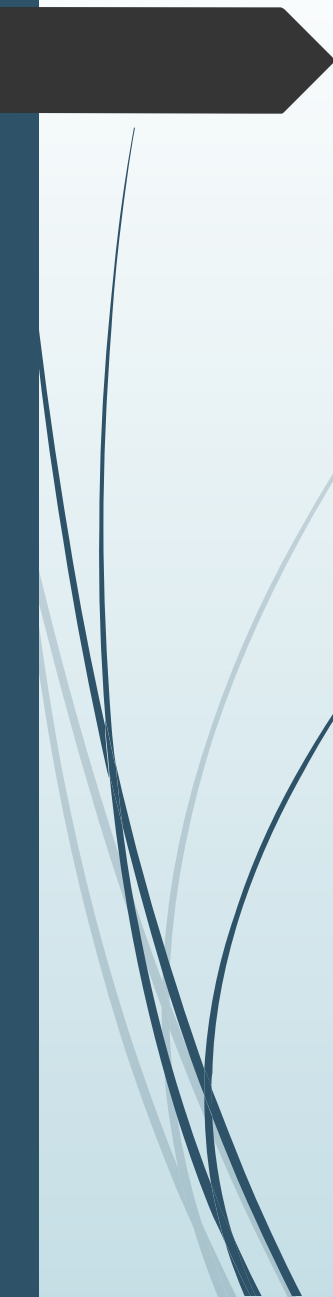
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- ✓ **Hyperosmolar diarrhea** – disorder of absorption in the thin bowel of one or a few nutritives and/or disorder of exchange processes (malabsorption, enzymopathy, abuse by salt purgatives).
 - The osmolality of the excrement masses is higher than osmolality of plasma of blood; feces abundant, liquid, with the admixture of undigested food.
 - ✓ **Hyper- and hypokinetic diarrhea** – disorder of transit of intestinal content, conditioned by an increase or lowering of movement of bowel (often at the irritative bowel syndrome, neuroses abuse purgative and antacids).
 - The osmolality of the excrement masses corresponds to the osmolality of plasma of blood. Feces is liquid or pappy, unabundant.

✓ **DEHYDRATION**(dehydration) – is a major syndrome developing because of damage GIT and conditioned by a loss by the organism of liquid and salts at vomiting and diarrheae.

✓ Dehydration of different degree appears at most acute infectious diarrheae.

- For adults often **isotonic type** of dehydration.
- Transsudation of poor albumen isotonic liquid that is not reabsorbed in a colon.
- Hemoconcentration grows with the loss of water and also electrolytes.
- It often results by metabolic acidosis.
- At predominance of vomiting a metabolic alkalosis is possible.

Indexes	Degree of dehydration			
	I	II	III	IV
Losses of liquid to mass of body	under 3%	4-6%	7-9%	10% and more
Vomiting	under 5 times	under 10 times	under 20 times	Frequent
Liquid stool	under 10 times	under 20 times	Repeatedly	Frequent
Thirst, dryness of mucous membrane of mouth	Mildly expressed	Considerably expressed	Considerably expressed	Acutely expressed
Cyanosis	It is absent	nasolabial triangle	Acrocyanosis	Diffuse cyanosis




Indexes	Degree of dehydration			
	I	II	III	IV
Elasticity of skin and turgor	Not changed	Decreased at elderly	Acutely decreased	Acutely decreased
Change of voice	It is absent	Weak	Getting of voice hoarse	Aphonia
Cramps	Are absent	Sural muscles, short-time	Long and painful	Generalized. – “obstetrician hand”. “tip foot”
Pulse	Not changed	under 100 in a minute	under 120 in a minute	filamentous or not determined
Systole BP	It is not changed	To 100 mmHg	To 80 mmHg	Less than 80 mmHg

Indexes	Degree of dehydration			
	I	II	III	IV
hematocrit	0,40-0,46	0,46-0 50	0,50-0.55	More than 0.55
pH of blood	7,36-7,40	7,36-7,40	7,30-7,36	Less than 7,30
Alkaline deficiency	absent	2-5 mmol/l	5-10 mmol/l	> 10 mmol/l
hemostasis	not changed	not changed	Slight hypocoagulation	hypocoagulation, thrombocytopenia
Disorder of electrolytes	It is absent	Hypokaliemia	Hypokaliemia and hyponatriemia	Hyponatriemia and hypokaliemia
Diuresis	Not changed	Oliguria	oligoanuria	Anuria

□ **Diarrhea** (diarrhoea) - frequent defecation at that feces have liquid consistency can be conditioned by many reasons of both infectious and noninfectious character.

