

hard, but can be easily crushed and ground to a powder. After sterilization this fibrin glue can be applied to a wound on the skin where it solidifies into a dense crust. Fibrin is highly soluble in all alkaline solutions, but it does not dissolve in acids. When put in a separating funnel, in some solutions fibrin is clearly divided into several fractions with clear and smooth horizontal separation lines, which is probably due to the difference in the molecular weight of its parts.

#### **Animal blood clots**

Our research on the possibilities of use of animal blood clots is carried out on domestic pigs. Firstly, this animal is most often slaughtered, and secondly, the physical state of blood clots and their fibrin is the closest to those found in human blood. We propose that the liquid part of blood clots in domestic pigs should be used for making liquid hematogen of 3 grades (depending on the content of hemoglobin and plasma proteins). This liquid part of a blood clot can also be used for making a paste from hemoglobin and honey according to a special method put forward by us. Dried erythrocytes of a pig blood clot can be ground to a hematogen powder (the powder can also be obtained from processing whole blood clots), which is readily soluble in water and milk and can be used as a natural food additive after sterilization. The author of the method added the hematogen powder to the batter when cooking pancakes and fritters.

Blood clot fibrin can be processed into native fibrin powder, which can be safely applied to the surface of human skin ulcers. It does not cause rejection, solidifies as a crust and penetrates into the tissue, stimulating epithelialization. Blood clot fibrin of pigs can also be used for making fibrin film and fibrin paste, made from mixing the fibrin powder with common solvents or disinfectant non-antibiotic chemicals.

Furthermore, blood clot fibrin of pigs (as well as of other domestic animals) is usable for making certain foods. Thus, the author of this article used blood clot fibrin for cooking genuine blood steaks and ravioli mincemeat, which has been presented at an international trading fair in Blagoveschensk. Erythrocytes from a pig's blood can be used as yeast for preparing alcoholic beverages or distilled into potable spirit.

These are some of the results of our ongoing research on blood clot. We hope to find understanding among our foreign colleagues and gain their support.

## **The change of echo structure of “mother-chorion” system in women with latent course and reactivation of chronic cytomegalovirus infection at the threat of miscarriage**

*Gorikov I.N., Prikhod'ko V.B.*

Federal State Budget Institution “Far-Eastern Scientific Center of Physiology and Pathology of Respiration” SB RAMS, Blagoveshchensk, Russia

**Summary:** The study of ultrasonic picture of “uterine-chorion” system in 98 women with the threat of miscarriage in I trimester of pregnancy at the latent course and reactivation of chronic cytomegalovirus infection against latent chronic herpes virus infection was done. It was found out that the women with the reactivation of chronic cytomegalovirus infection (IgM antibodies to cytomegalovirus 1:200 and IgG antibody titer to cytomegalovirus 1:200-1:800) in comparison with the women who had a latent course of chronic cytomegalovirus infection with IgG antibody titer to cytomegalovirus 1:400-1:400 had the increase of visualization frequency of chorion thickening in 4,4 times ( $p < 0.05$ ), the thinning of chorion in 5,9 times ( $p < 0.05$ ) and of retrochorionic hematoma in 5,4 times ( $p < 0.05$ ). At reactivation of chronic cytomegalovirus infection (IgM antibodies to cytomegalovirus 1:200 and the growth of IgG antibodies to cytomegalovirus 1:200-1:800) in comparison with the reactivation of chronic cytomegalovirus infection (IgM to cytomegalovirus and

the absence of IgG growth to cytomegalovirus 1:400-1:800), retrochorionic hematoma is revealed oftener (in 42,9%)( $p < 0.05$ ).

**Key words:** pregnancy, the threat of miscarriage, chronic cytomegalovirus infection, chorion.

While estimating the course of pregnancy in women with the threat of miscarriage it is important to consider the features of their specific immune response to the virus of cytomegaly (CMV) [1]. But up until now the echo structure of “mother-chorion” system at latent course and reactivation of chronic cytomegalovirus infection (CMVI) in women with the threat of miscarriage in the first trimester of gestation has not been studied.

#### **The material and methods of studying**

The ultrasonic examination of 98 women with the treat of miscarriage at the 8-11 weeks of pregnancy at chronic CMVI was done. All the patients were divided into 5 groups. The first group (the control one) consisted of 40 women with physiologic course of pregnancy who did not have antibodies of IgG and IgM to CMV. At the same time in the blood serum there were antibodies of IgG 1:200-1:400 to the virus of simple herpes of the first type (VSH-1 type). The avidity index of IgG to VSH-1 type was more than 65 %.

The second group (the group of comparison) had 21 patients with antibody titer of IgG to CMV 1:200 and of IgG to VSH 1:200 – 1:400 and the avidity index of IgG to CMV was 65-82% and of IgG to VHS-1 type was more than 65%.

In the third group there were 28 women with latent CMVI against latent herpes virus infection (HI) conditioned by VSH-1type (IgM to CMV was 1:200, and IgG to VSH-1type was 1:400-800). The avidity index of IgG to CMV was 68-75% and of IgG to VSH-1type was more than 65%.

