

Virology

1. Which of the following characteristics is used to differentiate complex viruses from Chlamydia?

- +Anti-bacterial preparations do not inhibit their growth.
- They replicate by transverse division.
- They have neither RNA nor DNA.
- They contain lipopolysaccharides in their envelope.
- They have ribosomes.

2. The material which contains the minimal concentration of virus particles is delivered to the virological laboratory. What modern methods of immunological research will a virologist apply to detect the virus?

- +All listed.
- Enzyme-linked immunosorbent assay (ELISA).
- Reaction with monoclonal antibodies.
- Radioimmunoassay.
- PCR (polymerase chain reaction).

3. What method of research can a virologist use to detect provirus presence in blood lymphocytes?

- +Molecular hybridization using radioactive probes.
- Cellular hybridization using cell culture.
- Enzyme-linked immunosorbent assay (ELISA).
- Detection of antibodies with immunofluorescence test.
- Complement fixation test.

4. Serological diagnostics of viral diseases is based on the specific interaction of antibodies with antigens. What is the name of serological test in which antibodies are marked with fluorochrome?

- +Immunofluorescence test.
- Enzyme-linked immunosorbent assay.
- PCR (polymerase chain reaction).
- Complement fixation test.
- Molecular hybridization test.

5. The basic research in virological diagnosis is isolation of the virus in the cell culture. The virus presence is detected by specific action of the virus in cell culture. What is this action called?

- +CPE (cytopathic effect of viruses).
- NT (neutralization test).
- IFT.
- PR (precipitation reaction).
- RIA.

6. What autoimmune diseases are characterized by pathological reaction?

- +All listed.
- Chronic hepatitis.
- Systemic connective tissue disease.
- Nonspecific ulcerative colitis.
- Hashimoto's thyroiditis.

7. The Method used for indication of viruses in cell culture was based on the change of pH of the nutrient medium at cultivating of viruses in vitro. What type of test was done?

- + "Color test".
- Cytopathic effect of viruses.
- Hemagglutination test.
- Hemadsorption test.
- Detection of phenomenon of plaque formation.

8. In the kindergarten the epidemiologist recorded an outbreak of infection likely to be of viral etiology. It is urgent to develop a plan of preventive measures. What reaction or methods of laboratory diagnosis will be applied for express and immediate identification of the etiology of the disease?

- +Luminescent microscopy.
- Electronic microscopy.
- Virological method.
- Serologic method.
- Light microscopy of native material.

9. When the specimen is received, it is cultivated on the synthetic nutrient media. What microorganisms do not grow on synthetic nutrient media?

- +Viruses.
- Fungi.
- Actinomycetes.
- Protozoa.
- Mycoplasmas.

10. In order to indicate a cell culture, processed and investigated material for viral etiology and microscopic examination revealed cells on which there were erythrocytes clusters. What test is performed for indication of virus?

- +Hemadsorption test.
- Hemagglutination test.
- Cytopathic effect of virus.

"Color test".

Phenomenon of plaque formation.

11. On serological method of diagnostics of viral diseases, an investigated serum is twice diluted in the holes of plates, with adding viral diagnosticum followed by a suspension of erythrocyte. What is this reaction called?

+Hemagglutination inhibition test (HAIT).

Hemagglutination test (HIT).

Passive hemagglutination test (with antigen erythrocyte diagnosticum).

Passive hemagglutination test (with antibody erythrocyte diagnosticum) or Passive indirect hemagglutination test.

Complement fixation test.

12. At indication the causative agent, virologist revealed virus in allantoic fluid of the chicken embryo. What type of test did the virologist perform to indicate the virus?

+Hemagglutination test.

Neutralization test.

Hemadsorption inhibition test.

Complement fixation test.

Hemagglutination inhibition test.

13. Some of the viruses are to be cultivated in the lab. What medium is necessary to be used for obtaining cell culture in form of monolayer?

+Medium 199 / Eagle medium.

Endo agar.

Yolk-salt agar.

Blood agar.

Bile broth.

14. On physical examination of a stock-breeder there were revealed vesicular-erosive impairments (aphthae) on the mucous membrane of the oral cavity and nose as well as on the skin between fingers. Patient complains of heartburn in the oral cavity, excessive salivation, pain during urination and intestinal tract dysfunction. Preliminary diagnosis is epizootic aphthae (FMDV – food and mouth disease virus). What diagnostic test is necessary to confirm the diagnosis?

+Bioassay test – aphthae contents will be rubbed in paw pads of guinea pigs.

To isolate agent at cell culture.

To investigate duodenal content for agent presence.

Impaired tissue biopsy.

Laboratory tests are not carried out.

Pathogens of acute respiratory viral infections

15. Of the infectious diseases hospital in the pathological department brought the corpse of a sudden a dead person with a clinical diagnosis of "influenza". What research is needed to confirm the diagnosis?

+Isolation and identification of influenza virus.

Detection of intracellular inclusions under light microscopy.

Detection of high titers of antibodies in the hemagglutination inhibition test.

Detection of virus during electron microscopy of the preparation.

Detection of antibodies in complement fixation test.

16. To prevent the rise of the incidence of seasonal influenza in schools was conducted active immunization of children and adolescents. Which preparation was used for immunization?

+Inactivated (killed) vaccine.

Remantadin.

Donor immunoglobulin.

Oksolin.

Interferon.

17. The results of monolayer cell virusoscopy, which had been infected with material from the patient, was diagnosed as "respiratory syncytial virus infection". What change in cell culture caused the virus?

+The formation of polynuclear cells.

Total destruction of the cell monolayer.

Separation of a monolayer.

Round cells degeneration.

Formation of Negri bodies.

18. In a virological laboratory was carried out the infection of chicken embryo with flush from the nasopharynx of a patient with acute respiratory infection. Virologist identified the virus that caused the agglutination of 1% suspension of chicken erythrocytes. What virus isolated a virologist?

+Influenza virus.

Respiratory syncytial infection.

Parainfluenza virus.

Rhinovirus.

Adenovirus.

19. Which reaction will be performed to determine the type of inactive parainfluenza virus?

+HadsIT (Hemadsorption inhibition test).

HIT (Hemagglutination inhibition test).

PHAT.

CFT.

NT.

20. In kindergarten, epidemiologic registered outbreak of acute respiratory infection. To confirm the diagnosis of "influenza", virologist had rapid diagnosis, based on the identification of the test material (nasopharyngeal lavage) of a specific viral antigen. What reaction used a virologist?

+Immunofluorescence test.

Complement fixation test.

Agglutination test.

Precipitation test.

Reaction of opsonization.

21. Serological diagnosis of influenza involves the identification of increased antibody titer against the pathogen in the study of paired sera of patient's blood. How many times will an increase in antibody titer to the result be considered credible?

+In 4 or more times.

In 2 times.

In once.

In 3 times.

In polytiter.

22. The influenza virus contains the internal antigens: nucleoprotein (NP), polymerase (P1, P2, P3), matrix protein (M) and foreign antigens - hemagglutinin (H) and neuraminidase (N). Which antigens have a key role in the establishment of influenza immunity?

+Hemagglutinin and neuraminidase.

Nucleoprotein antigens.

Matrix protein.

Polymerase proteins.

Neuraminidase.

23. For virological diagnosis of influenza using 10-day chicken embryos. Which model should be used for the cultivation of parainfluenza virus?

+Cells culture.

Chick embryos.

White mice.

White rats.

Guinea pigs.

24. For diagnosis of what disease should be used HIT?

+Influenza.

Hepatitis C.

Herpes simplex virus type I.

Rabies.

HIV infection.

