

HEMOLYTIC disease of newborns is one of the causes of stillbirth, early children's death, mental and physical retardation in surviving children.

The main cause of hemolytic disease of newborns is serological conflict between mother's blood and fetus' blood. More often it can be the result of incompatibility of mother's and fetus' blood, of incompatibility in Rhesus factor, seldom in group factor of blood.

Stillbirth, mortality and disablement are caused by late diagnosis and consequently the treatment of hemolytic disease is started very late. It would be an ideal thing if we diagnose this disease in the period of pregnancy and there is possibility for this. First of all it is necessary to know the group of blood, the Rhesus-factor of a pregnant woman and her husband for finding out the possibility of beginning processes of iso-immunization. It is necessary to study thoroughly obstetric analysis of the woman, namely, number of pregnancies, number of abortions, stillbirths, births of previous children with the signs of hemolytic disease of newborns, death of previous children from this disease.

If the pregnant woman with Rhesus-negative type of blood and aggravating anamnesis, is admitted to be under the observation of a doctor, she should find out her titer of Rhesus-antibodies in blood serum (the latter is formed in response for the getting of Rhesus-antigen to the mother's canal from fetus' blood through placenta) in dynamics and if it is increasing during the pregnancy the intra-uterine beginning of hemolytic disease can be suspected. In such a case obstetricians should decide whether there is necessity to stop the pregnancy or not and pediatrician should prepare himself to specify diagnosis of the disease of the birth and early treatment of the child.

Till present time the only reliable method of treatment of hemolytic disease of newborn to avert fatal end and disablement of children in future is a complete blood transfusion. The complete

Early Diagnostics and Treatment of Hemolytic Disease of Newborns

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blood transfusion is effective only in the first 24—36 hours of child's life. This shows convincingly the importance of early diagnosis of the disease.

If the disease begins intra-uterine especially in case of icteric form (the most frequent form, there are also edematous and anemic forms) per fetal water, smegma embrionum and umbilical cord are yellow.

After the birth the child's umbilical cord is clamped to stop the entrance of antibodies with mother's blood. Umbilical cord should be tied up at a distance of 5—6 cm. from umbilical ring. Umbilical cord from placental end is gathered into a test-tube and is sent urgently to the laboratory to define blood group and Rhesus-factor of a newborn and level of serumal bilirubin. At the same time blood of the child is taken to define the level of hemoglobin and content of erythrocytes.

If after the blood examination it is found that the child has manifestations of anemia (number of erythrocytes is lower than 3ml in mm hemoglobin low than 16 gm per cent, the level of indirect bilirubin in blood serum according to Van-den Berg is in limits of 3mg. per cent) in the presence of clinical symptoms of hemolytic disease of newborns (presence of jaundice at birth or its appearance in the first hours after the birth and the intensity of its aggravation) it is necessary immediately to begin complete blood transfusion to save the child's life.

Other important symptoms of hemolytic disease of newborns in case of jaundice are:

severe condition of the child at the birth or aggravation of the condition during the first hours of his life; enlargement

of parenchymatous organs; depression of inborn reflexes.

Without treatment and when this treatment is delayed the colour of child's skin with hemolytic disease becomes very yellow with a tinge of green by the end of the third day of his life and as a rule symptomocomplex of nuclear jaundice is developed. High temperature, vomiting, convulsions, edemas of low limbs, absence of inborn reflexes, strabismus, nystagmus appear. Sometimes the disease is not diagnosed after the delivery at once but can develop by the end of the first day or by the 2nd day of the child's life. It is recommended to observe the children suspected in hemolytic disease constantly, check up his blood to define the content of hemoglobin and bilirubin, to diagnose always the disease in time.

In doubtful cases a good diagnostic method of definition of hemolytic disease of newborns is the definition of increase of bilirubin level by the hour.

So as the increase of the level of bilirubin per one hour at an average is 0.94 mg per cent it should be supposed that the child has hemolytic disease of newborns.

For complete blood transfusion it is recommended to administrate fresh citratic, Rh-negative blood. Donor's blood should be the same group as that of the child. The quantity of blood should be not less than 150-200 ml per 1 kg of body weight of the child.

Before the operation the child is swaddled so as the abdominal wall is open and limbs are fixed. Blood extraction should be 50 cm less than the quantity of administrating blood. Administration of blood through umbilical vein by special catheter introduced

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