

Causative Agents of Plague, Tularemia, Brucellosis and Anthrax

473. Investigation of the patient's sputum revealed minute Gram-negative rods (bacilli) of ovoid shape, with intense pigmentation at the poles. In micropreparation of broth culture microorganisms were arranged in chains. On inoculation of the sputum on MPA microorganisms performed R-type colonies. The causative agent of what disease is characterized by similar properties?

+Causative agent of plague.

Causative agent of meningococcal nasopharyngitis.

Causative agent of brucellosis.

Causative agent of shigellosis.

Causative agent of streptococcal tonsillitis.

474. The content of a carbuncle of a patient suspected of anthrax was tested. Microscopy revealed microorganisms typical for B. anthracis. What signs are peculiar for these microorganisms?

+Thick Gram-positive rods with cut endings surrounded by a capsule.

Gram-negative rods with bipolar staining.

Gram-negative rods with oval endings arranged in micropreparation chaotically.

Gram-negative slightly curved rods.

Minute curved Gram-positive rods.

475. A patient complaining of fever is diagnosed with enlarged lymphatic node (bubo). What serological reaction may confirm the diagnosis of tularemia?

+Agglutination reaction with tularemia diagnosticum.

Agglutination reaction with tularin.

Widal test.

Wright's test.

Hemagglutination inhibition test.

476. One of the districts was registered with an episode of plague among golfers. Specific prophylaxis of plague in that district was performed 6 years before. What is necessary to be done in this case?

+Inoculate the residents of the district by plague vaccine.

Inoculate the children by plague vaccine.

Inoculate the adults by plague vaccine.

Inoculate the healthcare workers and hunters by plague vaccine.

Inoculate only hunters of the district by plague vaccine.

477. A physician suspected bubonic tularemia in the patient and sent the material obtained from the patient's node for bacteriological investigation. What is the purpose of performing such bacteriological investigation?

+The material will be introduced to the animals to isolate pure culture.

Pure culture will be isolated with the help of enriching the medium.

Isolated culture will be identified by antigen properties.

Pure culture will be identified on liquid nutrient medium.

Pure culture will be isolated in solid media.

478. A child who had not been in contact with ill animals was diagnosed with brucellosis. How could the child have got infected?

+Drinking nonpasteurized milk.

During injection.

Through dirty hands.

Eating infected vegetables and fruits.

Drinking contaminated water.

479. There were registered numerous deaths of rodents in the rural area. The rotten corpses of animals were delivered to the lab of extremely dangerous infections to confirm or deny a case of plague. What method had to be used to confirm the cause of animals' mortality?

+Bacteriological.

Bacterioscopic.

Express method (IFT).

Serological (precipitation test).

Biological.

480. The territory of the old cattle gravedigger that had not been used for more than 50 years was planned to be built with new houses. But the investigation of the soil revealed presence of live spores of the agent of extremely dangerous disease. Which microorganism is more likely to survive in the soil for such a long period of time?

Yersinia pestis.

Mycobacterium bovis.

Brucella abortus.

+*Bacillus anthracis.*

Francisella tularensis.

481. In one of the mountain villages there were registered numerous deaths of rodents and increased morbidity rate of the inhabitants. The patients were observed with rapid elevation of body temperature to 40 °C, noticeable intoxication, and enlargement of lymphatic nodes. In micropreparations of a dead body there were revealed Gram-negative ovoid rods with bipolar staining. What microorganisms are the causative agents of this infectious disease?

Staphylococci.

Agent of anthrax.

Clostridia.

Agent of tularemia.

+Agent of plague.

482. It is necessary to use direct variant of IFT for express diagnostics of anthrax. What ingredient must be used to perform the reaction?

+Luminescent serum.

Immune antibacterial serum.

Immune antitoxic serum.

Toxoid.

Protective antigen.

483. Numerous deaths of rats were registered in some of the farms of village K. It was supposed that the causative agent might be that of plague. What serological reaction had to be used for express identification of the causative agent?

+Precipitation test.

Agglutination test.

Passive haemagglutination test.

Complement fixation test.

Neutralization test.

484. Reconnaissance data certifies that the arsenal of the army of country Z. contains bacteriological weapon (agent of plague). What preparation should the soldiers of their neighbour, state N., be introduced with if country N. is going to wage a war on the territory of country Z.?

+Vaccine EV76.

Vaccine SEI¹.

Vaccine BCG.

Vaccine DTP.

Plague serum.

485. A man that had received an envelope with unknown powder applied to the infectious department. The man was admitted to the hospital to a separate box; powder from the envelope was sent to the lab to identify the agent of anthrax. What method of investigation will be the most effective in this case?

+Immunofluorescent test.

Complement fixation test.

Precipitation test in gel.

Isolation of pure culture.

Biotest on mice.

486. A veterinary was admitted to the hospital with the suspicion of brucellosis. On the basis of what serological test can the diagnosis be confirmed or denied?

+Wright's test.

Widal test.

Ascoli test.

¹ SEI – Sanitary-engineering institute

Veigle test.

Wassermann test.

487. To confirm the diagnosis of tularemia in a hunter hospitalized on the 5th day of illness it is necessary to perform:

+Allergy test.

AT.

PHAT.

CFT.

IFT.

488. What test should be administered to confirm the diagnosis of brucellosis?

+Serological (Wright's test and Huddleson test).

Isolation of the agent in the blood.

Isolation of the agent in the urine.

Isolation of the agent in the stools.

Isolation of the agent in the cerebrospinal fluid.

489. Dairy maids are checked up with skin allergic Burnet's test that is used to reveal hypersensitivity to:

+Brucellin.

Tuberculin.

Alt-tuberculin.

Tularin.

Anthraxin.

490. Pure culture of the causative agent of plague was plated on Petri dish. After cultivation on the growth medium colonies of 1-1.5 mm in diameter were created without growing of the culture. How can it be interpreted?

+Presence of bacteriophage in the culture.

Insufficient quantity of the germ in the material for inoculation.

Low quality of the medium.

Insufficient amount of vitamins in the medium.

Aging of the culture.

491. What method of laboratory diagnostics is frequently used to confirm the diagnosis of brucellosis?

+Serological (Wright's reaction).

Serological (Huddleson test).

Serological (PHAT).

Express-method (IFT).

Serological (Coomb's reaction for identification of incomplete antibodies).

492. Diagnosis of plague seems to be confirmed by executed reaction of immunofluorescence. Characterize the results of microscopy obtained at that reaction.

+Small oval rods with bright green luminescence.

Small cocci of pink colour.

Large bacilli with cut endings of violet colour.

Small bacilli with oval endings of pink colour.

Curved red bacilli located angular to each other.

493. A vet of the farm was admitted to hospital complaining of pain in joints, fever, and sweating at night. Since he'd been ill for about a month, the doctor suspected brucellosis. What material obtained from the patient must be investigated in the microbiological laboratory?

+Blood serum.

Cerebrospinal fluid.

Vomiting mass.

Urine.

Feaces.

494. Skin Burnet's test is positive in a patient diagnosed with brucellosis. What factor of the immune system plays the basic part in the development of inflammatory reaction in the place of brucellin introduction?

+Sensibilized T-lymphocytes.

IgA.

IgE.

IgG.

IgD.

495. The material (extract from animal raw) from the district where cases of anthrax had been registered was sent to the laboratory. What serological reaction should be performed to reveal antigens of bacillus anthracis in the material?

+Ring test – Ascoli test.

Complement fixation test.

Passive hemagglutination.

Radioimmune assay.

Precipitation test in gel.

496. A patient with carbuncle on the face was admitted to the hospital. Results of examination of the carbuncle: it is not dense, painless, subcutaneous fat is edematous, there is black eschar in the center of the carbuncle; periferal vesicular rash. Bacteriological examination revealed immobile streptobacilli creating capsules. What microorganisms are the causative agents of the disease?

+*Bacillus anthracis*.

Staphylococcus aureus.

Bacillus anthracoides.

Bacillus subtilis.

Bacillus megaterium.

497. A patient complaining of symptoms typical for tularemia is admitted to the hospital. What method is suggestive in this case for express diagnostics of the disease?

+Skin-allergic test.

Biological.

Serological (agglutination reaction).

Bacteriological (isolation of pure cultures).

Microscopic.

498. Microbiological laboratory has to investigate the material suspected to be contaminated with spores of bacillus anthracis. What diagnostic preparation is used for identification of the causative agent?

+Luminescence antianthrax serum.

Antianthrax immunoglobulin.

Standard anthrax antigen.

Enzyme-signed immunoglobulin.

Monoclonal antianthrax antibodies.

499. Investigating animals' skin, bacteriologist performed reaction of thermal ring precipitation (Ascoli test). Fixation of immune serum with skin's extract produced a whitish ring. What do the results of the reaction testify?

Presence of toxin of anaerobic infection.

Presence of brucellosis causative agent.

Presence of superficial antigen of escherichia.

Presence of antigen of virulence of salmonella.

+Presence of anthrax antigen.

500. During the epidemic of grippe a dairymaid visited a doctor complaining of high temperature, weakness, loss of appetite, and pain in joints. She was treated for grippe within 10 days, but was initially diagnosed with brucellosis. What test is likely to confirm the diagnosis of brucellosis?

+Wright's test.

Huddleson's test.

Immunofluorescence test.

Widal reaction.

Ouchterlony reaction.

501. A farmer rearing goats developed fever of unknown etiology. What species of bacteria is likely to cause the fever?

+*Brucella melitensis*.

Clostridium novyi.

Treponema pallidum.

Histoplasma capsulatum.

Mycobacterium tuberculosis.

502. Biological test of smear prints obtained from the animal revealed streptobacilli surrounded by a capsule. What diagnosis based on the data of the test is suggestive in this case?

Tularemia.

+Anthrax.

Plague.

Brucellosis.

Croupous pneumonia.

503. A 28-year-old patient, a worker of a slaughter-house, is admitted to the hospital on the 4th day of illness with the following symptoms: edema of the right hand, ulcer covered with the dark crust, and hyperemia. Margins of ulcer are noticeable with vesicular rash. Microscopy of the pathologic material stained by Gram and Drobtko method revealed immobile Gram-positive rods with cut ending located in pairs or chains and surrounded by microcapsule. What species of bacteria was identified by microscopy?

Clostridium histolyticum.

+*Bacillus anthracis*.

Bacillus megaterium.

Bacillus mycoides.

Clostridium perfringens.