25. In the laboratory were delivered preparations-imprint from the nasal cavity of a patient with suspected influenza. What research should be conducted to identify the virus by a virologist?

+ELISA.

Agglutination test.

Precipitation test.

PHAT.

Complement fixation test.

26. In a city there is influenza epidemic. Which preparation would you recommend people for nonspecific prevention of the disease?

+Leukocyte interferon.

Influenza vaccine.

Penicillin.

Antigrippal immunoglobulin.

Antigrippal serum.

27. For effective immunization against influenza virus, it is likely to assume that which will be the cause of the epidemic. Typically, the exciter is the subserotype virus, against which a significant portion of the population lacks antibody. What kind of method is appropriate for the detection of antibodies in the serum of people?

+Hemagglutination inhibition test.

PHAT.

Hemagglutination test.

The reaction of neutralization of cytopathic effect (NT).

Complement fixation test.

28. In the virology laboratory was identified influenza virus. At the end of virus culture and accumulation, material was mixed in two lines of tubes with chicken erythrocytes. In the first line, diagnostic serum type A (observed formation of agglutinates in the form of "inverted umbrella" to the titre of serum) was added, in the second - type B (observed formation of agglutinates in the form of "buttons"). Virus type was identified as type B. What serological reaction was used to identify the virus?

+HIT.

PHAT.

CFT.

NT.

IFT.

29. Infection of chick embryo is the main method of accumulation of influenza virus. What is previously added to the test material (nasopharyngeal swab) before the introduction of the material into the chicken embryo?

+Streptomycin and penicillin.

Periodide potassium.

Eagle's medium.

Formalin.

Ether.

30. According to the anamnesis and clinical data of a patient showing symptoms of acute respiratory disease was diagnosed influenza. To which family of viruses is influenza included?

+Orthomyxoviridae.

Hepadnaviridae.

Herpesviridae.

Picornaviridae.

Togaviridae.

31. The infectious diseases hospital received a patient with signs of pneumonia, which appeared on the 6th day of influenza infection. What method confirms influenza etiology of pneumonia with the greatest certainty?

+Identification of influenza virus antigens in sputum by ELISA.

Study of paired sera.

Infection of chicken embryos.

Immunoluminescent study of preparation-imprint from the nasal passages.

Detection of antibodies against the hemagglutinin of influenza virus.

32. In the department of newborn children has sharply increased the incidence of acute respiratory viral infections. Which preparation should assigned to children for treatment?

+Interferon.

Influenza subunit vaccine.

Influenza vaccine for oral administration.

Antibiotics.

Sulfanilamides.

33. The maternity hospital, neonatal outbreak of epidemiologic respiratory viral infection was seen. Virological research revealed that the virus is characterized by cytopathological action with the formation of symplast and round cells with spikes after been grown in chicken embryos, and the transplanted cell. What pathogen most likely caused the outbreak?

+RS-virus infection.

Orthomyxovirus.

Herpesvirus.

Adenovirus.

Picornavirus.

34. Virologist infected cell culture material contains viruses. What species of virus can be detected by hemadsorbition test?

+The influenza virus type A.

Polio virus type I.

Polio virus type II.

Polio virus type III.

Hepatitis A virus.

35. A 2-year old child diagnosed of "acute pneumonia" by a doctor. In bronchial secretions, virologist found out large multinuclear cells. What pathogen caused disease?

+RS-virus infection.

The influenza virus.

Rhinovirus.

Streptococcus pneumoniae.

Bordetella pertussis.

36. In the virology laboratory were delivered pathological material (mucus from the nasal passages), collected from patients with a preliminary diagnosis of "influenza". What the reaction express-method will provide an opportunity to identify in test material the specific viral antigen?

+Direct and indirect IFT.

Direct and indirect ELISA.

HIT.

PHAT (with antibody diagnosticum).

RIA.

37. In connection with the approaching influenza epidemic, Regional Epidemiologist applied for preventive medications. Which drugs will contribute to the formation of active specific immunity and is the least reactive for the human body?

+Subunit vaccine.

Live (attenuated) vaccine.

Inactivated vaccine.

Donor γ (gamma) - globulin.

Leukocyte interferon.

38. With a feature of virus is associated high variability of influenza virus type A and is realized through "antigenic shift"?

+The virus is fragmented genome.

The virus has RNA negative type.

The virus can cause disease in both humans and animal.
The structure of virion consists of lipids and carbohydrates.
The virus has a single-stranded RNA.

39. In the ward for newborn children has sharply increased the incidence of acute respiratory viral infection caused by different species of viruses. To prevent the spread of infection is recommended to appoint human leukocyte interferon. Through which way can it be administered?

+In the nasal passages.
Inhalation.
Subcutaneously.
Orally.
Intramuscularly.

40. After examination of the child on the second day of onset, the doctor put the patient a preliminary diagnosis of respiratory syncytial infection. What laboratory test can confirm the diagnosis in this child in the early days of his stay in the hospital?

+Detection of virus antigens of RS-infection in nasopharyngeal secretions.
Serological examination (a fourfold increase in antibody titer).
Detection of IgA - antibodies in secretions from the nasopharynx.
Identification IgM - antibodies in secretions from the nasopharynx.
High titers of antibodies in the serum of the patient to the antigens of the virus RS-infection.

41. The child complains of sharp dry ("barking") cough, runny nose and fever. The doctor put a preliminary diagnosis of "parainfluenza infection". What result of laboratory studies can confirm the diagnosis in a patient?

+Detection of hemadsorption agent in infected culture cell of nasopharyngeal washings.
Detection of serum antibodies to antigens of parainfluenza viruses.
The death of mice during infection of nasopharyngeal washings.
Detection of spherical virions with electron microscopy.
Plaque formation in Agar layer when cell culture is infected by nasopharyngeal washing.

42. The virus of the bird's flu can cause mass disease of people worldwide. Describe the features of the epidemic process.

+Pandemia.
Epidemic.
Epizootic.
Superinfections.
Reinfection.

43. The patient complains of a headache, the general weakness, cough, and rise in temperature of a body. The doctor has put the clinical diagnosis "acute respiratory virus infection". Which of these viruses may be causative agent of this disease?

+Influenza virus.
Adenovirus.
Respiratory syncytial virus infection.
Coronavirus.
Any of the listed.

44. The family doctor recommended for the prevention of influenza by receiving interferon. What is the mechanism of action of this drug?

+Blocks initiation of translation and destroys virus specific mRNA.
Interferes with the formation of new viruses.
Inhibits virus yield from the cell.
Blocks uncoating / "stripping" of the virus.
Blocks adsorption of virus receptors on cells.

45. In the virology laboratory was material taken from a patient with a diagnosis of "acute respiratory viral infections". For what reason is typing of virus isolated from material from the patient done?

+For the etiological diagnostics of viral infection.
To study the biological properties of viruses.
To study the physico-chemical properties of viruses.
To develop ways of nonspecific prevention.
To study the resistance of viruses to the action of environmental factors.

46. The preliminary diagnosis of a patient by a doctor was "influenza" and the material taken from the patient was for study. During virological research of material, virologists used reaction of hemadsorption. To identify what type of viruses, this reaction can be used for?

+Viruses, having hemagglutinin on their surface.
All the simple viruses.
All complex viruses.
Genomic DNA viruses.
Any viruses.

47. An industrial plant had an immediate prevention of influenza types A. Which antiviral drug was used for this purpose?

+Remantadin.
Bonafton.
Interferon.
Dibazol.
Gamma-globulin.

48. A 7-years-old patient's paediatrician diagnosed paramyxoviridae infection. How is cytopathic effect of the virus demonstrated?

+Formation of syncytium.

