

A Comparative Analysis of Capillary Density in the Myocardium of Normotensive and Spontaneously Hypertensive Rats

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Changes in the vessels of the myocardium are of particular interest during its morphological development both under physiological conditions and conditions of hypertrophy. Measuring the morphometric parameter capillary density is a method for statistically significant assessment of capillary growth. The aim of the present study was to measure capillary density in the left and right ventricle of normotensive and spontaneously hypertensive rats and to conduct a comparative analysis of the received values between the two species of rats. A total of 15 male normotensive Wistar rats and 6 spontaneously hypertensive rats (SHR) were used for this study. Throughout the whole postnatal period capillary density decreased steadily and uniformly in both ventricles. The comparative analysis of corresponding age groups of Wistar rats and SHR revealed that changes occurred at a younger age in SHR. In conclusion, as age advanced, we established an inversely proportional correlation between cardiomyocytic hypertrophy and capillary density.

Key words: capillary density, myocardium, comparative analysis, rat