504. A 20-year-old patient, a worker of rodent control of sanitary station, presented to the infectious department complaining of severe chills, high temperature (39 °C), headache, and inflammation of groin lymphatic node, which complicated the motion of the leg while walking. Purulent contents of the lymphatic node and blood smear were investigated by microbiologist. Colorless microcolonies with rough outlines ("broken glass") appeared on culture medium 8 hours later. Within 18-24 hours of cultivation, colonies with turbid-white centre, surrounded by rough border ("lacy shawls") grew on nutrient medium. On MPA microorganisms created tender pellicle with threads similar to stalactites. What microorganism is identified in the material?

Clostridium tetani.

Chlamydia psittaci.

Bacillus anthracis.

+*Yersinia pestis*.

Trichophyton verrucosum.

505. The following test to confirm an initial diagnosis was performed by bacteriologist: 1) inoculation of pathological material on liver and sugar broths; 2) estimation of hypersensitivity of isolates to aniline dye-stuff; 3) serological reactions of Wright and Huddleson; 4) Burnet's skin allergic test. What is the diagnosis of the disease?

Tularemia.

Typhoid fever.

Salmonellosis.

Q-fever.

+Brucellosis.

506. Investigation of brucellosis episode among the workers of a farm was performed by express method of Huddleson reaction with 5 positive results obtained. What test of the patients' blood serum is likely to confirm the diagnosis?

Reaction of Middlebrook – Dubo.

Schick test.

Reaction of Voges-Proskauer.

Kahn's reaction.

+Wright's test.

507. A 40-year-old patient with acute fever of unknown etiology is administered serological blood test on the eighth day of the disease. Reaction of agglutination with various diagnostics testifies that Widal test is positive with serum titer 1:100, Wright test is positive with serum titer 1:400. What diagnosis is likely to be made on the basis of the results of serological investigation?

Leptospirosis.

Paratyphoid A.

Typhoid fever.

+Brucellosis.

Paratyphoid B.

508. A patient is initially diagnosed with acute pneumonia. Microscopy of the patient's sputum revealed chaotically arranged ovoid microorganisms, 2.0 μm long and bipolar stained. What seems to be the reliable diagnosis of the disease?

Staphylococcal pneumonia.

Pneumococcal pneumonia.

Diphtheria.

Klebsiella pneumonia.

+Pneumonic plague.

509. A 42-year-old butcher visited a doctor complaining of swelling, redness, and acute pain in dorsal surface of the wrist. Examination of the wrist revealed conoid red infiltrate with marked edema. What is the initial diagnosis of the disease?

Abscess.

Plague.

Furunculosis.

Phlegmon of hand.

+Anthrax.

510. It is necessary to determine LD_{50} of vaccine strain of *Bacillus anthracis* to estimate its residual virulence. What method is the most suitable?

Quantitative registration of microorganisms at cultivation on nutrient medium.

Revealing enzymes of pathogenicity.

Studying biochemical activity.

+Infecting of laboratory animals.

Determination of toxin serotype produced by microorganism.

511. Sputum of the patient with severe acute pneumonia was bacterioscopically investigated. Gram staining revealed Gram-positive streptobacilli with cut endings. What species of bacteria was identified by bacteriologist?

+*Bacillus anthracis*.

Yersinia pestis.

Streptococcus pneumoniae.

Klebsiella pneumoniae.

Bacillus anthracoides.

512. Epizootic case of plague among gophers was recorded in one of the rural areas after a 20 year period of normal epidemic situation. The residents of the region had been immunized 5 years before. All the residents of the age of 7 and older were vaccinated. What can be suggested for specific prophylaxis in the region?

+To vaccinate medical personnel and workers of rodent control.

To vaccinate persons who are older than 12 years.

To vaccinate persons of 12- 15 years old.

Not to vaccinate inhabitants.

To vaccinate all the inhabitants.

513. What method of diagnostics is suggested for identification of *Bacillus anthracis* while investigating specimen of animals' skin?

+Express-method (Ascoli test).

Bacterioscopic method (microscopy of preparation stained by Burri-Gins).

Bacterioscopic method (microscopy of preparation stained by Ozheshko).

Bacteriological method.

Serological method.

514. A group of 20 students of veterinary college are appointed for seasonal work to the district with unfavourable conditions (because of tularemia). Some of the students worked there last summer and had been vaccinated against tularemia before. What should be done to provide specific prophylaxis?

+To vaccinate a group of students except the students vaccinated last year.

To vaccinate all the students.

To vaccinate a group of students who worked in that district a year before.

Not to vaccinate students.

To deliver a lecture about prophylaxis of tularemia.

515. A young boy came in contact with a sick patient diagnosed with pneumonic plague. What remedy will be prescribed for express nonspecific prophylaxis of plague?

+Antibiotics.
Plague immunoglobulin.
Plague bacteriophage.
Attenuated (live) vaccine.
Toxoid.

516. Punctate of the lymphatic node was delivered to the bacteriological laboratory. Bacteriologist inoculated material on nutrient agar. It was cultivated in thermostat at the temperature of 37 °C and of 28 °C. The most intense growth of culture was observed at $t = 28$ °C. What microorganism is likely to be identified by bacteriologist?

+*Yersinia pestis*.
Staphylococcus aureus.
Francisella tularensis.
Brucella abortus.
Treponema pallidum.

517. A bioterrorist sent powder in envelopes which might contain causative agent of anthrax. A parcel may be dangerous for a long time because the causative agent of anthrax:

+Forms spores.
Has flagella.
Forms protein capsule.
Forms polysaccharide capsule.
Belongs to actinomycetes.

518. A patient was admitted to hospital with a severe case of pneumonia. Rough colonies with uneven borders grew from the patient's sputum inoculated on MPA. Bacterioscopy revealed large Gram-positive bacilli surrounded by capsule and located in chains. What microorganism is characterized by such properties?

+*Bacillus anthracis*.
Streptococcus pneumoniae.
Klebsiella pneumoniae.
Mycobacterium tuberculosis.
Bordetella pertussis.

519. Microscopy of ulcer covered by dark eschar and surrounded by edema and hyperemia, revealed Gram positive bacilli with cut endings. Microorganisms were arranged in capsules separately or in chains. What is the causative agent of the disease?

+*Bacillus anthracis*.
Mycobacterium tuberculosis.
Clostridium perfringens.
Corynebacterium diphtheriae.
Yersinia pestis.

520. A patient diagnosed with brucellosis was admitted to the infectious department. A physician suspected bacteremia at that period of illness. What material was sent to the laboratory for investigation?

+Blood.
Urine.
Feaces.
Cerebrospinal fluid.
Sputum.

521. A geologist who has recently come back from the expedition is complaining of symptoms typical for plague. On examination, symptoms of pneumonia are noticeable. What method of staining will allow bacteriologist to reveal typical for plague bipolar staining of bacilli?

+Leoffler's method (methylene blue).
Pfeiffer's fuchsine.
Ziehl's fuchsine.
Gram stain.
Romanovsky-Giemsa's stain.

522. Microbiological investigation of eschar of cattle breeder suspected of anthrax revealed Gram-positive bacilli surrounded by a capsule. Cultivated on the medium, they created colonies with uneven, fibrous, curly

border (Lion's mane). What prophylactic remedy should be prescribed for relatives who were in contact with the patient and sick animals?

+Antianthrax γ (gamma) - globulin.

Vaccine SEI.

Vaccine EV76.

Antitetanus serum.

Sextatoxoid.

523. Bacteriologist of the laboratory of particular dangerous infections used biological method to investigate the material. What properties of the causative agent are unlikely to be studied through this method?

+Phagolysis.

Biological.

Morphological.

Tinctorial.

Antigenic.

524. Ovoid-shaped and bipolar stained Gram-negative bacterium was isolated from the corpse of rodents. The causative agent of what disease was identified by bacteriologist?

+Causative agent of plague.

Causative agent of tuberculosis.

Causative agent of syphilis.

Staphylococcus.

Streptococcus.

525. Large Gram-positive bacilli ($5-10 \times 1.5-2 \mu\text{m}$) located in chain and forming a capsule were obtained from the corpse of a horse. What microorganism is it?

+Causative agent of anthrax.

Causative agent of foot and mouth disease (aphthous fever).

Streptococcus.

Causative agent of hepatitis A.

Causative agent of tetanus.

526. A worker of meat processing factory developed arthritis accompanied by inflammation of peripheral lymphatic nodes, pain, high temperature, and symptoms of allergy. The causative agent was not identified during laboratory investigation, but skin allergic Burnet's test appeared to be positive. What microorganism could have caused the disease?

+Causative agent of brucellosis.

Causative agent of tuberculosis.

Causative agent of anthrax.

Causative agent of salmonellosis.

Causative agent of diphtheria.

527. Bacteriologist titred blood serum of the patient by physiologic solution 1:100, 1:200, 1:400, 1:800 and added brucellosis diagnosticum. What reaction was performed by bacteriologist for serological investigation of blood serum?

+Wright's test.

Passive hemagglutination test.

Precipitation test.

Gruber's agglutination test.

Passive indirect hemagglutination test.

528. Cases of anthrax were registered in a settlement. Health care workers began specific prophylaxis of anthrax among the residents of the area according to epidemiological indications. What preparation was used?

+Live (attenuated) vaccine.

Inactivated vaccine.

Chemical vaccine.

Engineered vaccine.

Toxoid.

529. What causative agent may be transmitted through a sting of a flea?

+Causative agent of plague.

Causative agent of leptospirosis.

Causative agent of endemic typhus.

Causative agent of brucellosis.

Causative agent of anthrax.

530. It is necessary to vaccinate a man who is going on an official journey to the region endemic on tularemia. What does the vaccine for prophylaxis contain?

+Live (attenuated) strain of *Francisella tularensis*.

Francisella tularensis inactivated by formalin.

Endotoxin inactivated by formalin.

Live (attenuated) strain of *Yersinia pestis*.

Mouse toxin inactivated by formalin.

531. A man walked across the locality where epizootic plague among rodents was observed. What could the man be infected by?

+Flea.

Louse.

Fly.

Mosquito.

Tick.

532. A patient with infectious disease responds positively to skin allergic Burnet's test. What diagnosis is the test likely to confirm?

Q-fever.

Tularemia.

Typhoid fever.

Salmonellosis.

+Brucellosis.

533. Investigating the stuff of animals (cutis, wool) for the presence of causative agent of anthrax, bacteriologist made soluble thermostable antigen in water salt extract. What reaction was used by bacteriologist?

Neutralization test.

Precipitation test in gel.