Formation of intranuclear inclusions.

Formation of *Negri* bodies.

Formation of inclusions Lipschutz.

Damaged cells.

49. For patient with suspected influenza, virologist from nasopharyngeal swabs identified the virus, which has hemagglutinating properties. What serological test must be put to identify the virus?

+Hemagglutination inhibition test.

Agglutination test.

Precipitation test.

Coombs' reaction.

Hemagglutination reaction.

50. In the city was epidemic influenza. Which medication can be recommended to patients for nonspecific prevention of the disease?

+Remantadin.

Influenza virus vaccine.

Penicillin.

Antigrippal immunoglobulin.

Antigrippal serum.

51. For laboratory confirmation of diagnosis of acute respiratory viral infection, the doctor decided to use a serological method of diagnosis. When do you need to take material from the patient for the diagnostic method?

+At the beginning of the disease (as possible) and in 2-3 weeks.

At the beginning of the disease as early as possible.

At the end of the disease, in the warning days of clinical symptoms.

At the peak of the disease at the time of manifestation of clinical symptoms.

At the time of maximum rise in temperature.

52. In a sick child, doctor diagnosed inflammation of the sublingual and submandibular salivary glands. What pathological material is necessary to be taken from the patient to confirm the diagnosis of epidemic parotitis?

+Saliva and urine.

Faeces.

Purulent discharge.

Biopsy material.

Vomit.

53. At clinical examination, the patient's pediatrician noted a slight increase in temperature, the increase in parotid salivary glands. From the patient's saliva virologist isolate the virus, which is reproduced in chicken embryos, had hemagglutinating properties and caused the formation of syncytium in cell culture. What other organs may be affected by this infection?

+Sex glands.

Liver.

Light.

Tonsils.

Brain.

54. RNA-viruses of measles were found in patient's material. What enzyme assists to increase number of viral RNA molecules?

+RNA-dependent RNA-polymerase.

Reverse transcriptase.

DNA-dependent RNA-polymerase.

Translocase.

DNA-ligase.

55. In kindergarten group event of measles epidemiologist was registered. It's known that measles is 100% contagious. What is necessary to administer for children being in contact with ill one for prophylaxis?

+γ (gamma) - globulin to all children.

γ (gamma) - globulin to children who were not vaccinated.

To carry out observation only.

Measles vaccine to all children.

Measles vaccine to children which were not vaccinated.

56. Scheduled vaccination with measles virus vaccine was done in kindergarten. Utilizing what method post-vaccination immunity formation can be checked?

+Serological.

Bacteriological.

Virological.

Allergic.

Bacterioscopic.

57. Describe the types of immunity in a child who is infected with measles.

+Expressed immunity.

Frequent relapses.

Immune tolerance.

Non-specific immunity.

Cells reactivity.

58. Child turned sick with measles in kindergarten. What preparation is necessary to protect the contact persons of measles?

+Measles immunoglobulin.

Measles virus vaccine.

Immune stimulators.

Antibiotics.

Acyclovir.

59. In the family older sister turned sick with measles. Scheduled day came for younger child who is 1 year 7 months old who has not been sick with measles to make DTP vaccination. What pediatrician should do in this situation?

+To postpone scheduled vaccination with DTP and to medicate child measles immunoglobulin.

To vaccinate child measles vaccine.

To carry over DTP vaccination and simultaneously of wide spectrum antibiotic administration.

To medicate child DTP and simultaneously to vaccinate measles virus vaccine.

To carry over DTP vaccine vaccination and simultaneously of narrow spectrum antibiotic administration.

60. At the 8-year-old boy shows body temperature increase up to 38,8 °C, were undead¹, conjunctivitis, cough. Large spotty rash are seen on the skin, during oral cavity observation white grain like eruption rash is revealed on cheeks mucus tunic. Suddenly rough breathing occurred and death came at asphyxia phenomenon. What disease these symptoms are characteristic for?

+Measles.

Scarlet five.

Diphtheria.

Meningococcal nasopharyngitis.

Influenza.

61. 7 years old child acute sick: body temperature increased, in the upper airways doctor found marked catarrh, conjunctivitis with lacrimation. Skin integument contains large spots of popular rash, whitish spots (Belsky-Filatov- Koplik spots²) appeared on cheeks mucus tunic corresponding to premolars. Bronchitis signs in the lungs, high bubbling rales. What disease these symptoms are characteristic for?

+Measles.

Scarlatina.

Diphtheria.

Bronchopneumonia.

Acute respiratory viral infection.

62. Measles outbreak epidemiologist registered in maternity house. We can consider that children mothers of which were sick with measles earlier will not fall ill. What class antibodies will provide neonates protection from disease?

+IgG.

IgA.

IgD.

IgM.

IgE.

63. 1,5 years old boy who was not vaccinated with Plan against measles was in contact with sick with measles. Child was introduced donor γ (gamma)-globulin to provide urgent specific prophylaxis. What kind of immunity was created?

+Passive.

Natural.

Antitoxic.

Postvaccinal.

Local.

64. Specific prophylaxis of measles is included into recommended plan of mandatory vaccinations. What vaccine can be used for measles prophylaxis?

+Live (attenuated).

Inactivated.

Chemical.

Toxoid.

Recombinant.

65. Disease epidemiologist registered several children two weeks ago in the House of the Child. The doctor suggested the outbreak of measles infection based on clinical signs and epidemiological anamnesis data. What method of laboratory diagnosis to confirm assumption?

+Serological.

Rinocytoscope.

Express-method: IFT.

Virological: infection chicken embryos.

Allergic.

66. The child, who is recovering from measles, developed pneumonia caused by opportunistic bacteria. What is a form of infection?

+Secondary infection.

Reinfection.

¹ **Rhinitis** (in the home – Undead) – inflammation of the mucous membrane of the nasal cavity. Manifested by edema and nasal congestion, nasal branch of abundant mucous secretion, impaired sense of smell. Possible spread of inflammation to other parts of the respiratory system, the development of sinusitis, otitis, laryngitis, pharyngitis, tracheitis, bronchitis, pneumonia. In most cases of rhinitis is one of the manifestations of general diseases.

² **Belsky-Filatov- Koplik spots** – small white spots of hyperemia around the mucous membranes of the cheeks, lips, genitals. Spots are kept to rash on the skin or else for 1-2 days.

Super infection.
Persistent infection.
Mixed – infection.

67. Pregnant woman (2 months pregnancy) became sick: body temperature increased up to 38,5 °C, severe headache, neck muscles' ache, skin rash and lymphatic nodes increased. Doctor diagnosed her with "rubella". What reaction can detect antibodies presence in pregnant woman pure serum of blood?

+HIT (hemadsorption inhibition test).
IFT.
CFT.

Immunosorption test.
Ring precipitation test.

68. What vaccines you apply for rubella effective prophylaxis?

+Rubivax and Trimovax.
Solk vaccine.

L-16 (vaccine with attenuated strain of the pathogen of measles).
L-3 (vaccine with attenuated strain of the pathogen of mumps).
Subunit.

69. Woman at the beginning of pregnancy became ill with rubella. Diagnosis was confirmed with serum reactions. What of serum reactions was used for diagnostics?

+HIT (hemadsorption inhibition test).
Agglutination test.
Complement fixation test.
Precipitation test.
Opsonization test.

70. Congenital malformations were revealed with neonate in maternity house. It was clarified from anamnesis that mother undertook viral infection in pregnancy period, accompanied with rash, lymphatic nodes inflammation. What of viral infections listed caused congenital malformations?

+Rubella.
Influenza.
Epidemic parotitis.
Poliomyelitis.
Crimea hemorrhagic fever.