The fourth basic group consisted of 41 patients with reactivation of chronic CMVI (IgM to CMV 1: 1:200 and IgG 1:400-1:800 against latent HI (IgG to BSH-1type was 1:400- 1:800). The avidity index of IgG to CMV was 56-70% and of IgG to VSH was more than 65%.

The fifth group included 32 women with the reactivation of chronic CMVI (IgM to CMV 1: 1:200 and four times growth of antibody titer of IgG to CMV 1:200 – 1:800) against the latent HI (IgG to VSH-1type 1:400-1:800). The avidity index of IgG to CMV was 38-50%, and of IgG to VSH-1type was more than 65%. The test systems “Vector-Best” (Novosibirsk) were used in the work. The blood for immune-enzyme analysis was taken from the median cubital vein as soon as the patients got into the in-patient department and after 12 or 14 days. The study of ultrasonic picture of the uterine and of the chorion villi was done at the device “ALOKA SSD-1700” (Japan). The differences of the compared parameters between different samplings were considered to be reliable at  $p < 0.05$ .

#### **Results and discussion**

The ultrasonic examination allowed to reveal the signs of uterine hypertonus at the threat of miscarriage in 100% of women with reactivation of chronic CMVI. At the latent course of chronic CMVI (IgG 1:400-1:400) the patients in comparison with the control group had a tendency to a more frequent visualization of thickening and thinning of chorion. The patients with the reactivation of chronic CMVI (IgM to CMV 1:200 and IgG to CMV 1:400-1:800) in comparison with the control had oftener chrion thickening (in 29.9%), thinning (in 25%), presentation (in 25%), and the increase of chorion echogenicity (in 29.2%) ( $p < 0.05$ ). The deformation of the ovum was revealed in 20.8% and retrochorionic hematoma in 8.3% of patients ( $p > 0.05$ ). At reactivation of chronic CMVI (IgM to CMV 1:1:200-1:400 and IgG titer to CMV 1:200 – 1:800) in comparison with the women with the reactivation of chronic CMVI (IgM to CMV 1: 1:200 and IgG titer to CMV 1:400 – 1:800), retrochorionic hematoma was revealed oftener (in 42.9%) ( $p > 0.05$ ), which confirms the influence of the specific immunity intensity degree on ultrasonic parameters of the system “uterine-chorion” at the threat of miscarriage.

#### **Conclusion**

1. The reactivation of chronic CMVI (IgM to CMV 1:200 and IgG to CMV 1:400-1:800) against latent chronic herpes virus infection in women at early stages of gestation in comparison with

physiological course of pregnancy most often results in the thinning, thickening and presentation of the chorion, and to the increase of its echogenicity.

2. At reactivation of chronic CMVI in pregnant women (IgM to CMV 1:200 and IgG titer growth to CMV 1:200-1:800) in comparison with latent chronic CMVI (IgG to CMV 1:400-1:400), the frequency of visualization of thickening and thinning of chorion as well as of retrochorionic hematoma increases.

3. In pregnant women with the reactivation of chronic CMVI (IgM to CMV 1:200 and titer growth of IgG to CMV in four times) against latent chronic herpesvirus infection in comparison with the reactivation of chronic CMVI (IgM to CMV and the absence of 4-times growth of IgG titer to CMV) combined with the latent chronic herpetic infection, retrochorionic hematoma develops oftener, which shows that antiviral immune response affects the changes of the echostructure of chorionic villi.

#### **The list of references**

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### **The influence of intrauterine respiratory-syncytial virus infection on anthropometric characteristics of children who often get ARVI (ARD) during the first year of their life**

*Gorikova I.A., Labzin V.I., Shakalo Yu.A., Pavlova A.E., Zherepa L.G., Arkhipova M.A.*

Federal State Budget Institution "Far-Eastern Scientific Center of Physiology and Pathology of Respiration" SB RAMS, Blagoveshchensk, Russia

State Budget Educational Institution of Higher Professional Education Amur State Medical Academy of Ministry of Health and Society Development of Russia, Blagoveshechensk, Russia

**Summary:** The influence of intrauterine respiratory-syncytial virus infection on anthropometric characteristics of children with ARVI (ARD) 1-3 times (the first group) and 4 times and more (the second group) during the first year of their life was studied. It was found out that at antenatal virus infection in children of the second group in comparison with the first one, vesicular rash, anemia and cerebral ischemia of II degree were diagnosed oftener. Frequently sick children at the third month of their life in comparison with the control group had lower parameters of body weight, head and chest circumference, and at the sixth month they had lower parameters of the weight and length of the body, head and chest circumference. In the patients of the second group at the 12<sup>th</sup> month in comparison with healthy children there was the decrease of body weight and length, head and chest circumference as well as of the number of teeth by the first year of their life.

**Key words:** intrauterine respiratory-syncytial virus infection, newborns, the children of the first year, anthropometric characteristics, frequent development of the acute respiratory virus infection.

At present the role of intrauterine respiratory virus infection in the disturbance of physical development of the newborns is known quite well [2, 3]. But up until now the influence of antenatal respiratory-syncytial virus infection on the changes of anthropometric parameters in children of the first year has not been found. That's why the aim of the present research is to study the influence of respiratory-syncytial virus infection on anthropometric parameters of children who frequently get ARVI (ARD) during the first year of their life.