



CME Article



Center of Excellence for Electronic Learning in
Medical Sciences

Title: Vagotomy Improves Hypoxic Pulmonary Vasoconstriction in Rats Subjected to Brain Ischemia-Reperfusion Injury

Vol 45 No 4 July 2020

Learning objectives:

1. Explain the effect of brain ischemia-reperfusion injury on the hypoxic response of the pulmonary vasculature and blood gas parameters, and pH as the indicators of gas exchange through the blood-gas barrier.
2. Explain the effect of vagotomy on hypoxic pulmonary vasoconstriction after brain ischemia-reperfusion injury in rats, and also the gas exchange during brain ischemia-reperfusion injury.
3. Explain the effect of brain ischemia-reperfusion injury on reactive oxygen (ROS) production in the lung, and the brain infarct size and neurological scores.
4. Explain the effect of vagotomy during brain ischemia-reperfusion injury on ROS production in the lung.
5. Explain the relationship between vagotomy, ROS production in the lung, and hypoxic pulmonary vasoconstriction in brain ischemia-reperfusion injury.
6. Explain the effect of vagotomy on the brain infarct size in brain ischemia-reperfusion injury.
7. Explain the time courses of ischemia and reperfusion injuries.
8. Explain the method for vagotomy: Is it done ipsilaterally or contralaterally?
9. Explain the compositions of the perfusate solution used in the isolated perfused lung setup.
10. Explain the composition of hypoxic gas in this study.
11. Explain the methods of the preparation of the lung in the isolated perfused lung.
12. Explain the method of the measurement of ROS production.

Target groups:

Cardiopulmonary researchers, Pneumologists, Neurologists, PhD candidates in physiology and biology, Medical students