71. When taking a pregnant registration for prenatal doctor spent a comprehensive examination of the patient to certain infections. Serum patient virologist found IgM to rubella virus. As shown by the survey?

+About primary infection the pregnant.
About chronic process.
A pregnant healthy.
About exacerbation of chronic process.
About reinfection with rubella.

72. Pregnant woman in the first trimester of pregnancy, which was in contact with the patient rubella addressed for consultation of a doctor. What are your recommendations?

+Induced abortion.
Appoint vitamins A and E.
Appoint immunoglobulin.
Appoint antibiotics.
Appoint polivitamins.

73. Three-year-old girl doctor has diagnosed "rubella". Her ten-year sister was not ill this infectious disease, though all time in contact with younger sister. Pediatrician found that 10-year-old patient had been ill with rubella five years ago. What type of immunity provided protection against rubella older sister?

+Natural active.
Natural passive.
Artificial active.
Artificial passive.
Innate.

74. In the neonate pediatrician revealed anomalies: hydrocephalus, cataracts, cardiac defects. From anamnesis pediatrician found out that the mother in the second month of pregnancy with low grade fever was observed punctuate pink rash. What is the most likely causative factor behind the intra-placental infection of the fetus?

+The virus of rubella.
Toxoplasma.
The Cytomegalovirus.
Herpes simplex virus type II.
The virus of varicella-zoster.

75. Which of diseases is caused by DNA-genome virus?

+Adenovirus infection.
AIDS.
Respiratory-syncytial infection.
Influenza.
Parainfluenza.

76. Disease breakout occurred in the work group with symptoms of respiratory system lesion, pharyngitis³, ceratoconjunctivitis. What viruses can cause the disease?

+Adenoviruses.

Rhinovirus.

ECHO-viruses.

Coxsackie viruses.

Herpesviruses.

77. What virus will influence preparation which prevents virus replication in infected cell with DNA synthesis inhibition?

+Adenoviruses.

Orthomyxovirus.

Rhabdoviruses.

Polioviruses.

Togaviruses.

78. In army group diseases breakout occurred accompanied with dysuria, pain at urination, body temperature increase. What viruses can cause this disease?

+Adenoviruses.

Herpesviruses.

ECHO-viruses.

Coxsackie viruses.

Rotavirus.

79. In 1,5-year-old child suffering from acute respiratory infection, the doctor suspected adenovirus infection. With CFT in child serum virologist found antibodies to adenovirus titer of 1:20. During recovery (2 weeks) serological study was repeated. What results confirm the preliminary diagnosis?

+Increase the titer of antibodies.

Reduction the titer of antibodies.

Detection the titer of antibodies unchanged.

Negative result of CFT.

Detection of incomplete antibodies.

80. The child was hospitalized in hospital with a viral upper respiratory tract infection. Viruses of what the family are "double-acting virus": are both oncogenic viruses and can cause an infectious disease?

+Adenoviridae.

Rhabdoviridae.

Picornaviridae.

Orthomyxoviridae.

Coronaviridae.

81. Child with clinical signs of diarrhea was diagnosed "rotaviral gastroenteritis". The result of what laboratory test will confirm preliminary diagnosis?

+Definition of nucleic acid electrophoretotype.

Virus cultivation in suckling mice.

Virus cultivation in chicken embryo.

Antibodies recognition in hemagglutination inhibition test.

Virus cultivation in cells culture.

82. A group of children was hospitalized to children hospital infection unit with preliminary diagnosis "rotaviral gastroenteritis". Simultaneously influenza outbreak epidemiologist was registered. What major laboratory diagnostic principle virologist has applied for confirmation of preliminary diagnosis?

+Detection of viral antigen in the test material.

Finding light emission phenomenon in cytoplasm of cells taken from material is intested during their painting with acridine yellow.

Laboratory animals' infection contamination.

Specific inclusions reveal in cells culture.

Virus detection in cells culture with its further identification.

83. Which species of virus can be detected in the feces during 2-3 weeks from the disease beginning?

+Poliomyelitis virus.

Influenza virus.

B-hepatitis virus.

Rubella virus.

Measles virus.

84. Laboratory received material from patient with poliomyelitis. How virologist virus can be detected?

+At cultivation in cells culture.

At cultivation on 199 synthetic medium.

At cultivation on differential-diagnostic medium.

At cultivation on elective medium.

At cultivation on selective medium.

³ **Pharyngitis** – acute or chronic inflammatory process of the mucous membrane of the posterior pharyngeal wall and pharyngeal lymphoid tissue, usually viral or bacterial etiology. **Viral pharyngitis** is about 70% of the inflammation of the mucous membrane of the pharynx. Agents can adenoviruses, parainfluenza virus, rhinovirus, coronavirus. The most typical causative agent of **pharyngitis** is rhinovirus. According to studies in recent years have rhinoviruses cause 80% of colds during autumn epidemics rhinovirus.

85. In February epidemiologist registered outbreak of gastroenteritis in children kindergarten. At bacteriological investigation no pathogenic bacteria were found in material investigated. What organism caused an outbreak of intestinal infection?

+Rotaviruses.

Shigella.

Staphylococcus.

RS-viruses (respiratory syncytial viruses).

Yeast-like fungi.

86. The material from a patient with acute intestinal infection virologist identified virus that belongs to the genus Enterovirus. To detect the serotype of the virus diagnostic sera virologist were used. Which antibodies must the sera contains?

+To proteins of capsid.

To proteins of envelope.

To non-structural virus proteins.

To virus enzymes.

To virus hemagglutinin.

87. For poliomyelitis serologic diagnostics paired serum of a patient virologist are being examined. What virologist should be used as antigen for staging neutralization test?

+Live viruses I, II, III types.

Viral complement-fixing antigens.

Antigens inactivated by formalin.

Antigens-hemagglutinins.

Antigens of virus capsid proteins.

88. Virologist was extracted polio agent on fifth day of disease from mucus membrane of nasopharynx and tonsils with 5-years old child. Which test virologist is to be used to determine serotype of agent?

+Neutralization test (NT).

Hemagglutination inhibition test (HIT).

Hemadsorption inhibition test (HadsIT).

Passive hemagglutination test (PHAT).

Complement fixation test (CFT).

89. Acute hemorrhagic conjunctivitis is contagious infection of eyes characterized with pain, edema, and subconjunctival hemorrhages. What viruses cause this infection?

+Enterovirus.

Coronavirus.

Reovirus.

Rhinovirus.

Rotavirus.

90. What preparation you apply to specific preventive maintenance of a poliomyelitis?

+Live (attenuated) vaccine.

DTP vaccine (diphtheria and tetanus toxoids and pertussis vaccine).

Toxoid.

Bacteriophage.

Chemical vaccine.

91. Mother from far away village asked for assistance from district hospital. Soft paresis of foot doctor was revealed in her son, which developed after acute disease, which went on with fever and diarrhea syndrome. What investigation can confirm polio diagnosis?

+Paired sera investigation.

Virus isolated from blood.

Antibodies recognition in serum.

Virus antigen reveal.

Chicken embryos contamination with fecal filtrate.

92. Child who visited kindergarten and ill 3 days ago, doctor has make preliminary diagnosis "poliomyelitis". In epidanamnesis noted that in this kindergarten registered 3 cases of polio. What material from the patient's doctor must send to the research? What method of laboratory diagnosis applies virologist for confirm of diagnosis?

+Feces for virological research and cultivation in cells culture.

Nasopharyngeal swab for virological research and suckling mice contamination.

Serum of blood for serological research.

Feces for virological research and suckling mice contamination.