✓ **Infectious:**


- 1) adenoviral infection;
- 2) amebiasis;
- 3) balantidiasis;
- 4) botulism;
- 5) yersiniosis;
- 6) campylobacteriosis;
- 7) cryptosporidiosis;
- 8) leptospirosis;
- 9) gisrdiasis;

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- 10) food poisoning by bacterial toxins;
 - 11) rotaviral diarrhea;
 - 12) salmonellosis;
 - 13) anthrax;
 - 14) staphylococcal enteritis;
 - 15) typhoid fever;
 - 16) cholera;
 - 17) schistosomiasis intestinal and Japanese;
 - 18) enteroviral infection;
 - 19) escherichiosis;
 - 20) HIV-infection;
 - 21) Other infectious diseases (with expressed intoxication syndrome).

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✓ **Noninfectious:**

- 1) poisoning by mushrooms;
- 2) poisoning by salts of heavy metals;
- 3) poisoning by poisonous fishes and sheellfishes;
- 4) alimentary gastroenterocolitis;
- 5) allergic enterocolitis;
- 6) other noninfectious illnesses.

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- The brought list is not complete and conditional. It does not have diseases when diagnostics bases on not clinical symptomatology but on data of bacteriologic examination (klebsiellosis, clostridiosis and other).
 - It is possible easily to distinguish the group of illnesses with the signs of gastroenteritis, when most important symptoms are nausea, vomiting, pains in an epigastric area, tenderness at palpation of upper part of stomach and diarrhea.
 - At different nosology forms or gastritis, or enteritis (without vomiting), or colitis signs can prevail.
 - On the different stages of aqute infection can have different character of damage GIT.

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✓ **Infection diarrhea** can be also divided into three groups:

- 1) without inflammation (mainly enteritises),
- 2) inflammatory (mainly gastroenterocolitis),
- 3) invasive (causative agent penetrates mucous membrane, colitis).

Mechanism	Location	Illness	Stool Findings	Examples of Pathogens Involved
Noninflammatory (enterotoxin)	Proximal small bowel	Watery diarrhea	No fecal leukocytes; mild or no increase in fecal lactoferrin	<i>Vibrio cholerae</i> , enterotoxigenic <i>Escherichia coli</i> (LT and/or ST), enteroaggregative <i>E. coli</i> , <i>Clostridium perfringens</i> , <i>Bacillus cereus</i> , <i>Staphylococcus aureus</i> , <i>Aeromonas hydrophila</i> , <i>Plesiomonas shigelloides</i> , rotavirus, norovirus, enteric adenoviruses, <i>Giardia lamblia</i> , <i>Cryptosporidium</i> spp., <i>Cyclospora</i> spp., microsporidia
Inflammatory (invasion or cytotoxin)	Colon or distal small bowel	Dysentery or inflammatory diarrhea	Fecal polymorphonuclear leukocytes; substantial increase in fecal lactoferrin	<i>Shigella</i> spp., <i>Salmonella</i> spp., <i>Campylobacter jejuni</i> , enterohemorrhagic <i>E. coli</i> , enteroinvasive <i>E. coli</i> , <i>Yersinia enterocolitica</i> , <i>Listeria monocytogenes</i> , <i>Vibrio parahaemolyticus</i> , <i>Clostridium difficile</i> , <i>A. hydrophila</i> , <i>P. shigelloides</i> , <i>Entamoeba histolytica</i> , <i>Klebsiella oxytoca</i>
Penetrating	Distal small bowel	Enteric fever	Fecal mononuclear leukocytes	<i>Salmonella typhi</i> , <i>Y. enterocolitica</i>

