

Methods of tissue perfusion and microcirculation assessment in experiment  
– set of experimental studies

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Summary of doctoral thesis

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Summary

In the course of the doctoral study we have performed 4 experimental animal studies and one theoretical study using a mathematical model. Three of the studies were published in journals with an impact factor. All studies, using various research methods, deal with a microcirculation.

We have assessed the method of the indicator dialysis as insatisfactory for an accurate measurement of the tissue perfusion.

We have demonstrated no negative influence of a moderate hypothermia on the cerebral autoregulation of a pig.

The mathematical model identified several factors, that can influence the THR test of the cerebral autoregulation. The influence of the inertia assessed the mathematical model as marginal.

The methodical study of a visualisation of the surface brain microcirculation of rabbit using SDF imaging proved a high quality of visualisation. The measured parameters corresponded with the other literature values.

An application of the SDF imaging of the brain surface mentioned above showed no changes of the brain microcirculation of rabbit at the early stage of the endotoxemia.