Agglutination reaction.

Passive hemagglutination test.

+Ring test (Ascoli test).

534. Bacteriologist performed immune fluorescent test to indicate the causative agent of plague in the preparation made from enlarged lymphatic node (the preparation was processed by luminescent plague serum). Luminescent microscopy revealed shining bacteria. Bacteriologist related the results of the test with the presence of causative agent of plague in the preparation. How can luminescence of *Yersinia pestis* be interpreted?

+Plague antibody marked by luminescent bound with antigen on the surface of plague causative agent producing shiny surface.

Antigen-antibody reaction took place on the surface of bacteria.

Luminescence pigmented bacteria in the preparation.

Yersinia pestis is autoluminescent.

Complex antigen-antibody on the surface of germ fixed the complement.

535. A man who took care of animals, died because of the clinical signs of sepsis. Carbuncle with serous hemorrhagic inflammation and local lymphadenitis was found on the right upper limb at autopsy. What disease are these signs typical for?

+Anthrax.

Tularemia.

Brucellosis.

Plague.

Tuberculosis.

Pathogenic Spirochetes

536. A patient complains of a recurrent fever. Microscopy of the blood smear stained by Romanovsky-Giemsa method (thick drop) revealed convolute sharp-ended microorganisms. The causative agent of what disease was identified?

+Relapsing fever.

Typhoid fever.

Leptospirosis.

Typhus.

Malaria.

537. Microscopy of the blood specimen taken from the patient with a high pick of fever attack revealed convolute bacteria with 3-8 deep irregular convolutions. What bacteria were determined?

+Borrelia.

Vibrio.

Spirilla.

Treponema.

Leptospira.

538. A patient is diagnosed with secondary syphilis. What are the signs of positive reaction to complement fixation test?

+Complex with components of hemolytic system is in the tested tubes; hemolysis is in the control tubes.

Hemolysis is in the tested tubes as well as in the control tubes.

Hemolysis is in the tested tubes; in the control tubes there is transparent liquid with complete components of hemolytic system at the bottom.

In the tested tubes there is a ring of precipitation; there is hemolysis in the control tubes.

In the tested tubes the liquid is transparent with bacterial sediment at the bottom; in the control tubes – hemolysis.

539. Leptospirosis is an acute zoonotic infectious disease involving kidneys, liver, nervous and vascular systems. What research will be performed by bacteriologist to diagnose the disease?

+Investigation of native blood specimen and cerebrospinal fluid.

Investigation of duodenal contents to identify leptospira.

Microscopy of smear-print of the mucous membrane of rhinopharynx.

Laboratory investigation is not performed.

Biopsy of tissues.

540. For diagnostics of syphilis the following method is not used:

+Reaction of agglutination

Treponema immobilization test (TPI).

Wassermann reaction (WR).

Microscopy of hard chancre.

Immune fluorescence test (indirect variant).

541. A patient is suspected of being ill with syphilis. How can the causative agent in hard chancre be determined?

+Through dark-field illumination.

By microscopy of the material stained by Gram method.

By isolation of pure culture.

By Wassermann reaction.

By reaction of agglutination.

542. Indicate the main way of getting infected by the agent of Leptospirosis.

+During the contact with sick animal's urine.

Through the bites of blood worm insects.

When eating infected food.

Through the bites of ticks and lice.

During the contact with sick animals.

543. Microscopic investigation of blood micropreparation stained by Romanovsky-Giemsa method determined microorganisms in a shape of thin purple threads with 5-7 big twists 10-30 µm long. What infectious disease is it typical for?

+Relapsing fever.

Syphilis.

Leptospirosis.

Trypanosomiasis.

Leishmaniasis.

544. A physician determined thin microorganisms 10–13 μm long of pale pink colour with 12–14 regular coils and sharp end in the micropreparation made of regional lymphatic node punctuate. The agent of what disease has such morphological signs?

+Syphilis.

Tripanosomosis.

Leptospirosis.

Relapsing fever.

Leishmaniosis.

545. A patient with a preliminary diagnosis of syphilis was tested for the immune reaction of blood, aimed to determine antibodies, which stopped the mobility of treponema and led to their destroy. What reaction was used for diagnostics?

+Treponema immobilization test (TIT).

Complement fixation test.

Agglutination reaction.

Precipitation reaction.

Neutralization reaction.

546. To confirm the diagnosis microbiologically, the blood of the patient with fever attacks was introduced intraperitoneally to the mumps. In 72 hours dark-field microscopy of peritoneal exudates revealed a great number of mobile thin weaved microorganisms with small S- and C-like forms, about 20 μm long. The agent of what disease was determined?

+Leptospirosis.

Epidemic relapsing fever.

Endemic relapsing fever.

Syphilis.

Lyme disease.

547. The residents of endemic zone of leptospiriza are reported to suffer from this extremely dangerous disease. What source of infection is most dangerous?

+Rodents.

Milk products.

Cattle.

Meat products.

Ticks.

548. A student visited a dermatovenerologist complaining of erosion on penis which had appeared some days before. Examination of the patient determined painless ulcer of 10 μm in diameter with distinct and flat edges. Regional lymphatic nodes were enlarged; the patient's condition was satisfactory. Microscopy of the material taken from the ulcer there determined weaved mobile decolorized microorganisms. Choose the most likely agent of the disease.

+*Treponema pallidum*.

Neisseria gonorrhoeae.

Polyomaviral infection

Herpes simple virus type I (HSV I).

Herpes simple virus type II (HSV II).

549. Some animals of the cattle farm were registered with leptospirosis. To prevent the infection, the workers of the farm were vaccinated by leptospirosis vaccine. What does this vaccine stand for?

+Inactivated leptospira.

Live (attenuated) leptospira.

Leptospira toxoid.

Leptospira recombinant vaccine.

Leptospira chemical vaccine.

550. A patient was admitted to the infectious clinic with the preliminary diagnosis of epidemic relapsing fever. What material taken from the patient has to be investigated first of all?

+Blood.

Urine.

Cerebrospinal fluid.

Faeces.

Swab from the rhinopharynx.

551. A patient presented on the 5th day of illness was complaining of jaundice, muscle ache, fever, and nasal bleeding. Bacteriologist performed the following tests: 1) reaction of thrombocytic loading; 2) dark-field microscopy of the blood drop; 3) intraperitoneal contamination of sea pigs by 2 ml of the patient's blood; 4) cultivation of blood culture on Fervolt-Volf medium at the temperature of 28-30 °C. Name the agent of the disease.

+*Leptospira interrogans*.

Borrelia duttonii.

Calymmatobacterium granulomatis.

Bartonella bacilliformis.

Rickettsia mooseri.

552. A patient, ill with syphilis, underwent a course of antibiotic treatment and recovered completely. Some time later hard chancre appeared on the genitals again. Name this form of infection.

+Reinfection.

Secondary infection.

Complications.

Reccurance.

Superinfection.

553. Bacterioscopy of tissue liquid from rash, vesicules and punctate of regional lymphatic nodes stained by Romanovsky-Giemsa method determined pink microorganisms with 8-14 equal straight directed coils. Dark-field microscopy revealed their mobility. In some regions the cysts were observed. What agent was determined in the material under investigation?

+*Treponema pallidum*.

Treponema macrodentium.

Treponema refringens.

Treponema orale.

Treponema denticola.

554. Blood serum has to be investigated to diagnose syphilis in the patient admitted to the clinic. What ingredients are necessary to be used to perform the reaction of complement fixation?

+Blood serum of the patient warmed to 56-60 °C, antigen, physiological solution, sheep erythrocytes, complement and haemolytic serum.

Blood serum of the patient warmed to 56-60 °C, diagnosticum, physiological solution, sheep erythrocytes, complement and haemolytic serum.

Native blood serum of the patient, antigen, physiological solution, sheep erythrocytes, haemolytic serum and complement.

Blood serum of the patient warmed to 56-60 °C, antigen, distilled water, sheep erythrocytes, complement and haemolytic serum.

Blood serum of the patient warmed to 56-60 °C, antigen, physiological solution, hen erythrocytes, complement and haemolytic serum.

555. A patient is diagnosed with epidemic relapsing fever and is prescribed microscopic investigation to confirm the diagnosis. In what material can the agent be determined?

+In the blood.

In rinopharyngeal swab.

In the urine.

In the sputum.

In faeces.

556. In summer two miners were hospitalized to the infectious department with high temperature (39 °C) and clinical sings of the disease similar to grippe. Dark field microscopy of native smears revealed weaved mobile microorganisms with thick endings. The coils were joined firmly. The microorganisms were S- and C-shaped and their motions were circular and translational. What spiral-shaped forms of microorganisms is such morphology typical for?

+*Leptospira*.

Fusobacteria.

Borrelia.

Spirochete.

Treponema.

557. Histological investigation of kidney tissue stained by Romanovsky-Giemsa determined weaved C- and S-shaped bacteria in a person who had died from acute infectious disease accompanied by fever, jaundice, hemorrhagic eruption on the skin and mucous membranes alongside with acute renal failure. What species of bacteria was determined?

+Leptospira.

Borrelia.

Campylobacteria.

Spirilla.

Treponema.

558. Blood serum of a woman in her eighth month of pregnancy was investigated for Wassermann reaction that appeared to be positive. How can the authenticity of serological investigation for syphilis be confirmed?

+Double repeated investigation in 10-15 days.

Repeated investigation immediately after receiving the result.

Repeated investigation after prophylactic treatment.

To perform Kahn's reaction.

To perform Zaks-Vitebskiy reaction.

559. Venous blood of a pregnant woman was tested by Wassermann reaction. The result appeared to be positive. The pregnant woman and her husband denied illegal sexual contacts. What should be done to confirm the diagnosis of syphilis?

+Treponema immobilization (TIT) test.

Microscopy of urethra smears.

Repeat reaction of Wassermann.

Sedimentary reactions.

Complement fixation test.

560. For serological diagnosis of syphilis with Wassermann reaction a physician prepared the following reagents: cardiolipin antigen (alcohol extract lipids from sheep heart muscle with cholesterol), antigen from treponema destroyed by ultrasound, hemolytic system, isotonic sodium chloride solution, and investigated serum. What other components are necessary for the performance of this reaction?

+Complement.

Live treponema.

Sheep erythrocytes.

Diagnostic precipitating serum.

Antiglobulin serum.

561. A patient's reaction to Wassermann test is positive (++++). For diagnostics of what infectious disease is this reaction used?

+Syphilis.

Brucellosis.