Serum of blood for virological research and suckling mice contamination.

93. The first vaccination against poliomyelitis should be done at the age of 3 month's with the use of Sabin vaccine. What class of immunoglobulins does not take part in postvaccinal immunity formation in this case?

+IgE.

IgG.

IgA secretory.

IgM.

sIgA (serum IgA).

94. 8-years-old girl suffered from sudden increase of body temperature, catarrhal phenomena appeared in the airways. On the 5th day diseases developed paralysis of the muscles of the low extremities and respiratory disorders have joined. In the spinal cord neuroglia proliferation doctor found around dead neurons. Which disease is characterized by these sings?

+Poliomyelitis.
Measles.
Diphtheria.
Meningococemia.
Scarlatina.

95. Prior to New Year holiday's outbreak of intestinal infection epidemiologist was registered at children in kindergarten. Bacteriologist not identified pathogenic bacteria in bacteriological research faeces of patients. In electron microscopy test material virologist revealed the formation of round shape with a clear rim and thick bushing that resembled the wheel. Name the most probable infection agent.

+Rotavirus.
Adenovirus.
Coxsackievirus.
Escherichia coli.
Proteus vulgaris.

96. In the neonate the pediatrician noted difficulty of breath, tickle in the throat. On examination doctor registered pharyngeal glands increase, fauces hyperemia. In 2 weeks regional lymph nodes increase doctor was found. The child died on the 6th week of life. At autopsy changes in spinal cord pathologist were detected: hyperemia, edema, spot hemorrhages in thoracic part of spinal cord. Microscopically in spinal cord – separate neurons death, single small cysts. In the heart - interstitial myocarditis. Death came of respiratory deficiency. Final diagnosis is polio. Name the stage of disease.

+Pre-paralytic stage of poliomyelitis.
Latent stage of poliomyelitis.
Paralytic stage of poliomyelitis.
Reparative stage of poliomyelitis.
Residual stage of poliomyelitis.

97. 3-year-old child is ill 3 days ago. The doctor found the powerful diarrhea. To investigate the child faeces virologist has applied immune electron microscopy. In faeces child doctor found revealed the formation of round shape with a clear rim and thick bushing that resembled the wheel.

What viruses are characterized by morphological features listed?

+Rotavirus.
Coxsackievirus.
ECHO-virus.
Coronavirus.
Reovirus.

98. The patient, which has come back from India, the doctor made a preliminary diagnoses "polio". What research should make the virologist to confirm the diagnosis?

+Virus isolation from feces and identification, serological testing of paired sera of blood.
Indication of the virus in feces by electron microscopy.
Microscopy of blood by "squashed" and "hanging" drop.
Study of gastric lavage in using immunofluorescence.
Grow the feces in medium for accumulation of pathogen.

99. The doctor sent to the virology laboratory material taken from a 16-year-old patient, to confirm the diagnosis "coxsackieviruses B infection". What research will the virologist for virus cultivation.

+For the cultivation of the agent uses continuous cell lines (*Hep-2*, *HeLa*).
The test material will grow on Endo agar.
The test material will grow on blood agar.
The test material will grow in meat-peptone broth.
For the cultivation of the agent uses chicken embryo.

100. Virologist identified strain containing antigens of different serotypes of coxsackieviruses A and ECHO-virus infection in the material from a patient with signs of enterovirus infection. In one cell between viruses occurred simultaneously process exchange capsid proteins and reproduction of virus. How is the process?

+Phenotypic mixing.
+Phenotypic masking.
Bilateral complementation.
Interferences.
Genetic reactivation.

101. In kindergarten, 5 children's fell ill for a few days. The children were hospitalized with diagnosis of "polio?". Name the mechanism of infection in children.

+Fecal-oral.
Alimentary.
Contact.
Airborne dust.
Transmissible.

102. The child was hospitalized at infectious hospital with a diagnosis of "enterovirus infection?". Virologist used cell culture monkey (Vero) and suckling mice for the accumulation viruses. Virologist has not revealed cytopathic effect in cell culture, but registered the death of suckling mice. Which enterovirus caused the disease in the child?

+Coxsackieviruses A.
Coxsackieviruses B.
ECHO-virus.

Polio virus.

Unclassified enteroviruses 68-71.

103. Various biological preparations can be used for the specific prevention of polio. Which preparations will form expressed local immunity in the intestinal mucosa?

+Oral vaccination of live (attenuated) vaccine.

Parenteral vaccination with inactivated vaccine.

Oral introduction of poliovirus immunoglobulin.

Parenteral vaccination of live (attenuated) vaccine.

Parenteral introduction of donor immunoglobulin.

104. The patient was hospitalized with a preliminary diagnosis "enterovirus infection". For the uptake of the pathogen the virologist used a cell culture. How can you identify the reproduction of the virus in the cell culture?

+By cytopathic effect of the virus on the cell culture.

Of micropreparations for staining the Gram.

Using phase-contrast microscopy.

Using the agglutination reaction.

Using the flocculation reaction.

105. What is the polio vaccine must be applied for the creation of human and local immunity?

+Live (attenuated) vaccine.

Subunit vaccine.

Chemical vaccine.

Inactivated vaccine.

Vector vaccine.

Causative agents of hepatitis viral etiology

106. Acute intestinal diseases occurred more frequently among population after water supply system failure. Based on clinical findings and epidemiological situation patients were diagnosed with "hepatitis A". What material should be taken from patients to confirm the diagnosis?

+Feces.

Blood.

Urine.

Nasopharyngeal swab.

Bile.

107. In kindergarten's senior group doctor was revealed the child with hepatitis A. What preparation should be administered to children being in contact for hepatitis A for specific prophylaxis?

+Immunoglobulin.

Serum.

Toxoid.

Plasma.

Vaccine.

108. An outbreak of hepatitis from water epidemiologist is registered in a settlement. Which virus could induce this outbreak?

+Hepatitis E.

Hepatitis G.

Hepatitis C.

Hepatitis D.

Hepatitis B.

109. The patient with viral hepatitis A was taken to the infectious hospital. Which class of antibodies will be synthesized first as a response to the agent?

+IgM.

IgG.

IgA.

IgD.

IgE.

110. What viral hepatitis epidemiology is seasonal?

+Hepatitis A.

Hepatitis B.

Hepatitis C.

Hepatitis D.

Hepatitis G.

111. Name the way of human infection the agent of hepatitis A.

+Through water and food.

Air-borne.

Contact.

Parenteral.

Transmissible.

112. After 4 months of operation the doctor noted in a patient yellow colour of sclera, mucous membranes and skin. The doctor found out that the patient was transfused with donor's blood. What is the preliminary diagnosis of the patient?

+Hepatitis B.

Yersiniosis.
Hepatitis A.
Sepsis.
Leptospirosis.

113. After suffering hepatitis B the patient developed hepatocellular carcinoma⁴. At what type of infection the viral genome incorporated into the genome of the host cell, causing cancer?

+Integrative.
Latent.
Abortive.
Acute.
Chronic.

114. During surgery the doctor will transfuse the patient with donors blood. What pathogenic agent should be checked in the blood before transfusion?

+Hepatitis B virus.
Hepatitis A virus.
Hepatitis E virus.
Enteroviruses.
Adenoviruses.

115. Which of the pathogenic agent is the most resistant to chemical and physical factors?

+Hepatitis B.
Measles.
Poliomyelitis.
Influenza.
Epidemic parotitis.

116. Stomatologist appeared to the polyclinic with a request to vaccinate him against hepatitis B. What preparation will be used for vaccination?

+Recombinant vaccine.
Inactivated (killed) vaccine.
Live (attenuated) vaccine.
Toxoid.
Chemical vaccine.

