

Algorithms for students

Determination of blood group according to the AB0 system by the cyclonic method

1 Choose the things you need to determine your blood type

- blood plate
- patient's blood
- cyclones anti-A, anti-B
- glass stick
- pipette

2 Select the correct sequence of actions

- a drop of anti-A, anti-B cyclonic are applied onto the plate in the marked wells
- a drop of patient's blood is added to a separate well
- are mixed in a ratio of 10: 1 (Cyclones: blood)

3 Determine the time of registration of the agglutination reaction , which is 3-5 minutes.

4 Determine the blood group, if there is no agglutination — first, agglutination with anti-A cyclonic — second, agglutination with anti-B cyclonic — third, fourth agglutination with both cyclones.

5 Please write down your blood type.

Determination of Rhesus affiliation of blood by the method of cyclones

1 Choose the things you need to determine your blood type

- blood plate
- patient's blood
- Cyclonic anti-D
- glass stick
- pipette

2 Select the correct sequence of actions

- a drop of cyclonic anti-D is respectively applied to the plate in the marked wells
- a drop of patient's blood is added to a separate well
- are mixed in a ratio of 10: 1 (cyclonic: blood)

3 Determine the time of registration of the agglutination reaction , which is 3-5 minutes .

4 Determine the Rhesus affiliation of blood, if there is no agglutination - negative rh factor, if agglutination is - positive Rh factor.

5 Please write down your Rh blood identification.

Group Compatibility Testing

1 Choose the things you need to test for group compatibility

- Petri's dish
- blood donor
- serum blood of the recipient
- glass stick
- pipette

2 Select the correct sequence of actions

- a drop of recipient blood serum is applied to the Petri's dish
- a drop of blood donor is introduced
- saved ratio of 10: 1 (serum of the recipient: blood of the donor)

3 Determine the time of registration agglutination reaction , which is 5 minutes

4 Determine the presence or absence of an agglutination reaction

5 Give the answer to the question "Is it possible to carry out transfusions ?" - No , you need to conduct an individual compatibility test and a biological test.

Individual compatibility testing using 10% gelatin

1 Select the necessary items for the individual compatibility test.

- blood donor
- recipient blood serum
- ampoule with 10% gelatin solution
- ampoule saline solution
- empty test tube
- pipette
- hot water bath
- thermometer

2 Select the correct sequence of actions

- a drop of blood of a donor is introduced into a test tube
- 2 drops heated to 37 ° C 10% gelatin solution
- 2 drops thorough whether serum and blood of the recipient

3 Select the temperature and time spent in the water bath

- 46-48C
- 15 minutes
- after add 5-8 ml saline solution

4 Determine the presence or absence of an agglutination reaction

5 Give the answer to the question "Is it possible to carry out transfusions ?" - No , you need to conduct a biological test.

Performing a biological test for blood compatibility of the donor and recipient

1 Select the correct route of administration donors to the blood

- intravenously jet

2 Select the correct number and frequency infused donor's blood

- 15 ml three times, every 5 minutes , if there are no signs of a positive test

3 Identify the subjective signs of a positive test.

- concern
- chest pain
- lower back pain

4 Identify objective signs of a positive test.

- tachycardia
- hypotension

5 Define tactics, if after one of the stages of the introduction of any signs of positive samples - continue the trial impossible , transfusion of the drug (component) is prohibited.

Diagnosis and first aid for complications of blood transfusion

1 Identify subjective symptoms

- anamnesis of the patient ;
- concern;
- pain behind the sternum;
- pain in the lower back;
- connection with blood transfusion
- muscle and bone pain
- headache

2 Identify objective symptoms

- cyanosis of lips, face skin
- shortness of breath
- arterial hypotension
- increase central venous pressure
- tachycardia
- arrhythmia
- cough
- hemoptysis
- increase in body temperature
- chills
- urticaria
- swelling of the face and neck
- bronchospasm
- skin hyperemia
- hemoglobinuria
- hyperbilirubinemia
- azotemia

3 Identify the type of complication

- acute expansion of the heart
- of aircraft the embolism
- thromboembolism of the pulmonary artery
- pyrogen reactions
- allergic reactions
- gemotransfuzionny shock

4 Define First Aid Tactics

- Is it possible to continue blood transfusion
- continuation of blood transfusion
- with storage of venous access
- elevated position of the head end of the patient's bed
- warming the legs
- lower the head end and raise the foot end of the patient's bed
- Cardiopulmonary resuscitation

5 Define drug therapy

- 1 ml of a 0.05% solution of strophanthin intravenously
- 2-4 ml of a 2% solution of furosemide and intramuscularly
- paracetamol 500 mg orally or intravenously
- 1 ml of a 1% suprastin solution intramuscularly
- 90 -120 mg prednisone and intravenously
- 10 ml of a 2% solution of euphylline intravenously
- 1 ml of a 2% solution of promedol intravenously
- 1 ml of a 1% solution of adrenaline intravenously
- continuous administration of heparin from 24,000 to 40,000 units per day
- 4% sodium bicarbonate
- the introduction of freshly frozen plasma
- the introduction of hemodynamic blood substitutes
- the introduction of substitutes - regulators water and electrolyte balance
- the introduction of substitutes desintoxication the action

6 Identify the prevention of complications

- decrease in the speed and volume of the transfusion fluid
- Careful collection of blood transfusion systems

- constant monitoring of the patient during the blood transfusion
- use of plastic systems with blood transfusion filters
- carefully follow the rules of blood transfusion