Tuberculosis

Poliomyelitis.

Influenza.

562. Relapsing fever, caused by Borrelia saucasica is recorded only in a particular territory where mites of genus Alectorobius are distributed. What is this type of infection called?

+Endemic.

Reinfection.

Superinfection.

Secondary.

Mixed infection.

563. After 7-day work of cleaning the reservoir a patient visited a doctor complaining of a sharp increase of body temperature, general weakness, severe headaches and pains in muscles. Also, there was observed marked hyperemia of the face, too. The patient was administered bacterioscopic investigation of the blood smear. Dark-field microscopy of the preparation called "crushed drop" revealed thin tortuous S- and C-shaped microorganisms. What species of microorganisms caused the disease?

+Leptospira interrogans.

Treponema pallidum.

Salmonella enterica.

Staphylococcus aureus.

Clostridium tetani.

564. A patient presented to the infectious department complaining of severe headaches and muscle pain, fever, general weakness, and jaundice. An initial diagnosis is leptospirosis. What method of research will be executed for express diagnostics?

+Biological.

Bacteriological.

Skin-allergic test.

Serological.

Bacterioscopic (Gram staining).

565. For serodiagnostics of syphilis a small amount of patient's serum was added to the live culture of treponema and "hanging drop" was prepared. Dark field illumination was used to estimate the reaction. What serological reaction was performed?

+*Treponema pallidum* immobilization reaction.

Wassermann reaction.

Sedimentary Kahn's response.

Immunofluorescent test.

Neutralization reaction.

566. A patient is observed with recurrent attacks of fever. A specimen of patient's blood was introduced subcutaneously to a guinea pig. 5 days later microscopy of the sick animal's blood intensely stained by Romanovsky-Giemsa method revealed spirochetes with 6-8 uneven twists. The causative agent of what disease was identified?

+Endemic relapsing fever.

Leptospirosis.

Syphilis.

Epidemic relapsing fever.

Sodok's disease.

567. A patient is initially diagnosed with leptospirosis. Blood smear was cultured on Vervoort-Wolf medium. After a week of incubation in thermostat none of visible changes on the plate were observed. What are the further actions of bacteriologist in this case?

+To prepare "crushed drop" and perform dark field microscopy.

To conclude whether leptospira are present in the researched material.

To continue cultivation of bacteria till the turbidity of the medium.

To investigate the preparation stained by Ziehl-Neelsen method microscopically.

To investigate the preparation stained by Neisser method microscopically.

568. Having examined the patient, a doctor made a preliminary clinical diagnosis of leptospirosis. Since the patient had been sick for 2 weeks, the doctor decided to perform a serological test to confirm the diagnosis. Which of these reactions is likely to identify specific antibodies?

+Microagglutination – lysis reaction.

Precipitation reaction.

Wassermann reaction.

Wright's test.

Hemolysis reaction.

569. On scheduled check up one of the livestock farm personnel was initially diagnosed with leptospirosis. Blood specimen of the worker was sent to bacteriological laboratory. Which medium should be used for cultivation of the causative agent?

+Ulengeta medium.

MPA with bile.

Endo agar.

Kitt-Tarozzi medium.

Hiss medium.

570. You are suggested to work with the following substances: 1) brucellosis skin vaccine; 2) leptospiral vaccine; 3) BCG vaccine; 4) adsorbed diphtheria-tetanus-pertussis vaccine (DTPa); 5) adsorbed tetanus toxoid. What type of immunity is likely to be produced?

+Artificial active immunity.

Non-sterile (infection).

Antibacterial immunity.

Artificial passive immunity.

Antitoxic immunity.

571. A patient is initially diagnosed with recurrent fever and administered blood test in the period of increased body temperature. Which method of staining should be used to identify the causative agent?

+Romanovsky-Giemsa method.

Ziehl-Neelsen method.

Burri-Gins method.

Neisser method.

Ozheshko method.

572. A young man was discharged from dermatovenerological hospital, where he had been treated for syphilis. A month later he visited a doctor complaining of hardened painless ulcer. The doctor diagnosed primary syphilis. What were the results of the previous hospitalization of the patient and what type of infection was identified by the physician?

+Complete recovery, reinfection.

Complete recovery, superinfection.

Incomplete recovery, relapse.

Incomplete recovery, bacteria carrying.

Complete recovery, secondary infection.

573. A patient presented to the clinic with intoxication and renal failure. Micropreparation from the urine stained by Romanovsky-Giemsa revealed mobile pink microorganisms with numerous small curves. Case history reported that the patient had swum in the open water a few days before. What disease is likely to be diagnosed?

+Leptospirosis.

Syphilis.

Influenza.

Brucellosis.

Pseudotuberculosis.

574. To confirm the diagnosis of secondary syphilis, reaction of *Treponema pallidum* immobilization is performed. What components are to be used for performing this reaction?

+Blood serum from patients, complement, and suspension of live *Treponema pallidum*.

Inactivated blood serum, complement, and suspension of live *Treponema pallidum*.

Blood smear, complement, and suspension of live *Treponema pallidum*.

Blood serum, complement, cardiolipin antigen, and suspension of live *Treponema pallidum*.

Blood smear, complement, cardiolipin antigen, and suspension of live *Treponema pallidum*.

575. Lyme-borreliosis was first identified in the endemic areas of the United States, and nowadays the disease has been found in Europe, Asia and Australia. What is the way of the infection transmission?

+Transmissible (through bites of ticks).

Hemotransfusion.

Contageous (direct contact with urine of rodents).

Alimentary (eating meat of a waterfowl).

Transmissible (through bites of lice).

576. What sanitary and epidemiologic measure contributed to sharp reducing of a morbidity rate of epidemic relapsing fever?

+Fighting against pediculosis.

Killing wild rodents.

Deratization.

Application of insecticides.

Application of acaricides (preparations aimed to fight against ticks).

577. A patient was presented to the infectious clinic complaining of fever, general weakness, severe headaches, and muscle pain. The face of the patient was hyperaemic. The patient reported that he had rested on the lake shore a week before. A doctor suspected leptospirosis. How could leptospira penetrate into the patient's body?

+Through the water.

Through the air.

Through the soil.

With food.

Through items of personal stuff.

578. The majority of infecting agents of spirochetes are demanding to conditions in which they are cultivated. They grow slowly on artificial nutrient media. The techniques of isolation the pure culture of the causative agent of spirochetes is still imperfect. Cultivation of what species of spirochetes on artificial nutrient medium is likely to be performed for the diagnosis of the disease?

+*Leptospira interrogans*.

Treponema pallidum.

Treponema bejel.

Treponema pertenue.

Borrelia recurrentis.

579. A 1-month child presented with thickened and swollen lips of yellow and red colour. There were marked lesions on the mucous membrane of the oral cavity and in the angles of the mouth. What disease is likely to be diagnosed in the child?

+Congenital syphilis.

Herpes infection.

Tuberculosis.

Actinomycosis.

Varicella.

580. A patient presented to the dermatological department with ulcer on the mucous membrane of genitals in a form of chancre. What research has to be performed to confirm the diagnosis of syphilis?

+Dark field illumination of the material from the chancre.

Wassermann reaction of the patient's blood serum.

Isolation and identification of the pure culture of microorganisms from the chancre.

Infecting guinea pigs with the material from the chancre.

Infecting rabbit testies with pure culture of treponema.

581. A patient presented to the infectious department on the second wave of fever that repeated in 2 days. A specimen of blood stained by Romanovsky-Giemsa revealed tortuosity of the bacterial form with blue-violet pigmentation. Which of the microorganisms caused the disease?

+*Borrelia recurrentis*.

Leptospira interrogans.

Rickettsia typhi.

Treponema pallidum.

Plasmodium vivax.

582. Dark field microscopy revealed spirochaetes in the contents of chancre localized on the mucous membrane of the vagina. To which group of bacteria due to their morphological properties will you refer all of these microorganisms?

+Spiral-shaped.

Clostridia.

Cocci.

Bacteria.

Bacilli.

583. Bacteria are classified by the type of respiration to: obligate aerobes, microaerophiles, facultative anaerobes, obligate anaerobes. What organisms are microaerophiles?

+*Leptospira*.

Rickettsia.

Chlamydia.

Mycobacteria.

Clostridia.

The Diseases Caused by Bacteria of Rickettsia and Coxiella Genus

584. A 67-year-old man complaining of headache, fever, and general weakness was admitted to the hospital. On physical examination, a physician revealed scanty rash on lateral surfaces of the body, enlarged spleen. At the age of 35 the patient was attacked by typhus. Findings of serological investigation: reaction of agglutination with *Rickettsia prowazekii* was positive (titer 1:160), reaction of agglutination with *Proteus O_H19* was negative. What disease was the patient diagnosed with?

+Brill-Zinsser disease.
Murine typhus (flea-born typhus).
Paroxysmal rickettsiosis.
Rickettsial pox.
Lyme disease.

585. A patient suspected of rickettsiosis was admitted to the hospital. What method of diagnostics should be used to confirm the diagnosis?

+Serological.
Microscopic.
Cultivation of the causative agent on artificial nutrient medium.
Cultivation of the causative agent in chicken embryo.
Biological.

586. An old man diagnosed with epidemic typhus was admitted to the hospital. The patient remembered that at the age of 20 he had already contracted the disease. A doctor administered reaction of agglutination with *R. prowazekii*. Immunoglobulins of what class will confirm the disease of Brill-Zinsser?

+IgG.
IgA.
IgM.
IgE.
IgD.

587. Which of the following methods is frequently used to diagnose epidemic typhus?

+Serological method.
Virological (infecting cultural cells).
Virological (infecting chicken embryo).
Bacteriological method.
Skin-allergic test.

588. An elderly man without definite place of living presented to the hospital with the following symptoms: fever, dizziness, and skin rash. Since the patient was identified with pediculosis, a doctor suspected typhus. What method was likely to confirm the diagnosis?

+Serological.
Bacteriological.
Virological.
Microscopic.
Skin-allergic test.

589. After natural disaster (earthquake with large destroyed area), there was registered an episode of the disease, the causative agent of which seemed to be transmitted by lice. What is the causative agent of the disease?

+*Rickettsia prowazekii*.
Rickettsia typhi.
Rickettsia rickettsii.
Rickettsia conorii.
Rickettsia akari.

590. A man who had previously suffered from typhus, contracted the same type of the disease on the background of full epidemiological welfare. He was diagnosed with recurrent typhoid fever – Brill-Zinsser disease. Name the transmitter of the disease.