117. After four months of treatment in the surgical department, the doctor has diagnosed a patients with "viral hepatitis". The clinical picture is characterized by the gradual development of the disease: rash, yellow colour of the sclera, mucous membranes and skin. Epidemiological survey of case revealed that during his time of treatment he was transfused a small amount of blood. Which viral hepatitis was diagnosed in the patient?

+Hepatitis B.
Hepatitis C.
Hepatitis A.
Hepatitis D (delta hepatitis).
Hepatitis E.

118. High sensitivity methods are used to check the presence of virus hepatitis B antigens in donors' blood. Which test should be used?

+Enzyme linked immunosorbent assay (solid-phase variant).
Immunoelectrophoresis.
Passive hemagglutination test.
Complement fixation test.
Immunofluorescence test (indirect variant).

119. Three samples of blood serum were brought to the laboratory: one taken from the patient with chronic hepatitis B, the second from person who recovered from hepatitis B and the third from a patient with asymptomatic course hepatitis B. Which antigen will be found in all sera?

+HBsAg.
HBeAg.
HBcAg.
HBcAg and HBeAg.
HBcAg and HBsAg.

120. At investigation of donors blood, the doctor using the ELISA TEST revealed anti-HBs antibody. What testifies positive this result?

+A person had been ill hepatitis B.
About acute hepatitis C.
About acute hepatitis B.
About the chronic hepatitis C.
About the chronic hepatitis B.

⁴ **Hepatocellular carcinoma (hepatoma)** – the malignant tumor that develops in the cells of the liver; this is the most common form of primary liver cancer. The tumor metastasizing to the lungs, lymph nodes and rarely – in bone.

121. The patient was hospitalized with preliminary diagnosis "hepatitis B". To diagnose the disease doctor used serological reaction, based on the interaction of the antigen with the antibody and chemically associated with peroxidase or alkaline phosphatase. What serological test was used?

- +Enzyme-linked immunosorbent assay (ELISA).
- Radioimmunoassay.
- Immunofluorescence test.
- Complement fixation test.
- Immobilization test.

122. The patient after a car accident is taken to hospital. The patient urgently needs to be transfused with blood. Which reaction will the doctor use to test the donated blood for the presence of antigens of hepatitis B virus?

- +Enzyme-linked immunosorbent assay (ELISA).
- Hemagglutination inhibition test.
- Hemadsorption inhibition test.
- Complement fixation test.
- Immobilization test.

123. The causative agent of Hepatitis D is the defective virus which can reproduce only in the cells that are already infected with certain viruses. In the presence of which virus hepatitis D can reproduce?

- +Hepatitis B virus.
- Hepatitis A virus.
- Hepatitis E virus.
- Epstein-Barr virus.
- Human immunodeficiency virus.

124. The following laboratory investigation data were received from the patient with jaundice: HBsAg-, HBeAg-, anti-HBsG+, anti-HBsM-, HCAg+. What diagnosis is confirmed by this data?

- +Hepatitis C, hepatitis B in anamnesis.
- Hepatitis C.
- Chronic hepatitis B with low replica activity.
- Recurrence of hepatitis B.
- Reinfection agent of hepatitis B.

125. In connection with complicated course of hepatitis B the doctor to the patient has ordered examination to detect the satellite, which complicated the course of the underlying disease. What agent is this?

- +Delta-virus.
- Hepatitis C virus.
- Hepatitis G virus.
- Hepatitis E virus.
- HBs-antigen.

126. Which material from the patient is necessary to investigate in order to confirm the diagnosis of "hepatitis B"?

- +Blood.
- Feaces.
- Nasopharynx swab.
- Bile.
- Urine.

127. A student has never suffered serum hepatitis, but the doctor has forbidden him to be a donor. This is after the doctor identified serological marker, which indicates the infection with the respective virus in his body. What marker has the doctor revealed in the donor blood?

- +HBsAg.
- HBcAg.
- HBeAg.
- HBc Ig.
- HBs Ig.

128. Gene of B-hepatitis virus, responsible for the creation of HBsAg, was integrated into genome of variolovaccine virus. The combination is planned to be used for vaccine preparation. What types of vaccines are obtained in this way?

- +Engineered.
- Combined.
- Lyophilized.
- Synthetic.
- Chemical.

129. In the serum of a patient the doctor used enzyme-linked immunosorbent assay (ELISA) to reveal the HBs-antigen. In what disease are these antigens detected?

- +Viral hepatitis B.
- Syphilis.
- Viral hepatitis A.
- AIDS.
- Tuberculosis.

130. After examination of the patient and from data of anamnesis the doctor has diagnosed "Hepatitis D (delta)". What is the result of laboratory research can confirm the patient's diagnosis?

- +B- and D-hepatitis markers detection in patient's blood.

A- and B-hepatitis markers detection in patient's blood.

E- and D-hepatitis markers detection in patient's blood.

C- and D-hepatitis markers detection in patient's blood.

G- and D-hepatitis markers detection in patient's blood.

131. A patient has yellow coloration of mucous membrane and sclera, fever, lack of appetite, liver increased by 3 cm. What reaction will be primarily necessary to clarify the diagnosis?

+ELISA to detect HBs-antigen.

Widal's test.

Weigl's test.

Wassermann reaction.

PHAT with Chlamydial diagnosticum.

132. The patient was hospitalized to the Infectious Diseases Hospital with the diagnosis of "hepatitis". Which of the hepatitis caused by RNA-genome virus is not able to reproduce itself without HBsAg?

+Hepatitis D.

Hepatitis A.

Hepatitis E.

Hepatitis C.

Hepatitis B.

133. In a month after returning from summer camp child was hospitalized to the Infectious Disease Hospital with symptoms on which the doctor has diagnosed "Hepatitis A?" What is the most probable the mechanism of infection of the child?

+Fecal-oral.

Contact.

Airborne dust.

Transmissible.

Parenteral.

134. The doctor has revealed one of the markers of hepatitis B in the investigated blood. Identify which of the marker of hepatitis B doesn't allow the use the donor's blood for hemotransfusion?

+HBs-antigen.

HBc-antigen.

HAV.

HBe-antibody.

HBe-antigen.

135. In a 25-year-old patient, the doctor noted the fever and jaundice. During laboratory investigation of the patients blood the doctor has not revealed any HBsAg, or antibodies to HBsAg. Which of the additional test can confirm the infection caused by hepatitis B virus?

+Detection of antibodies to HBcAg.

Detection of HBcAg.

Detection of antibodies to HBeAg.

Detection of HBxAg.

Detection of delta-antigen.

136 A patient is hospitalized with the complaints of general weakness, subfebrile body temperature, yellowing of the sclera and skin. From anamnesis the doctor learned that two weeks ago patient rested on the sea and sea food consumed in food without heat treatment. Which markers will confirm the diagnosis of acute hepatitis E?

+Anti-HEV IgM.

Anti-HAV IgM.

Anti-HEV IgG.

Anti-HAV IgG.

Anti-HBV IgG.

137. Patient was hospitalized to infectious diseases hospital with complaints of general malaise fever 38 °C, yellow colour of mucous membranes. The patient was a few months ago transfused with blood. Doctor made a preliminary diagnosis "hepatitis B". What are the main methods of laboratory diagnosis of this disease?

+Serologic and molecular-genetic.

Virological: cultivation of virus in the cell culture and indication of the agent by CPE.

Identification of virus in the blood by means of electron microscopy.

Virological: identification of virus on laboratory animals by neutralization test.

Virological: cultivation of virus in chicken embryo.

