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## Influence of Preterm Birth on the Rat Myocardium Development in the Early Postnatal Period of Ontogenesis

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Development of neonatology makes possible to overcome more and more severe degrees of prematurity. It has been established that preterm birth in humans is associated with a predisposition to the cardiovascular system pathologies development in adulthood; however, the pathogenetic mechanisms of this relationship have not been studied. The work studied the effect of preterm birth on the development of the left ventricular myocardium in rats during 14 d of the postnatal period of ontogenesis. The myocardium of the left ventricle of male Wistar rats born on days 21 and 21.5 of gestation (the total gestational age is 22 days) was analyzed with histological, immunohistochemical and morphometric methods. The relative heart mass of preterm rats exceeds that of control animals on the 14 d of the experiment. The diameter of the contractile cardiomyocytes of rats born on the 21 day of gestation exceeds that of term animals on the 1st day of the postnatal period of ontogenesis. Preterm birth in rats causes an increase in number of Ki67-positive left ventricular cardiomyocytes in the early postnatal period of ontogenesis, in comparison with term animals. The morpho-functional changes in the rat myocardium are the more pronounced, the shorter the gestational age. Thus, preterm birth in rats results in the intensification of myocardial growth in the early postnatal period of ontogenesis.

**Keywords:** preterm birth, myocardium, structure, rats