TABLE 10-5 Pathogenic mechanisms of diarrhea caused by enteric bacteria

PATHOGENIC MECHANISMS OF DIARRHEA CAUSED BY ENTERIC BACTERIA			
Pathogenesis	Mode of action	Clinical presentation	Examples
Mucosal adherence	Attachment, colonization and effacement of intestinal mucosa	Secretory diarrhea	Localized adhering EPEC, enteroaggregative <i>E. coli</i> , diffuse adhering <i>E. coli</i> , ETEC
Toxin production:			
Neurotoxin	Action on the autonomous nervous system	Enteric symptoms	Staphylococcal enterotoxin b, <i>Clostridium botulinum</i> , <i>Bacillus cereus</i>
Enterotoxin	Fluid secretion without damage to the mucosa	Watery diarrhea	<i>Vibrio cholerae</i> , ETEC, <i>Salmonella</i> spp., <i>Campylobacter</i> spp., <i>Clostridium difficile</i> toxin A, <i>Clostridium perfringens</i> type A
Cytotoxin	Damage to the mucosa	Inflammatory colitis, dysentery	<i>Shigella dysenteriae</i> serotype 1, <i>E. coli</i> 0157:H7, <i>Clostridium difficile</i> toxin B, <i>Salmonella</i> spp., <i>Campylobacter</i> spp.
Mucosal invasiveness	Penetration into the mucosa and destruction of epithelial cells	Dysenteric syndrome	<i>Shigella dysenteriae</i> serotype 1, <i>Shigella sonnei</i> , <i>Shigella flexneri</i> , EIEC, <i>Campylobacter</i> spp., <i>Yersinia</i> spp.

INFECTIOUS DISEASES With SYMPTOMS of **GASTROENTERITIS**


1 group of infectious gastroenteritises of – durates with a fever and expressed symptoms of general intoxication (exactly these signs allow to differentiate them from noninfectious illnesses).

2 group of infectious (more precisely tox-infectious) gastroenteritises durates without the expressed fever – botulism, poisoning by a staphylococcus enterotoxin, cholera, exotoxin is also has basic role in pathogenesis.

Gastroenteritises with a fever.


Shigellosis, salmonellosis (gastroenteric form), esherihiosis:

- 1) A **shigellosis** is more often conditioned by shigella Sonnei and Flexneri (other types of shigella is possible).
- 2) Common property of these illnesses is combination of **fever** (sometimes to 39 C and higher), symptoms of **general intoxication** and signs of damage GIT as vomiting and **diarrhea**.
- 3) There is **more expressed** and protracted (to 3-5 days) **fever** is at the **salmonellosis**.
- 4) At **esherihiosis** more often **subfebrile fever** during short time.
- 5) For a shigellosis development of the expressed dehydration is not characteristic.
- 6) Hepatolienal syndrome is not marked at a shigellosis unlike at salmonellosis.

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- 7) **TIS** is possible both at shigellosis and at salmonellosis (more often).
 - 8) Involving of colon is characteristic for a shigellosis, rather than just stomach and thin bowel, as at patients with gastroenteric form of salmonellosis. Where are spasm and tenderness of colon especially descending and sigmoid, admixture of mucus and blood in feces at shigellosis.
 - 9) The diagnosis of shigellosis and salmonellosis can be put on the basis of clinical and epidemiological data.
 - 10) Shigellosis is confirmed bacteriologically in 50-70% cases, serological reactions are less informative.
 - 11) At palpation of stomach tenderness is localized at salmonellosis mainly in an epigastric area, in less degree in umbilical area, rumbling is marked in area of cecum. The symptoms of colitis are not present.

□ **Cryptosporidiosis** is a protozoan disease with enteritis and enterocolitis more often observed for children and at persons with an immunodeficit (HIV-infected of and other) :

- 1) Enterocytes are struck, **total damage** of microvilluses of thin bowel presents at severe forms.
- 2) **Lactose insufficiency**, bacterial fermentation of sugars in to fat acids assist appearance of abundant watery stool with a disgusting smell.
- 3) A disease begins aqutely, **profuse diarrhoea** with paroxysmal stomach-aches, fever, nausea and vomiting appear.
- 4) At patients with AIDS disease durates severely, the temperature of body reaches to 39 °C and higher.
- 5) At patients with AIDS frequent vomiting and abundant stool leads to loss of liquid up to 10-15 l/day. A disease becomes chronic and lasts 4 months and more.
- 6) At patients with AIDS cryptosporidiosis combines with other AIDS-associated illnesses (pneumocysts, Kaposhi sarcoma, candidiasis and other).



□ **Isosporiasis** (coccidiosis) – a protozoan anthroponosis - is observed mainly at persons with an immunodeficit (HIV-infected of and other) :

- 1) Symptoms of general intoxication (temperature 39 °C, headache, myalgia) and damage of organs of digestion (nausea, vomiting, liquid stool sometimes with the admixture of mucus) are typical.
- 2) The manifestation of illness present 1-2 weeks., and for patients with AIDS disease durates severely over the month.
- 3) A diagnosis is confirmed by a discovery oocytes in a stool or duodenal content.


