# CORRELATION OF IMMUNITY AND PHYSICAL DEVELOPMENT INDICATORS IN RABBITS WITH AUTOIMPLANTATION

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**Relevance:**
Heart defects are the most common birth defects and the main cause of infant mortality from malformations.[Skvortsov V. V. et al., 2017].In recent years, there has been a change in the structure of congenital heart defects, in particular, an increase in the specific weight of severe combined forms, often occurring with the development of circulatory insufficiency and with a frequent unfavorable outcome already in the first months of life [Klimova A. R. et al.2019].CHD in children is complicated by a decrease in the rate of physical development, which requires constant monitoring [Miskinova F. Kh. et al. 2019].
The purpose of the study: to study the relationship of physical growth and development with the indicators of immunity

**Materials and methods:**
To conduct an experimental scientific study, 45 Chinchilla rabbits of both sexes, aged 3 months of life with a weight of 1790 g. -2495 g. were used. For the experiment, 3 groups of 15 heads were formed: 1-group-experimental group, which underwent total thymectomy followed by auto-implantation of the thymus; 2-group-laboratory animals, which underwent total thymectomy; 3-group-intact animals.
The research material was rabbit blood samples taken before the experiment, and on the 1st, 7th and 9th weeks after the experiment. The morphology of the blood was studied, immunological and biochemical tests of venous blood were performed. A morphological study of the thymus was performed in the periods before and after auto-implantation. The clinical and physiological state (behavior, appetite for food consumption, the condition of the wool cover) of rabbits was determined by their daily examination. A correlation analysis was performed based on the data obtained during the experimental study.

**Results and discussion:**
There were significant negative correlations between CD4-lymphocytes and weight (r—0.51), feed consumption (r=-0.42), and wool density (r=-0.364). And the motor activity of rabbits has a noticeable positive relationship with CD4-lymphocytes (r=0.49). At the same time, an interesting fact was obtained that confirms the positive dynamics of the state after autoimplantation: weekly weight gain has a weak positive relationship with the level of CD3 and CD4 lymphocytes, there is no connection with suppressors (CD8 lymphocytes).
CD16-lymphocytes responsible for transplant immunity showed a high positive association with weekly weight gain in rabbits (r=0.96) and wool density (r=0.92), and a high negative association with weight indicators (r=-0.84), motor activity (r=-0.87) and feed consumption (r=-0.89).
A high positive relationship of CD25+ cells with weight index and feed intake was established in rabbits with autoimplantation (group 1), r=0.75 and r= 0.68, respectively. At the same time, a feature of the development of the early stage of the inflammatory process, which affects the state of the coat and weight gain in rabbits, was revealed, which confirms the presence of a negative high relationship between CD25-lymphocytes and wool density-r=-0.634, between CD25-lymphocytes and weekly weight gain-r=-0.52.

During the correlation analysis, a high positive relationship of CD95 cells with weekly weight gain was established-r=0.74. At the same time, a noticeable negative relationship of CD95 cells with feed consumption-r=- 0.59 and rabbit hair density - r=-0.65 was revealed.

Thus, the correlation analysis allows predicting the outcome of autoimplantation and the probability of rejection of the transplanted piece of thymus in rabbits. The established links between the parameters of cellular immunity and the indicators of physical growth and development of rabbits allow us to predict the healing of the graft on the basis of weekly weight gain and the density of the wool cover. At the same time, a decrease in motor activity and feed consumption confirms the unfavorable outcome of thymus autoimplantation.