138. The doctor has revealed HBsAg by checking one of the blood donors. The history revealed the donor underwent treatment with parenteral infusion of solutions. Can the donors' blood be used for transfusion?

+The blood can not be used for transfusion.

The blood can be used for transfusion.

The blood plasma only can be used for transfusion.

Erythrocytes only can be used for transfusion.

The blood can be used for transfusion only after pretreatment.

139. In a patient with a severe course of viral hepatitis in blood doctor found antibodies against pathogens of hepatitis B and D. We know that delta-virus is unable to reproduce in hepatocytes. By which process makes possible reproduction of Hepatitis D in the presence of hepatitis B virus?

+Unilateral complementation of viruses.

Interference of viruses.

Genetic reactivation of defective viruses.

Phenotypic mixing.

Mutation in the genome of delta-virus.

140. The patient had been ill with jaundice 10 weeks ago. The doctor has revealed HBsAg in the patient's blood. In what disease can this antigen be detected?

+At a virus hepatitis B.

At a virus hepatitis A.

At a virus hepatitis C.

At a virus hepatitis E.

At a virus hepatitis G.

141. Among the biological preparations produced by genetic engineering means and applied in practice, there is a vaccine to protect against some viral infections. In what infection can the vaccine be used?

+Hepatitis B.

Polyomyelitis

Measles

Epidemic parotitis

Adenoviral infection.

142. The patient complaining of subfebrile temperature, malaise and yellowness the skin sought medical attention. From the anamnesis the doctor learned that three months ago the patient had intravenous manipulation. The doctor to the patient made a preliminary diagnosis "viral hepatitis". What research should be done to confirm or reject the diagnoses?

+Determination of general HBsAg in the patient's blood serum.

Bacteriologic investigation of patient's faeces.

Investigation of the nasopharyngeal swab for presence of the pathogen hepatitis A.

Investigation of the nasopharyngeal swab for presence of the pathogen hepatitis C.

Determination of general pool of IgA in the patient's blood serum.

143. An outbreak of hepatitis from water epidemiologist is registered in a settlement. Which virus could induce this outbreak?

+Hepatitis A.

Hepatitis G.

Hepatitis C.

Hepatitis D.

Hepatitis B.

Retroviruses

128. The patient with recurring opportunistic infection had been laboratory tested, he was diagnosed with HIV. The results of which test made it possible to diagnose that?

+ Enzyme-linked immunosorbent assay (ELISA)

Hemagglutination inhibition test

Passive hemagglutination test

Complement fixation test

Precipitation test in gel

129. HIV antibodies were detected after ELISA from a patient's blood serum. What special method of test should be used to confirm "HIV-infection" diagnosis?

+ Blood serum test in immunoglobulin

Immunofluorescent test

In-depth immune study

Blood serum test in immunodiffusion reaction

Blood cells study with electronic microscope

130. Immunoblotting reaction of a patient suspected of HIV-infection revealed antibodies to one of the HIV proteins - gp41. The result received was considered as doubtful. What test has to be done to confirm the diagnosis?

+ ELISA

Immunogram

CFT (complement fixation test)

Radioimmunoprecipitation reaction

Passive hemagglutination test (indirect hemagglutination test)

131. The examination of a 16-year-old drug user revealed acute weight loss, enlarged lymphatic nodes, subfebrile temperature, long lasting diarrhea. Preliminary diagnosis is AIDS. Which test will finally confirm the diagnosis?

+ Immunoblotting

Passive hemagglutination test

Radioimmunoassay

Enzyme-linked immunosorbent assay (ELISA)

Immunofluorescence test

132. Young guy complains of frequent inflammatory diseases of various localization. It was determined that he was an injection drug user. HIV-infection assay is positive. What type of immune system cells is most frequently damaged with HIV?

+ T-helpers

Plasma cells

Cytotoxic T-lymphocytes

Neutrophils
T-suppressors

133. Oncogenic RNA-viruses were administered into experimental animal organism. What enzyme will assist in producing genome replication?

+ RNA-dependant-DNA-polymerase
DNA-ligase
DNA-polymerase
Translocase
DNA-dependant RNA-polymerase

134. What is HIV protein-enzyme reverse transcription mechanism connected with?

+ Revertase (reverse transcriptase)
RNA-polymerase
Proteinase
Integrase
Endonuclease

135. What way is HIV not transferred to human beings?

+ Fecal-oral
Transfusion
Injection
Sexual
Transplacental

136. Indicate the transfer factor through which a person can not be contaminated with HIV.

Saliva
Blood
Vaginal discharge
Semen
+Urine

137. A patient, 25 years old, lost 11kg of weight from last year, suffers from diarrhea, was hospitalized with pneumocystic pneumonia. Clinical diagnosis "AIDS" was made. What laboratory test can most accurately confirm this diagnosis?

+ With immunoblotting
Definition of attitude $CD4^+$ / $CD8^+$ -cells
Definition of T- and B-lymphocytes number
Passive hemagglutination test
Enzyme-linked immunosorbent assay (ELISA)

138. A patient came to the doctor with complains on the basis of which he was preliminary diagnosed with HIV-infection. What method of laboratory diagnostics is most commonly used in AIDS?

+ Enzyme-linked immunosorbent assay (ELISA)
Coagglutination reaction
Radioimmunoassay
Passive hemagglutination test
Immunoblotting

139. Which family of viruses contains RNA-dependent DNA-polymerase as an integral part of virion?

+ Retroviruses
Adenoviruses
Orthomyxoviruses
Rhabdoviruses
Reoviruses

140. Patient's primary examination by enzyme-linked immunosorbent assay, HIV-antibodies were detected. What should the doctor do further?

+ To carry out confirming diagnostics with immunoblotting
To administer antiretrovirus therapy
To carry out repeated test in 1 year
To carry out virus detection in cells culture
To carry out diagnostics with tuberculin

141. Enlarged inguinal lymphatic nodes, long lasting subfebrile temperature and mouth cavity candidiasis is observed in a 18-year-old boy. Indicate the most credible method of laboratory test to confirm HIV-infection contagion.

+ Westernblotting
Radioimmunoassay
Enzyme-linked immunosorbent assay to detach antibodies
Immunofluorescence test
Enzyme-linked immunosorbent assay to detect antigens

142. A 20-year-old female is diagnosed with AIDS. What cell populations are the most sensitive to the human immunodeficiency virus?

+ T-helpers
B-Lymphocytes
Hepatocytes
Endotheliocytes
Epitheliocytes

143. It is known that human immunodeficiency virus belongs to Retroviridae family. What basic feature is typical for this family?

- + Presence of reverse transcriptase enzyme
- Simple viruses, which affect only human beings
- RNA containing of negative polarity
- Nucleic acid does not integrate into the genome of the host
- DNA-containing viruses which cause chronic infections

144. It's necessary to determine T-helpers level when the immune status of the patient ill with AIDS is studied. What reaction makes it possible to reveal such cells?

- + Immunofluorescence reaction with marked monoclonal antibodies
- Rosette formation with wether's erythrocytes
- Rosette formation with erythrocytes loaded with C₃ complement fraction
- Rosette formation with erythrocytes loaded with IgG
- Immunofluorescence reaction with marked antibodylymphocytic immunoglobulin

145. Which viruses reproduction includes mandatory integration into master-cell genome?

- + Retroviruses
- Herpesviruses
- Adenoviruses
- Polyomaviruses
- Hepadnaviruses

146. On examination of a young guy in the Center of AIDS assistance positive result of ELISA with HIV antigens were received. There are no complaints of health condition. What is the positive result of ELISA evident of?