□ **Esherihiosis:**

- 1) More often durates like shigellosis with predominance of colitic syndrome.
 - 2) At some patients aqute gastroenteritis with the mildly expressed symptoms of general intoxication and subfebrile temperature of body develops.
 - 3) Vomiting in the first day of illness, 1 -2 times, pains in epigastrium are expressed poorly.
 - 4) Stool up to 10 times per days with the admixture of mucus, on occasion and blood.
 - 5) At the rectoscopy change of mucous membrane of bowel expressed mildly, like at mild form of shigellosis.
 - 6) A diagnosis can be confirmed by finding of Esherihia from the vomitive masses and feces.
 - 7) Serologicaly growth of title of antibodies in 4 times and more can be found.
- The similar picture of illness is marked at gastroenteritises, caused Proteus, Enterococcus, B. ceracis, diagnostics is possible only bacteriologically.

- Diseases without the expressed temperature reaction and conditioned mainly by bacterial toxins or disorder of absorption form the second group of illnesses with vomiting and diarrhea,.

□ **Rotaviral disease** (rotaviral gastroenteritis) :

- 1) Disease begins acutely, at severe forms has fever (38-39 °C), mild forms diuresis without a fever.
- 2) Pains in an epigastrium, nausea, vomiting, abundant liquid watery stool without the admixture of mucus and blood with a strong unpleasant smell are typical.
- 3) Moderate dehydration (I and II degree) develops. At 5% patients severe dehydration develops with the decompensated metabolic acidosis (possible ARF).
- 4) Disease is confirmed serologically.



□ Viral diarrhea is acute diseases conditioned by the group of the **shallow round viruses** (group Norfolk, Caliciviruses and other) :


- 1) It has infective episodic morbidity.
- 2) Moderate intoxication. The temperature of body is subfebrile or normal.
- 3) More often diurates as gastroenteritis, stool is liquid watery, presence of exanthema is possible.
- 4) Dehydration develops very rarely.

□ Cholera:

- 1) Fever and stomach-aches are absent.
- 2) The order of appearance of vomiting and diarrhea is important.
- 3) At all bacterial gastroenteritis and toxic gastritis vomiting appears in the start, and then, after a few hours – diarrhea.
- 4) At a cholera, vice versa, diarrhea appears in the start, and then vomiting (without other signs of gastritis) develops.
- 5) Diagnosis can be set on clinical and epidemiological data.
- 6) However the first cases and sporadic diseases must be necessarily confirmed laboratory.
- 7) Expressed haemoconcentration and demineralization can be marked.
- 8) Diagnosis can be confirmed bacteriologically, serologically.


□ Botulism:

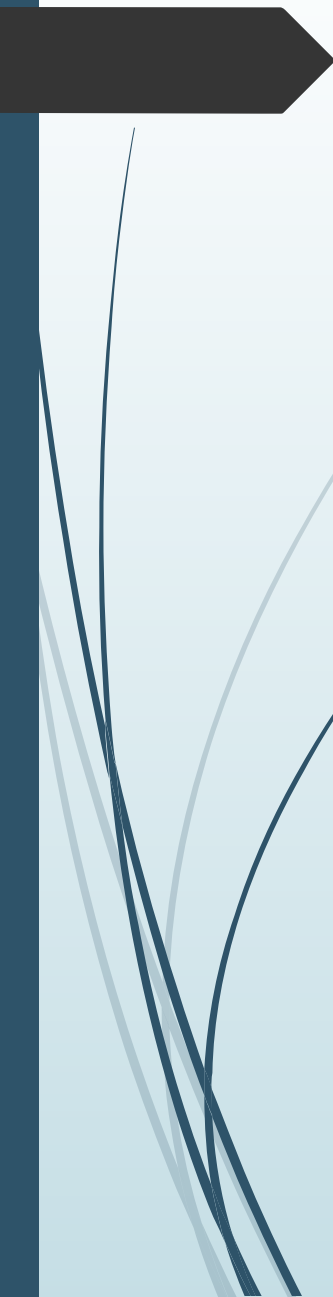
- 1) In some cases it begins with appearance of vomiting and diarrhea before development of characteristic damages of the nervous system.
- 2) There is not a fever or subfebrile.
- 3) Not gastroenteritis, but gastroenteric syndrome presents (action of toxin).
- 4) Diarrhea and vomiting not protracted (no more than 1 day).
- 5) Appearance of signs of paralytic syndrome allows to put diagnosis clinically.
- 6) First manifestation of neurological syndrome – visual disorder and dryness in mouth.
- 7) Dryness appears early at all sick (falls short of the degree of dehydration).


