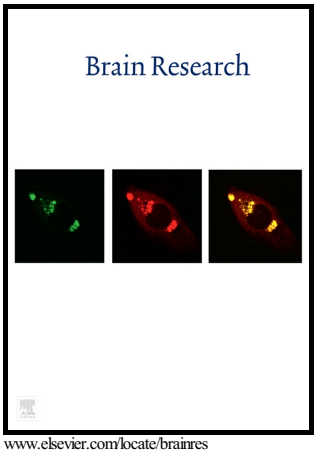

www.elsevier.com/locate/brainres

Anesthesia specific differences in a cardio-pulmonary resuscitation rat model; halothane versus sevoflurane

Torben Esser, Gerburg Keilhoff, Uwe Ebmeyer

PII: S0006-8993(16)30695-3
DOI: http://dx.doi.org/10.1016/j.brainres.2016.10.003
Reference: BRES45143

To appear in: *Brain Research*

Received date: 3 July 2015
Revised date: 26 September 2016
Accepted date: 4 October 2016

Cite this article as: Torben Esser, Gerburg Keilhoff and Uwe Ebmeyer Anesthesia specific differences in a cardio-pulmonary resuscitation rat model halothane versus sevoflurane, *Brain Research* http://dx.doi.org/10.1016/j.brainres.2016.10.003

Anesthesia specific differences in a cardio-pulmonary resuscitation rat model; halothane versus sevoflurane

Torben Esser[1], Gerburg Keilhoff, Uwe Ebmeyer

Department of Anaesthesiology, Institute of Biochemistry and Cell Biology, University of Magdeburg, Leipziger Strasse 44, Magdeburg, Germany;

Abstract

Objective

Our asphyxia cardiac arrest (ACA) rat model is well established. The original model was designed in the 1990th using halothane and nitrous oxide for pre-insult anesthesia. Because of its hepato-toxicity and its potential to induce severe liver failures, halothane is no longer used in clinical anesthesia for several years. In order to minimize the health risk for our laboratory staff as well as to keep the experimental settings of our model on a clinically oriented basis we decided to replace halothane by sevoflurane. In this study we intended to determine if the change of the narcotic gas regiment causes changes in the neurological damage and how far our model had to be adjusted.

Methods

Adult rats were subjected to 5 min of ACA followed by resuscitation. There were four treatment groups: ACA - halothane, ACA - sevoflurane and with halothane or sevoflurane sham operated animals. Vital and blood parameters were monitored during the 45 minutes post-resuscitation intensive care phase. After a survival time of 7 days histological evaluation of the hippocampus was performed.

Results

[1] torben.esser@med.ovgu.de; Tel.: +49 391 6713500