+The disease is not transmissible.
Ticks.
Lice.
Mosquitos.
Flies.

591. A patient of 55 years old was presented to the hospital complaining of rash on the body, dizziness, and fever. He was initially diagnosed with typhus. There were no recorded cases of the same disease in the region. A doctor found out that the patient had contracted typhus while studying at school. What is the preliminary diagnosis of the disease?

+Brill-Zinsser disease.
Typhoid fever.

Measles.

Rubella.

Cholera.

592. An infected patient identified with roseolous rash was admitted to the hospital. The patient was initially diagnosed with typhus. How can the diagnosis be confirmed?

+By the reaction of agglutination with typhus diagnosticum.

By bacteriological method.

By biological test.

By skin allergic test.

By microscopy of rash, Gram staining.

Chlamydia and Mycoplasmas

593. A poultry worker presented to the clinic complaining of inflammation of the upper respiratory tract, elevated temperature, and general weakness. X-ray examination revealed boundary bronchopneumonia. Cough, asphyxia, and pain in the chest weren't observed. The patient was diagnosed with ornithosis, hospitalised, and administered antibiotics. What antibiotic was prescribed?

+Tetracycline.

Penicillin.

Chloramphenicol.

Streptomycin.

Oleandomycin.

594. What are newborn's eyes dropped with to prevent conjunctivitis which can generally be caused by Chlamydia trachomatis?

+Tetracycline.

Sulfanilamid drugs.

Penicillin drugs.

Silver drugs.

Streptomycin.

595. What is a particularity of mycoplasmas that distinguishes mycoplasmas from rickettsia, chlamydia and other bacteria and can be identified during microscopic investigation?

+Absence of cell walls and presence of triple-layered cytoplasmic membrane.

Presence of DNA and RNA.

Polymorphism.

Immobility.

Nonsporing.

596. What genus of bacteria can be referred to obligate intracellular parasite?

+Chlamydia trachomatis.

Escherichia coli.

Mycoplasma pneumoniae.

Neisseria gonorrhoeae.

Bacillus anthracis.

597. A patient was initially diagnosed with ornithosis. To consider the diagnosis undoubtful, the patient was administered serological investigation of blood serum with complement fixation test. Due to the failure of the apparatus, serum analyte was not warmed enough and serum blood complement was not inactivated. The result of the reaction was negative (hemolysis of erythrocytes). Why should the result be viewed as unreliable?

+Complement of the patient's blood serum caused hemolysis.

Complement of the patient's blood serum caused the reduction of antibodies titre.

Complement of the patient's blood serum blocked antigen.

Complement of the patient's blood serum blocked reaction.

Complement was not fixed.

598. In strict regime colony there was registered local pneumonia outbreak. According to clinical symptoms preliminary diagnosis of mycoplasmosis was made. What reaction is likely to confirm the preliminary diagnosis?

+Reaction of growth inhibition.

HIT (hemagglutination inhibition test).

AR.

PR (precipitation reaction).

HAT (hemagglutination test).

599. A patient is diagnosed with urogenital infection called chlamydiosis. Antibacterial drugs of what group should be administered for treatment?

+Macrolids.

Sulphanilamids.

Cephalosporins.

Ftorchynolons.

Aminoglycosides.

600. Microscopy of a vaginal smear revealed cells with cytoplasmic inclusions. Preliminary diagnosis is chlamydiosis. What serological method seems to confirm the diagnosis?

+ELISA.

Precipitation reaction.

Widal test.

Passive (indirect) hemagglutination test (revealing of antigene).

AR (agglutination reaction).

601. Investigation of the blood specimen obtained from the patient with pulmonary disease confirmed a preliminary diagnosis of ornithosis. What is the most likely source of infection?

+Birds.

Patient.

Rodents.

Ticks.

Dogs.

602. A patient is diagnosed with pneumonia of mycoplasmal etiology. What antibiotics due to the mechanism of action should not be used to treat a patient?

+Antibiotics that oppress synthesis of cell wall components.

Antibiotics that violate cytoplasmic membrane permeability.

Antibiotics that violate protein synthesis.

Antibiotics that violate synthesis of nucleic acids.

Antibiotics that violate the process of oxidative phosphorylation.

603. A man of 30 years old is diagnosed with urethritis. Consequently infection spread to the prostate. Microbiological investigation made it possible to study cultural properties of bacteria. Bacteria colonized only on nutrient agar with the addition of 10% of urine. What is the most likely causative agent of the disease?

+Mycoplasmas.

Neisseria.

Chlamydia.

Gardnerelly.

Staphylococcus.

604. A patient with urethritis treated himself for a week, using antibiotics of penicillin series. The treatment did not improve the condition of the patient. Bacteriological study showed that the source of the disease was mycoplasmas. Why were the drugs taken by the patient ineffective?

+Mycoplasmas have no cell wall.

Pathogen reproduces inside the cells.

Mycoplasmas produce enzyme that inhibits penicillin effect.

Mycoplasma membrane contains cholesterol.

Mycoplasmas do not produce transport proteins.

605. Bacteriological microscopy revealed Mycoplasma pneumoniae in the sputum of the patient diagnosed with pneumonia. What particularities of Mycoplasma pneumoniae can differentiate it from the other bacteria?

+No cell wall.

No synthesis of ATP.

No capsule.

No polysaccharides.

No cytoplasmatic membrane.

606. A 3-year-old child was diagnosed with interstitial pneumonia, which did not respond to antibiotics affecting bacteria of the cell wall. On the basis of clinical laboratory findings, what diagnosis can be made for the child?

- +Mycoplasma pneumoniae.
- Mycobacteriosis.
- Mycotoxicosis.
- Systemic mycosis.
- Actinomycosis.

607. A patient is initially diagnosed with chlamydiosis. To identify the causative agent, a doctor used a polymerase chain reaction. What is this reaction based on?

- +Specific DNA sequences of microorganisms.
- Specific superficial antigens of microorganisms.
- Specific ribosomal antigens of microorganisms.
- Specific range of fat acids.
- Biochemical features of microorganisms.

608. After a holiday trip to Asia, a patient was admitted to the hospital with groin lymphogranulomatosis. How can *Chlamydia trachomatis* be identified in the material obtained from the patient?

- +Cultivation of the pathogen in chicken embryo.
- Cultivation of the causative agent in Kitt-Tarozzi medium.
- Cultivation of the pathogen in Vrublevsky agar.
- Cultivation of the causative agent on MPA with glucose.
- Cultivation of the pathogen in Petronyani agar.

609. A 35-year-old male suffers from chronic urethritis. Microscopy revealed *Chlamydia trachomatis* in the material obtained from the urethra. What other organs can this infecting agent affect?

- +Eyes.
- Kidneys.
- Joints.
- Central nervous system.
- Gastrointestinal tract.

610. Which of the methods is more informative to estimate complete cure from chlamydiae infection?

- +Serological (identification of antibody titer using ELISA).
- Express-method (direct IFT).
- Express-method (PCR – polymerase chain reaction).
- Western Blott.
- Microscopic.

Sanitary Bacteriological Investigation of Microflora (Water, Air, Food Stuff, and Soil)

611. During sanitary bacteriological investigation of the soil of city rest zones, there was identified high *perfringens* titer. What is the finding evident of?

- +Former fecal contamination of the soil.
- Increased number of colibacilli.
- Presence of causative agents of bacterial intestinal infections.
- Presence of causative agents of viral intestinal infections.
- Increased number of thermophile microorganisms.

612. Drinking water is tested for its quality. The number of microbes averages approximately 100 microorganisms/1 ml of water. What groups of microorganisms were accounted by bacteriologist?

- +All the bacteria present in the water.
- Bacteria of coliforms.
- Bacteria, pathogenic for humans and animals.
- Conditional-pathogenic bacteria.
- Enteropathogenic bacteria and viruses.

613. The air of the surgical ward was investigated with the following result: the total microbial number averaged 1500 microorganisms/1 m³. What groups of microorganisms were accounted by bacteriologist?

- +All the bacteria present in the air.

Bacteria and viruses – causative agents of respiratory infections.

Staphylococci and hemolytic streptococci.

Causative agents of nosocomial infections.

All the pathogenic and conditional-pathogenic bacteria.

614. The air of the surgical unit was tested during the operation. The number of bacteria in 1 m³ of the air accounted 150. Bacteriologist identified Gram-positive coagulase-negative bacteria. What microorganisms were identified by bacteriologist?

+Coagulase-negative staphylococci.

Coagulase-positive staphylococci.

Escherichia coli.

Blue pus bacilli.

Causative agents of wound anaerobic gas infection.

615. The water of aqueduct was estimated with the following results: the total microbial number in 1.0 ml of water averaged 80, bacteria of coliforms (coli-index) – 3. How can the quality of the tested water be interpreted?

+The water is eligible for drinking.

The water is of doubtful eligibility.

The water is not eligible at all.

The water is dirty.

The water is rather dirty.

616. Bacteriologist revealed two colonies of red pigmentation while testing the water with the method of membrane filters on Endo agar. 500 ml of the tested water was filtered through the membrane. What is the coli-index and coli-titer of the investigated water?

+4 and 250.

2 and 500.

250 and 4.

500 and 2.

250 and 2.

617. Sedimental method of investigating the air of the operation theater before the operation revealed 5 small round colonies surrounded by hemolytic zone. What nutrient agar was used for sanitary bacteriological investigation of the air?

+Blood agar.

MPA.

Endo agar.

Yolk-salt agar.

EMB-agar.

618. A consumer got doubted as for the eligibility of the mixed meat considering that it was made of dog meat. Epidemiologist sent a specimen of the meat to the laboratory for investigation. What method of reaction will be used to estimate the quality of the obtained piece of meat?

+Reaction of precipitation.

Cumbs reaction.

Reaction of agglutination.

Reaction of opsonization.

Immune fluorescent reaction.

619. Routine sanitary epidemiological control of the air in the drug store revealed bacilli, yeast fungi, hemolytic streptococci, and micrococci. Which of the microorganisms indicate direct danger of epidemy?

+Hemolytic streptococci.

Micrococci.

Bacilli.

Yeast fungi.

The air in the drug store is appropriate of the sanitary rules.

620. Results of the sanitary bacteriological investigation of the air in the operation theater before the operation are the following: 356 colonies grew on MPA, 6 colonies of golden pigmentation with marked zone of hemolysis – on blood agar. Is the air in the operation theater appropriate to the sanitary rules?

+No, the air is settled by golden staphylococcus.