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- 8) Visual disorders caused by damage of 3d, 4th and 6th pairs of cranial nerves.
 - 9) Mydriasis, limitation of motion of eyeballs in all parties, bilateral ptosis, diplopia, cycloplegia, anisocoria are more typical.
 - 10) Paresis of facial muscles leads to amimia, masklike [Parkinson's] face, impossibility bare one's teeth, frown eyebrows.
 - 11) In future disorder of act of swallowing (feeling of «lump is in the throat»), difficulty of swallowing of dry food and then and liquids appear. As a result of paresis of muscles of farynx and larynx food gets in a trachea (choking, cough, aphonia). Development of illness in future can result in paresises and paralyses of skeletal muscles of trunk and extremities.
 - 12) Laboratory confirmation of botulism (finding out toxin) is retrospective.

□ **Poisoning by a staphylococcus enterotoxin:**

- 1) Meets often.
- 2) Occupies as though intermediate position between infectious diseases and poisoning of noninfectious nature.
- 3) Illness begins very quickly after eating, containing a staphylococcus enterotoxin.
- 4) Latent period is from 30 minutes to 3-5 hours, rarely – 24 hours.
- 5) Poisoning possible after use of pastry wares (creams, pastries, cakes, etc.), meat dishes and fish kept in an open kind. Poisoning by staphylococcus enterotoxin can develop at the use of the warmed up foods, because a toxin is not destroyed by temperature.
- 6) Intensive pains in epigastric area (more intensive, than at gastroenteritis of other nature), vomiting are typical.
- 7) The temperature of body remains normal or subfebrile.

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- 8) Diarrhea is expressed poorly and short-time (can be absent).
 - 9) Dehydration develops rarely.
 - 10) Expressed asthenia of patient, hypotension, pallor of skin, TIS is possible.
 - 11) A tenderness presents at epigastric area, rarer in an umbilical area. Symptoms of colitis are absent.
 - 12) The short-timeness and rapid reverse dynamics of disease are characteristic.
 - 13) Laboratory confirmation of diagnosis can be detection of toxigenic staphylococcus (from food, vomitive masses) or discovery in the same materials of staphylococcus enterotoxin.
 - 14) If foods were warmed up, then to detect staphylococcus is not succeeded, while an enterotoxin is saved in it.

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- The food poisoning caused by **toxin of Clostridia** is possible after the use of the foods contaminated by anaerobes and containing its toxins:
 - 1) It is characterized by a severe duration and high lethality.
 - 2) It is conditioned more often by meat foods of home-made. Latent period is 6-24 hours.
 - 3) It starts with stomach-aches, mainly in an umbilical area.
 - 4) A general weakness grows quickly, a stool becomes frequent (to 20 times and more), abundant, watery, sometimes like rice-water.
 - 5) Expressed dehydration (cramps and other) develops.
 - 6) At poisoning caused by Clostridia types of E and P necrotizing enteritis (intensive pains in stomach, liquid stool with the admixture of blood) can develop. ARF and TIS can develop besides dehydration and hypovolemic shock.
 - 7) A diagnosis is laboratory confirmed by detection of causative agent (from foods, vomitive masses, blood, feces).

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- The syndrome of gastroenteritis can be observed not only at infectious diseases but also at noninfectious ones.
 - BACTERIAL FOOD POISONING is poisoning by microbes and toxins of microbial origin.
 - The food poisoning is poisoning by poisons of chemical and biological origin (mushrooms, pesticides, salts of heavy metals and other).

□ **Poisoning by toadstools:**

- 1) A latent period is 6-10 h.
- 2) subacute start of disease.
- 3) In the start of disease feeling of pressure in an epigastric area.
- 4) Then pain appears.
- 5) At the same time nausea and vomiting start and durate 2-3 days.
- 6) Diarrhea is expressed poorly or absent.
- 7) Weakness and brokenness grow. Hyperemia of face sometimes with a cyanosis is possible.
- 8) On a 2th day in severe cases jaundice appears.
- 9) Disorder of consciousness, delirium, cramps can appear.
- 10) Subfebrile temperature appears sometimes.
- 11) Fatal outcome (more often on the 3-4th day of illness) or protracted astenia (few weeks) in possible at severe cases.
- 12) For diagnostics a fact of the use of mushrooms is important.