- + HIV infection
- AIDS disease
- HBV infection
- Undergone case of AIDS
- HBV persistence

147. To diagnose HIV-infection, blood serum is tested to detect specific antibodies with hard phase enzyme-linked immunosorbent assay. What enzyme marked with antibodies were used?

- + Against person's immunoglobulines
- Against HIV antigens
- Against gp120 protein
- Against p 17 protein
- Against gp 41 protein

148. Human immunodeficiency virus differs from the other viruses:

- + With reverse transcriptase presence
- Structure complexity
- Ability to integrate cell genome
- Presence of two types nucleic acids – RNA and DNA
- Ability to reproduce in chicken embryo

149. Major method of HIV-infection laboratory diagnostics is:

- + Serological
- Virological
- Biological
- Allergic

150. Pneumocystis carinii was detected in phlegm of a patient ill with pneumonia. What is a particular way for this etiologic form of pneumonia to develop?

- + HIV-infection
- Plague
- Ornithosis
- Legionellosis
- Q-fever

151. A 35-year-old female asked for assistance complaining of general weakness, rapid fatigability and enlarged regional lymphatic nodes [lymphadenopathy]. It was clarified from anamnesis that she took drugs parenterally for several years. At blood serum test (ELISA) antibodies to HIV-1 virus were detected. Repeated blood analysis gave positive result. What should be done further to confirm the diagnosis?

- + Immunoblotting (westernblotting) reaction making
- Immediate examination of all sexual partners to detect all HIV-infected
- Diagnosis does not require confirmation
- To make Widal's test
- To make Wassermann test

152. Human immunodeficiency virus, having on its surface antigens gp 41 and gp 120, interacts with the target cells of an organism. Which human lymphocytes marker can be complementary connected with gp 120 of the virus?

- + CD 4
- CD 3
- CD 8
- CD19

CD 28

153. A patient was informed that AIDS serum test will be done in two stages. What reaction is used to study patient's serum for virus antibodies presence during the first stage?

+ ELISA

Immunoblotting

RIA

IFT

PHAT

154. During the donors' blood test at the hemotransfusion station, antibodies to human immunodeficiency virus were revealed in the serum. What method is recommended for the confirmation of HIV-infection diagnosis?

+ Western blotting (immunoblotting)

Complement fixation test

Electron microscopy

Immunofluorescence test

Radioimmunoassay

155. A patient came to anonymous AIDS test cabinet asking to examine him and to clarify if he was infected with HIV-infection. What method is used for HIV-infection serum diagnostics?

+ Enzyme-linked immunosorbent assay

Radioimmunoassay

Polymerase-chain reaction

Immune electrophoresis

Hemagglutination inhibition test

156. HIV-infected patient is examined periodically to determine the signs of the process activation. Name the sign authenticating HIV-infection is changing to AIDS.

+ Kaposi's sarcoma. T-helpers number is less than 200 cell/ml

Neutrophils number decrease

T-helpers number decrease

T-helpers number less than critical level

Antibodies to gp 41 detection

157. In a specialized clinic a patient was prescribed a combination of remedies, which inhibit HIV reproduction. What group do the remedies obligatory used in complex antiviral treatment belong to?

+ Nucleosides analogs

Interleukin

Broad spectrum antibiotics

Nystatin

Biseptol

158. A patient has been treated for pneumonia of unclarified etiology resistant to standard therapy for a long time. From anamnesis it is known that he was on business trip in the USA for a long time. He contracted trauma there and was treated in the hospital. After the recovery he was back to his motherland. Taking into consideration the anamnesis, clinical picture of the disease the doctor suspected AIDS. Results of what method of laboratory diagnostics will make it possible to confirm this patient's preliminary diagnosis?

+ Enzyme-linked immunosorbent assay

Widal's test

Complement fixation test

Electronic microscope study

Hemagglutination inhibition test

159. The patient with recurring viral, bacterial and fungal "opportunistic" infections, was diagnosed with "HIV-infection" after laboratory examination. Results of what test confirmed such a diagnosis?

+ Immunoblotting

Hemagglutination inhibition test

Passive hemagglutination test

Complement fixation test

Enzyme-linked immunosorbent assay (ELISA)

160. A 25-year-old patient has multiple dermal pustules from which aureococcus associated with epidermal staphylococcus were extracted. Pneumocystis carinii were detected in phlegm, cryptosporidii, Proteus vulgaris and Candida genus fungi in feces. In which disease, is such a large number of opportunistic microorganisms causing infection is observed?

+ AIDS

Dysbacteriosis

Sepsis

Drug (medicamentous) agranulocytosis

Diabetes mellitus

161. A woman, 35 years old, with clinically diagnosed acquired immunodeficiency syndrome died because of pneumonia with marked respiratory failure. What etiology of pneumonia is most likely in this case?

+ Pneumocysts

Cytomegalovirus

Mycobacterium

Legionella

Cryptosporidia

162. Blood serum examination of a patient with signs of immunodeficiency has shown antibodies to proteins gp 120 and gp41. Which disease is confirmed by this result?

+ HIV-infection

Poliomyelitis

HLTV-1-infection

HBV-infection

ECHO-virus infection

163. In patient's blood reduction of circulating CD4+ lymphocytes' absolute and relative number was detected. What kind of test was performed to prove it?

+ Reaction with marked monoclonal antibodies

Rosette formation with wether's erythrocytes

Opsonization test

Lymphocytes blasttransformation test with fitohemagglutinin

Lymphocytes blasttransformation test with lypopolysaccharide

164. A patient, 27 years old, is observed with submaxillary, underarm and inguinal lymphatic nodes. Follicular hyperplasia was detected in lymphatic nodes biopsy. HIV-infection was clinically diagnosed. What period of HIV-infection are these changes characteristic for?

+ Period of persistent generalized lymphadenomopathy

Incubation period

Pre-AIDS

AIDS

Latent period

165. During immunoblotting analysis protein gp120 had been revealed in blood serum. What infection can be diagnosed by this antigen detecting?

+ HIV-infection

Virus hepatitis B

Tuberculosis

Syphilis

Poliomyelitis

166. At what blood preparations transfusion is the risk of infection with viral hepatitis and HIV-infection minimal?

+ Albumin

Fresh frozen plasma

Plateled (thrombocyte) mass

Erythrocyte mass

Antihemophylic globulin

167. Carrying out artificial lung ventilation and lung ventilation "mouth-per-mouth" the blood of the patient ill with HIV-infection came into doctor's mouth. What solution should the doctor use to rinse the mouth for urgent aid?

+ 70% ethyl alcohol

2% solution of sodium carbonate

2% solution of chloramines

3% solution of chlorinated lime

6% solution of hydrogene peroxide

168. A driver, 40 years old, was ill for the last two months: general weakness, hyperhidrosis, 12 kg weight loss, frequent long lasting diarrhea and recurring respiratory infections. Evidently: generalized lymphadenopathy, mouth cavity candidosis signs; admixture of mucus and blood in fecal matter. Number of T-helpers in blood is reduced, $T4^+/T8^+ < 0,5$. What diagnosis is most likely?

+ AIDS

Chronic dysentery

Amebiasis

Tuberculosis

Cytomegalovirus infection

169. A donor's blood showed antibodies to HIV. There are no complaints. He is practically healthy under examination. What is a preliminary diagnosis?

+ HIV-infecting

AIDS

All the answers are right

All the answers are wrong

170. A patient who had doubtful sex contact half a year ago complains of weight loss, diarrhea, long lasting fever, and dermatitis. What cells are damaged by the agent?

+T-helpers

DTH-mediating cells

CD8⁺(regulatory, suppressors)

B-lymphocytes

T8⁺ (effectors, cytotoxics)