Yes, it is.

No, it is moderately contaminated.

It's difficult to estimate the results of investigation.

It is not appropriate to the sanitary rules, as the air is contaminated by fungi.

621. A consumer demanded to send the sausage he'd bought before for bacteriological investigation. The tested material was plated on nutrient media: on MPA, Endo agar and Willson-Blair agar. The results of investigation are the following: in two days 250 colonies grew on MPA, 45 colonies grew on Endo agar and 3 colonies – on Willson-Blair agar. How can the eligibility of the sausage be estimated?

+The product is contaminated; it is not eligible for use.

The number of bacteria is within the norm, the product is not contaminated.

The product is partially contaminated; the number of bacteria is within the norm.

The product is contaminated by colibacilli; the number of bacteria is within the norm.

The product is contaminated by clostridia; it is not eligible for use.

622. To estimate the sanitary environment of the maternity home, investigation of the air in the delivery room and in the neonatal department was carried out. The test was performed using aspiration method of investigation (the air was tested with Krotov apparatus). What microorganism indicates the danger of epidemic in the maternity home?

+Pathogenic staphylococcus.

Micrococci.

Colibacilli.

Milky acid bacteria.

Bifidum bacteria.

623. Drinking water test includes identification of microorganisms due to sanitary indices and their number in 1 l of water. What microorganisms due to the state standards of Ukraine are considered to be sanitary indicative for drinking water?

+Bacteria of coliforms.

Proteus.

Enterococci.

Sarcine.

Staphylococci.

624. Eligibility of drinking water was estimated in the bacteriological laboratory. What index is characteristic for the number of coliforms in 1 l of water?

Perfingens-titer.

Coli-titer.

Titer of coliphage.

+Bacteria of coliforms (coli-index).

The total microbial number.

Nosocomial Infections

625. Neonates' morbidity rate of acute respiratory viral infections increased sharply in the neonatal department. What should be administered for treatment?

+Interferon.

Influenzal ribosomal vaccine.

Influenzal vaccine for orally introductions.

Antibiotics.

Sulfonamides.

626. Urine microslide of the patient suffering from acute cystitis revealed leucocytes and considerable number of Gram-negative rods. On nutrient medium bacteria produce mucous colonies with green soluble pigment. What microorganisms are likely to cause the disease?

+*Pseudomonas aeruginosa*.

Salmonella enteritidis.

Proteus mirabilis.

Escherichia coli.

Klebsiella pneumoniae.

627. Since internal nosocomial infection was suspected, neonatal department of the maternity hospital was monitored. *Staphylococcus aureus* was identified among the children as well as on certain objects used for neonatal care. What features of isolated culture made it possible to determine the origin of infection?

+Identical phagotype.
Ability to pigment formation.
Generality of antigenic structure.
Results of biochemical activity.
Results of sensitivity to antibiotics.

628. What is the principle method of diagnosing opportunistic infections?

+Bacteriological.
Method of express train-diagnostics.
Bacterioscopic.
Serological.
Biological.

629. *Staphylococcus aureus* was found at sour cream samples' bacteriologic investigation. What way can etiologic importance of isolated culture be proved as the cause of food poisoning found among sour cream consumers group?

+Identification of phagotype.
Revealing of enzyme plasmacoagulase.
Revealing hemolysin.
Definition of sugar properties.
Revealing enzyme lecithinase.

630. Nosocomial staphylococcal infection was suspected in surgical department; medical staff appeared to be the source of infection. What medium can be used to culture the medical staff nasopharyngeal materials in order to find pathogenic staphylococcal bacteria carriers?

+Yolk-salt agar.
Endo agar.
Meat-peptone broth.
Triple sugar iron agar.
Blood agar.

631. To evaluate maternity hospital sanitary conditions, medical staff were tested for bacteria carrying. What microorganisms are extremely dangerous for those who come in contact?

+Pathogenic staphylococcus.
Micrococci.
Escherichia coli.
Lactic bacteria.
Bifidobacteria.

632. What is the way of determination the source of staphylococcal infection in a department?

+Definition of phagotypes.
Revealing hemolysin.
Definition of enzymes of aggression.
Definition of biotypes.
Definition of antibiotic resistance.

633. During bacteriological examination of the purulent material obtained from the burn wound, big plain decolorized mucous colonies with irregular margin grew on meat-peptone agar. Having been in sunshine for 24 hours, they produced green-blue water soluble pigment with honey or jasmine odor. Bacterioscopy revealed Gram-negative lophotrichi. Pathogen's pure culture has natural resistance to the majority of antibiotics. What genus of bacterial culture was identified in the exudate?

+*Pseudomonas aeruginosa*.
Proteus vulgaris.
Klebsiella ozaenae.
Streptomyces griseus.
Brucella abortus.

634. Investigation of low quality foodstuff revealed mobile Gram-negative bacilli. 18-hour cultivation on MPA created serpiginous growth of bacteria shaped like tender bluish film (phenomenon of swarming). Isolates didn't ferment lactose, mannitol but fermented glucose, maltose and sucrose producing acid and gas, hydrogen sulphide and indole. It was proved bacteriologically that the identified bacteria were representatives of:

+*Proteus*.

Escherichia.
Pseudomonas.
Salmonella.
Shigella.

635. A case of anaerobic infection is observed in the hospital after scheduled surgical operation. What material is to be sent for bacterial examination to identify the cause of infection?

+Dressing, sutural material (silk, catgut).

Urine.

Blood.

Slices of the damaged tissue.

Tissue liquid.

636. Postoperative wound complications rate increased in the surgical unit. Thus, pathogenic staphylococci 3A, 3C, 81 phagovar were isolated in patient's wound egesta; in patient B. – the same phagovar. Investigation of the material obtained from the medical personnel, medical instruments of the surgical unit, rooms and air in the dressing room revealed various phagovars of staphylococci. Thus, staphylococci of 80 phagovar were revealed in the pharynx of an operational nurse; 3A, 3C, 81 phagovar in the nurse of intensive care unit; 79 phagovar – in a surgeon who operated the patient; 72 phagovar in a junior nurse of a surgical unit; 83A phagovar of staphylococci in a dressing room; and 42E phagovar of staphylococci on tools and instruments. Who of those examined is the source of infection for patients?

+The nurse of intensive therapy unit.

The surgeon.

The operational sister.

The nurse of the dressing unit.

The junior sister of the operation block.

637. A nurse of the operation theater was diagnosed with Gram- positive cocci found in her nasopharynx during examination of the medical staff. Microorganisms were located in a bunch of grapes; on yolk-salt agar they created S-shaped colonies and were able to ferment mannitol in anaerobic conditions. What test will confirm that this is *Staphylococcus aureus*?

+Plasma coagulase test.

Catalase test.

Urease test.

Gram stain.

Cistinase test.

638. Postoperative complications rate increased among the patients of the surgical department. It was found out that *Staphylococcus aureus* hospital strains circulate in the unit and an operational nurse appeared to be a carrier. In what material obtained from the carrier will *S. aureus* be found?

+In nasopharyngeal washout.

In excrements.

In the blood.

In the urine.

In washouts of the hands.

639. It is known that if the patients are treated with antibiotics, bacteria become resistant to them. Resistance does not develop in case:

+Permeability of cell membrane changes.

Antibiotic cooperates with a target and oppresses its functions.

Nonspecific targets are blocked.

Enzymes of hydrolysis are synthesized.

The structure of a target changes.

640. Bacteriological examination of pus obtained from postoperational wound identified pathogen which grew up on sugar-blood agar and created S-shaped black pigmented shining colonies of unpleasant odour within 7-10 days of anaerobic conditions. Microscopy of the specimen revealed Gram-negative rods with extensive polymorphism. What microorganism caused suppuration?

+Bacteroides.

Clostridia.

Escherichia coli.

Veillonella.

Fusobacteria.

641. A patient was diagnosed with poliomyelitis. Bacteriological investigation of the patient's urine revealed microorganisms which created colonies with yellow-green pigment and specific odour on meat-peptone agar. What microorganisms are identified?

+Pseudomonads.

Proteus.

Klebsiella.

Escherichia.

Azotobacteria.

642. During nosocomial infectious episode staphylococci were isolated from the pharynx of a nurse. Microorganisms were not identical to the strain isolated from the patient, because of R-plasmid. What property can hospital strain receive as a result of conjugation with staphylococcus?

+Resistance to antibiotics.

Synthesis of leucocydines.

Creation of rough colonies.

Fertility.

Production of enterotoxin.

643. A patient presented to the infectious department with clinical diagnosis of ozena. What serological test should be executed to confirm clinical diagnosis?

+Complement fixation test.

Opsono-phagocytic reaction.

Neutralization test.

Precipitation test.

Hemagglutination test.

644. What causative agent is able to destroy mucous membranes causing inflammation of the internal organs, sepsis, producing blue-green pus and which is usually resistant to antibiotics?

+Pseudomonas aeruginosa.

Proteus vulgaris.

Streptococcus mutans.

Staphylococcus aureus.

Escherichia coli.

645. Such opportunistic microorganisms as Klebsiella pneumoniae, Escherichia coli, Pseudomonas aeruginosa, and Staphylococcus epidermidis were isolated from different patients of the surgical department. What common structural component determines their pathogenicity?

+Capsule.

Plasmids.

Spores.

Lipopolysaccharides of the cell wall.

Protective antigen.

646. A number of pathologic conditions are commonly associated with microbial factor: meningococcemia, acute pyelonephritis caused by Klebsiella, sepsis caused by Escherichia coli, bad wound infection of protein etiology, and puerperal endometritis caused by undetermined enterobacterial etiology. What particularity of pathogenesis is typical for all pathological processes?

+Intoxication by lipopolysaccharide endotoxin.

Intoxication by albuminous bacterial toxins.

Septic condition.

Presence of Gram-negative bacteria in the blood.

Septicemia with the development of allergic reactions.

647. Some of the patients of surgical unit simultaneously showed postoperative wound purulent inflammable complications. Bacteriological examination revealed staphylococcal culture isolated from all the patients' material. Nosocomial infection episode was recorded. Which of the described features characterizes staphylococcus as nosocomial infection causative agent?

+Polyresistency to antibiotics.

Isolation of exotoxin.

Isolation of enzymes of pathogenicity.

Widespread circulation.

Resistancy to physical factors.

648. A female of a surgical department complains of backache and abdominal pain, pain at urination and frequent urination tenesmus. Urine's bacterial examination identified Gram-negative oxydase-positive rodlike bacteria that created mucoid colonies of green pigmentation with specific odour. What microorganism caused the disease?