□ **Poisoning by death cup amanita:**

- 1) Durates most severely with high lethality (over 50%).
- 2) Latent period is from 7 to 40 h (more often 12 h).
- 3) More often it is registered in August.
- 4) Illness begins suddenly, more often at night.
- 5) Sharp pain in a stomach (colics), indomitable vomiting, very frequent liquid watery stool (admixture of mucus, rarer blood).
- 6) Dehydration develops quickly.
- 7) There is a short-time remission on the 1-2 days, stomach-aches and vomiting finish. However a fatal outcome is possible in 2-4 days.
- 8) Consciousness is clear to the agonic period.
- 9) Diagnostics bases on seasonality, fact of the use of mushrooms (mostly a death-cup is confused with champignons).

□ **Poisoning by fly-agarics:**

- 1) Due to presence in the mushrooms of muscarine and mushroom atropine.
- 2) A clinical symptomatology changes from correlation of these poisons.
- 3) Poisoning more often begins with the abundant sweating, salivation and lacrimation.
- 4) Then pains in an epigastric area, nausea, vomiting, diarrhea start.
- 5) Gastroenteric syndrome combines with the signs of damage of CNS (dizziness, excitation, drunkenness, hallucinations, disorders of co-ordination of motions, midriasis).
- 6) Where are coma and death from the paralysis of breathing in severe cases.
- 7) Lethality is relatively small.
- 8) Recovery in 1-2 days.
- 9) Diagnostics bases on fact of the use of fly-agaric; disease meets very rarely, because these mushrooms are well known.

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- The poisoning by **nonspecific mushrooms** is caused false honey agaric, some laticifers, especially at wrong culinary treatment.
 - 1) Diseases begin through 1-2 h after the use of mushrooms and characterized by pains in an epigastric area, nausea, vomiting, diarrhea.
 - 2) Prognosis is favourable, recovery comes quickly.

 - **Poisoning by pesticides**, salts of heavy metals, medications :
 - 1) Signs of infectious disease (fever, signs of general intoxication) are absent.
 - 2) Connection of illness with the reception of some preparations or with the work related to pesticides.

Table 1. Typical Characteristics Of Different Etiologies Of Diarrhea.

Infectious

Viral gastroenteritis

Diarrhea with aches, chills, cold symptoms, nausea or vomiting; history suggesting recent consumption of contaminated food or exposure to other ill persons, especially day care; with or without fever

Bacterial diarrhea or *Giardia*

Diarrhea, history suggesting recent consumption of contaminated food, with or without fever (see Table 2 on page 4)

Traveler's diarrhea

Recent foreign travel, prolonged illness (see also Table 3 on page 6)

Functional bowel disorders

Irritable bowel syndrome

Variable symptoms but prolonged course; bowel movements that alternate between constipation and diarrhea, especially if episodes are related to stress

Intestinal obstruction

Severe abdominal pain along with nausea, vomiting, and diarrhea

Fecal impaction/other blockage

Chronic constipation followed by recent watery diarrhea

Inflammatory

Inflammatory bowel disease (includes Crohn's disease and ulcerative colitis)

Frequent bowel movements mixed with blood or mucus

Appendicitis

Vomiting that follows abdominal pain, small amounts of

watery diarrhea (compared to the voluminous amounts produced as a consequence of gastroenteritis), mild or absent fever

Vascular

Ischemic bowel disease

Diarrhea, severe abdominal pain, older patient, history of peripheral vascular disease

Malabsorption

e.g., celiac disease or lactose intolerance

Diarrhea, gas, bloating, and stomach pains that seems to be triggered by certain foods

Medications

Recent new medicine, especially antibiotics, high blood pressure medications, cancer drugs/radiation therapy, some herbal medicines

Toxins

Radiation enteritis

Tenesmus, bleeding, and diarrhea stemming from malabsorption; can persist for two or three months after treatment cessation

Arsenic, mushroom poisoning, pesticides, etc.

Varies; usually diarrhea is one of several symptoms

Other systemic conditions

e.g., food allergies, colon cancer, hyperthyroidism

Typically a longer course plus other suggestive symptoms; see also Table 3 on page 6



The End!