

In recent years, radiofrequency ablation (RFA) of the pulmonary artery (PA) trunk has been successfully applied in patients with cardiac pathology complicated by severe pulmonary hypertension (PH), demonstrating high effectiveness in improving quality of life and prognosis. At the same time, the question of objectifying the mechanisms of action of PA trunk RFA and its hemodynamic/clinical efficacy remains under discussion, which served as the basis for this experimental study. The aim of the study is to substantiate the effectiveness of PA trunk RFA in reducing pulmonary hypertension using immunohistochemical assessment of the completeness of sympathetic denervation by determining the S-100 marker under experimental conditions.

Methods. The study included 30 pulmonary artery trunks obtained from individuals who died of non-cardiac causes, aged 31 to 65 years. Immunohistochemical staining for the S-100 protein was performed.

Results. In sections of pulmonary artery trunks subjected to RFA, nerve fibers did not stain for S-100, which indicates the destruction of autonomic nerve fibers in the pulmonary trunk.

Conclusion. Immunohistochemical staining for S-100 is a valid method for verifying irreversible thermal damage to autonomic nerve fibers in the pulmonary artery trunk as a result of RFA.