+*Pseudomonas aeruginosa*.

Proteus mirabilis.

Escherichia coli.

Streptococcus pyogenes.

Mycoplasma pneumoniae.

649. A 65-year-old patient was admitted to hospital complaining of frequent urination with blood traces. A physician sent the patient's urine for bacteriologic examination. Inoculation of specimen on meat-peptone agar produced big colonies with typical flower odour and greenish-blue pigmentation. Microscopy of the swab revealed Gram-negative rods. What is the causative agent of the inflammation of urogenital system?

+*Pseudomonas aeruginosa*.

Escherichia coli.

Klebsiella ozaenae.

Hafnia alvei.

Proteus vulgaris.

650. An episode of infection with clinical features of neonate pemphigus was recorded in the maternity home. Identical strains of staphylococci were isolated from the patients' material. What toxin should be identified to confirm staphylococcal etiology of the episode?

+Exfoliatin.

Enterotoxin.

β-lysin (Beta-lysin).

Endotoxin.

Factor of toxic shock.

651. Burns department patient suffers from purulent complication. The pus is of bluish-green color, indicating infection caused by *Pseudomonas aeruginosa*. What morphological feature is typical for this causative agent?

+It is a Gram-negative bacillus.

It is spore forming.

It is a coccocal form.

Cells are located in pairs.

It creates mycelium.

652. Standard staphylococcal bacteriophages were used to find the source of patients' contamination with pathogenic staphylococci. What investigation of pure culture isolated from various sources was performed?

+Phage typing.

Phage diagnostics.

Phage indication.

Phage therapy.

Phage identification.

653. Episode of enteric infection was registered in the therapeutic department. It was associated with the contaminated food that the patients had been fed with. It was hard to fight against the infection by antibiotic therapy. What causative agent of hospital infection was likely to cause the disease?

+*Salmonella*.

Staphylococcus.

Streptococcus.

Blue pus bacillus (*Pseudomonas aeruginosa*).

Proteus.

654. An episode of nosocomial staphylococcal infection was registered in the maternity hospital. What method of investigation was preferable to identify the source of infection?

+Phage typing.

Studying biochemical properties of the causative agent.

Studying toxin production.

Studying sensitivity of the causative agent to antibiotics.

Studying antigenic structure of the causative agent.

655. An episode of nosocomial infection was registered in burns department. Mobile Gram-negative rods were revealed in patients' material obtained from the pus swabs and washouts of sanitary room's surfaces. Causative agent was aerobic; it did not decompose lactose; while growing on meat-peptone agar it created blue-green pigmentation. What microorganism is likely to be a causative agent of nosocomial infection?

+*Pseudomonas aeruginosa*.

Proteus vulgaris.

Salmonella typhimurium.

Escherichia coli.

Bacteroides melaninogenicus.

656. A patient, operated on urinary bladder cancer, showed increase of body temperature a day later. His condition worsened, pain in the lower part of the abdomen developed. Microscopic examination of ureal microslides identified leucocytes and a considerable number of Gram-negative rods. Mucous colonies grew up on nutrient medium producing green soluble pigmentation. What microorganism caused postoperative complication, in your opinion?

+*Pseudomonas aeruginosa*.

Escherichia coli.

Klebsiella pneumoniae.

Proteus mirabilis.

Salmonella enteritica.

657. An episode of nosocomial infection was recorded in the surgical unit. Infection was characterized by frequent suppuration of postoperative wounds. Bacteriological investigation isolated aureococcus in the pus. What method is to be used to identify bacteria carrier among the medical staff of the surgical unit?

+Phage typing.

Microscopic.

Serological identification.

Definition of sensitivity to antibiotics.

Biochemical identification.

658. A patient diagnosed with pyelonephritis is admitted to hospital. What material should be obtained from the patient for bacteriological investigation?

+Last portion of urine.

Blood.

Bile.

Exudate from urethra.

Faecal mass.

659. One of the representatives of Enterobacteriaceae family forms a capsule both in microorganism and in nutrient medium, creating mucous colonies. It is also known that this microorganism is the causative agent of rhinoscleroma – chronic atrophic process of mucus of the upper respiratory tract. What genus is the causative agent representative of?

+*Klebsiella*.

Salmonella.

Citrobacter.

Enterobacter.

Shigella.

660. While determining the cause of nosocomial infection episode, pure cultures of *Staphylococcus aureus* from the patients, medical staff and certain environmental objects were isolated. What examination should be carried out to determine isolated staphylococci identity and the source of nosocomial infection?

+Phage typing.

Definition of biotype.

Serologic typing.

Definition of pathogenicity.

Infecting of animals.

661. Material (wound exudate) was cultured on dense nutrient medium and incubated for 18 hours at $t = 37^{\circ}\text{C}$. Large flat colonies grew up on meat-peptone agar with marked blue-green pigment diffusing into agar and with intense odor. What microorganism grew up on the nutrient medium?

+*Pseudomonas*.

Serratia.

Sarcine.

Staphylococcus.

Klebsiella.

662. Material obtained from the patient with maxillofacial injury and suppurative wound caused by *Klebsiella pneumoniae* was sent to bacteriological laboratory. What method of microbiological diagnostics was used to identify the cause of the disease?

+Bacteriological.

Express method (Ascoli test).

Skin allergic test.

Biological method.

Serological (hemagglutination inhibition test).

663. *Shigella sonnei* was isolated from the patient's faeces. What additional investigation should be performed to identify the source of infection?

+Phage typing of the isolated pure culture.

Study of sensitivity to antibiotics.

Reaction of precipitation.

Complement fixation test.

Reaction of neutralization.

664. Having eaten cottage cheese, children of the kindergaten developed symptoms of nausea, vomiting, and diarrhoea. Microscopy of the preparation revealed Gram-positive microorganisms (golden staphylococcus). What is the suggestive method of identification the source of infection?

+Phagotyping of isolated strains.

Determination of capability of strains to produce toxins.

Investigation of kitchen stuff.

Identification of antibodies in sick children.

Additional skin allergic test.

665. When the material from the burns wound was plated on meat-peptone agar, colonies of medium and small size with irregular margin, blue-greenish pigmentation and metallic sheen grew up. The culture produced odour typical for jasmine. What species of bacteria was identified due to its cultural properties?

+*Pseudomonas aeruginosa*.

Escherichia coli.

Proteus vulgaris.

Staphylococcus aureus.

Clostridium perfringens.

666. A pure culture of facultative anaerobe was isolated in the material obtained from the patient with symptoms of food intoxication. The culture produced two types of colonies on meat peptone agar. H-type of bacterium created typical scrawling growth (phenomenon of digging). In unfavorable conditions (presence of phenol, bile acids, and acridine units) O-type of bacterium created large colonies with flat edges on meat peptone agar. Inoculation of bacterial culture in condensated water of slanting MPA (Shukevich method) produced typical scrawling growth like tender bluish film. What genus of bacteria is the isolated pure culture representative of?

+*Proteus*.

Yersinia.

Klebsiella.

Salmonella.

Shigella.

667. To clear up the causes of saprogenous infection, inoculation of the material on nutrient agar is sometimes performed with a specific technique: the studied material is introduced into the condensated water of slanting MPA. The presence of bacteria is identified due to the typical scrawling growth – from the bottom to the upper surface of the nutrient medium. What microorganism is characterized by such particularity of growth?

+*Proteus*.

Escherichia coli.

Blue pus bacillus (*Pseudomonas aeruginosa*).

Staphylococcus.

Enterococcus.

668. Meat sausage with unpleasant saprogenous odour was sent to bacteriological laboratory. Mobile Gram-negative rod-shaped bacteria were isolated in the studied material. Bacteria grew very quickly on MPA and produced phenomenon of swarming (when inoculated in condensated water of slanting MPA, bacterial culture produced typical scrawling growth like tender bluish film). What microorganism caused saprogenous biological decomposition of the studied material?

+*Proteus* spp.

Escherichia coli.

Vibrio cholerae.

Salmomella spp.

Shigella spp.

Causative Agents of Human Mycosis

669. Microscopy of epidermis of digital folds and soles revealed septic branchy mycelium and square arthrospores located in chains. What agent of mycosis are these morphological particularities typical for?

+Agent of epidermophytia.

Agent of candidosis.

Agent of trichophytia.

Agent of microsporia.

Agent of favus.

670. A child was presented with whitish spots on the mucous membrane of the cheeks. They looked like boiled milk. Micropreparations contained lengthened pseudogifs, chlamydospores (thick-walled two-planimetric large spores of oval shape), and blastospores (budding cells). What microorganism seems to have caused the impairment of the mucous membrane of the cheeks?

+Fungi of Candida genus.

Corynebacterium diphtheriae.

Fusobacteria.

Actinomyces.

Staphylococcus aureus.

671. A child is admitted to the hospital with the following symptoms: on the mucous membrane of his cheeks, palate and tongue white and yellowy incrustation typical for candidosis was observed. What material is suggestive for investigation?

+Incrustation from different parts of the oral cavity.

Urine.

Hair and nails.

Rhinopharyngeal mucus.

Blood.

672. A worker of the chemical factory (the experience of work is 15 years) manifests contact dermatitis (hyperemia, rash) of the neck and face. Which of the conditions is it likely to be?

+Allergic reaction of the delayed-type.

Allergic reaction of the immediate type.

Immunodeficiency of B-system.

Late γ (gamma) – hypoglobulinamia.

Immunodeficiency of T-system.

673. The dominant dermatomycosis is known as Tinea pedis – "athlete's foot". What species of fungus causes this disease?

+*Trichophyton mentagrophytes* or *Trichophyton interdigitale*.

Trichophyton violaceum or *Candida albicans*.

Microsporum canis or *Epidermophyton floccosum*.

Microsporum gypseum or *Microsporum audouinii*.

Microsporum audouinii or *Microsporum canis*.

674. A child is diagnosed with candidiasis of the oral cavity. What preparation is used for treatment?

+Nystatin.

Gentamicin.

Benzylpenicillin.

Tetracycline hydrochloride.

Cifran.

675. Microscopy of swab from the tongue stained by Gram method revealed a chain of big dark-violet cells. The causative agent of what disease is characterized by such morphological properties?

+Candidiasis.

Actinomycosis.

Staphylococcal infection.

Streptococcal infection.

Diphtheria.

676. A patient is diagnosed with chronic colpovaginitis. Microscopy of specimen from the patient's discharge revealed blastospores – budding cells in diameter of 3-6 μm and chlamydospores – thick-walled two-planimetric large spores of ellipsoidal form. Name the agent of the disease due to this morphology.

+Agent of candidiasis.

Agent of coccidioidosis.

Agent of epidermophytosis.

Agent of microsporia.

Agent of cryptococcosis.

677. A patient is diagnosed with the impaired hair of the head as well as skin of the fingers and nails. Microscopy of the hair revealed that mycelium of the fungi penetrated inside the hair and alongside. What disease is caused by such type of fungus?

+Trichophytosis.

Microsporia.

Epidermophytia.

Favus.

Candidosis.

678. A child had been ill with chronic pneumonia for a long time, with frequent reoccurrences and candidosis. She was tested for γ (gamma) - hyperglobulinemia. In the blood and bronchopulmonary exudate there were identified phagocytes, cytoplasm of which contained cells of Candida fungi and enterobacteria. Dysfunction of what cells of the patient's organism can cause such pathological process?

+Macrophages and neutrophils.

T- and B-lymphocytes.

B-lymphocytes.

T-lymphocytes.

Mast cells.

679. HIV-patient presented to the hospital with dysphagia. Examination of the oral cavity allowed the doctor to determine redness of the mucous membrane. Phibroeozophagogastrroduodenoscopy revealed thick white spots in the oral cavity. Material obtained from the spots was inoculated on Sabouraud agar. Microscopy of the preparation revealed oval budding cells of deep purple color. What microorganism was identified by bacteriologist?

+Fungus of genus *Candida*.

Cytomegalovirus.

Simple herpes virus of type I.

Staphylococcus aureus.

Actinomycetes.

680. Microscopy of the hair from the patient's damaged lesions revealed mycelium of fungi, spores, air blisters, and oil drops. What causative agent of fungal disease is characterized by such clinical features?

+Favus.

Microsporia.

Trichophytia.

Epidermophytia.

Sporotrichosis.

681. A patient had taken immune depressants for a long period of time. Investigation of the mucous membrane and sputum identified large Gram-positive oval budded cells located chaotically alongside with lengthened cells located in chains. What microorganism was isolated?

+Fungus of genus *Candida*.

Actinomycetes.

Streptococci.
Streptobacilli.
Yersinia.

682. A pregnant woman complains of itching and discharges from the genitals. Bacterioscopy of the discharges from the vagina determined pseudomycelium of dark-violet pigmentation. What microorganism is more likely to cause the disease?

+Fungus of genus *Candida*.
Staphylococci.
Streptococci.
Diplococci.
Sarcine.

683. Examining a 3-month-old child, a pediatrician noted that the mucous membranes of the mouth and tongue were covered with thick white incrustation. Bacteriologist determined fungi in the material obtained from the damaged regions. What type of mycosis is likely to be diagnosed?

+Candidiasis.
Actinomycosis.
Favus.
Epidermophytia.
Trichophytia.

684. A swab of whitish incrustation from the mucous membrane of the oral cavity was sent to the lab. Inoculation of the material on Sabouraud agar produced colonies which looked like sour cream. Microscopy of the material from the colonies revealed small yeast budding cells. What is the causative agent of the disease?

+Agent of mycosis.
Agent of spirochetosis.
Agent of ricketsiosis.
Agent of micoplasmosis.
Agent of chlamydiosis.

685. A resident of the village presented with a solid phlegm-like infiltrate in the cervical-jaw portion; the skin around it was of blue-purple pigmentation. In the center there was necrotizing purulent infiltrate with unpleasant odour. To confirm the diagnosis of actinomycosis, microscopy of the pus was performed. What microorganism is likely to be identified to confirm the diagnosis?

+Droozes².
Gram-positive streptococci.
Gram-negative diplobacteria.
Acid resistant rods.
Gram-negative diplococci.

686. Lesions of the damaged skin and hair were revealed on the patient's head: the hair had been cracked above the surface of the skin, also, it was damaged in hair follicles. Microscopy of the hair revealed that microorganisms looked like "endothrix" – arthroconia are identical, large, oval, located in the middle of a hair root like long chains. Name the causative agent of the disease.

+*Trichophyton violaceum*.
Trichophyton schoenleinii.
Trichophyton mentagrophytes.
Epidermophyton floccosum.
Microsporum canis.

687. Microscopy of the smear from the mucous membrane and tonsils of a 5-year-old girl revealed a great number of small globular and ellipsoid Gram-positive typical for budding cells. What culture of microorganisms may it be?

+Yeast.
Streptococci.
Staphylococci.

² **Droozes** – a group of mycelium, preferably *Actinomyces israelii*, shaped like round or oval basophile mass with eosinophile inclusions (evidently, they are antibodies) on the surface. Material for investigation includes pus, sputum, biotates and cerebrospinal fluid. Droozes of actinomycets are of solid stony structure; pressing on the covering glass produces crepitation. Droozes are also investigated by the method of crashed drop or by Gram or Romanovsky-Giemsa staining.

Veillonella.

Diphtheroides.

688. A child is admitted to the clinic with symptoms typical for candidosis. What method of investigation is it necessary to carry out to approve the diagnosis of candidosis?

Skin-allergic test.

+Bacteriological.

Microscopic.

Biological.

Serological.

689. The course of treatment by antibiotics resulted in the development of stomatitis. A swab from the mucous membrane of the oral cavity yields oval polymorphic microorganisms of deep purple pigmentation arranged in settlers. What microorganism is likely to cause the disease?

+Candida albicans.

Clostridium perfringens.

Staphylococcus aureus.

Streptococcus pyogenes.

Helicobacter pylori.

690. A patient with severe case of pneumonia had been treated for the disease by antibiotic therapy which appeared to be ineffective. Microscopy of the sputum made it possible to identify Candida albicans. What group of infections does the disease relate to?

+Opportunistic infection.

Zoonotic infection.

Primary infection.

Zoonotic infection.

Local infection.

691. In cases of immunodeficiency some representatives of normal microflora seem to be aetiological factors of opportunistic infections. What representative of microflora is likely to cause opportunistic infection?

+Candida albicans.

Staphylococcus aureus.

Clostridium perfringens.

Streptococcus pyogenes.

Escherichia coli.

692. An 8-year-old boy is diagnosed with alopecia. The hair on the head is cut 5-8 µm above the surface of the head; the roots are covered with mosaic arranged arthroconidia (like "ectothrix"). Fluorescent microscopy of the damaged hair yields green lightning. Which of pathogenic fungi is likely to cause the disease?

+Microsporum.

Trichophyton.

Epidermophyton.

Sporotrichum.

Cladosporium.

693. A paediatrician revealed a white coat on the mucous membrane of the oral cavity, on the tongue and lips of a 3-month-old child. A preliminary diagnosis is candidosis. On what nutrient medium will inoculation be performed to confirm the diagnosis?

+Sabouraud medium.

Endo agar.

Löwenstein-Jensen medium.

Serum agar.

Klauber medium.

694. A 50-year-old male presented to the thoracic department complaining of breathlessness, pain in the right portion of the thoracic cavity, fatigue, considerable loss of weight, elevated body temperature to 38 °C. A preliminary diagnosis was acute right-sided pneumonia. Intensive antibacterial therapy appeared to be ineffective. Microscopy of sputum revealed fine septic branching mycelium, conidiophores with thickened endings and chains of conidia. On Sabouraud plate colonization grew some days later. Skin allergic test confirmed the preliminary diagnosis. What is the most likely causative agent of the disease?

+Fungi of *Aspergillus* genus.
Mycobacteria of tuberculosis.
Fungi of *Candida* genus.
Corynebacteria.
Listeria.

695. On his visit to India, a man injured his foot and within two months he was admitted to the clinic complaining of pain in the foot. Dissection of the infiltrate revealed droozes of deep brown colour, inside which there were observed closely tangled hyphae of mycelium. What remedy will you administer to the patient?

+Intraconazol.
Erythromycine.
Nistatin.
Penicillin.
Ceftriaxon.

696. A patient with immunodeficiency condition is diagnosed with pulmonary type of mycosis. Microscopy of pure culture yields separate spores, branchy septic mycelium and branchy conidiophores with exospores (conidia). What genus of fungi does the causative agent relate to?

+*Penicillium*.
Aspergillus.
Candida.
Mucor.
Trichophyton.

697. A diabetic patient developed pneumonia that did not respond to antibacterial therapy. The mucus was inoculated on Sabouroud agar. Colonies of creamy colour, soft and smooth grew on the plate. The margin of the colony was surrounded by pseudomycelium penetrating into agar. The causative agent of what infection is the isolated microorganism likely to be?

+Mycosis.
Chlamydiosis.
Rickettsiosis.
Balantidiosis.
Mycoplasmosis.

698. The solution of what substance is used to dissolve ceratoids at microscopy of skin scales involved by epidermofits?

+Alkali (10% solution *KOH* or *NaOH*).
Acetone.
Ether.
Ethanol.
Formalin.

699. A 40-year-old male is admitted to hospital with presentations of subcutaneous neoplasm on the upper part of the neck, solid, painful and reddish, as well as occasional purulent discharge from the granules in which a physician determined whitish granules containing hyphae. What is the suggestive diagnosis?

+Actinomycosis.
Candidosis.
Melanoma.
Tuberculosis.
Furunculosis.

700. A patient complained of frequent recurrent infections and fungal infections. He had to be examined thoroughly as he was suspected of immunodeficiency. Findings of immune electrophoresis showed that the level and correlation of antibodies in the blood serum appeared to be normal. What investigation should be performed to count the number of lymphocytes?

+E-RFC³.
M-RFC.
EAC-RFC.
BTLR⁴ on PHA.

³ **E-RFC** – Erythrocyte-Rosette Formation Cells.

⁴ **BTLR** – Blasttransformation Leucocyte Reaction.

BTLR on LPS.

701. To prevent fungal disbacteriosis which is, as a rule, a result of intensive antibacterial therapy, a patient is administered medication containing live microorganisms resistant to antibacterial antibiotics. What microorganisms are resistant to the influence of antibacterial antibiotics?

+Sugarmyces.

Lactobacteria.

Bifidobacteria.

Escherichia coli.

Milky acid streptococci.

702. Homosexual man complaining of malaise, dry cough and fever was admitted to the hospital. X-ray examination revealed two-sided root infiltrate. What is the most likely aetiology of pneumonia?

+Pneumocytes.

Streptococci.

Mycoplasmas.

Staphylococci.

Klebsiella.