Experimental Neurosciences

A-686 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Induction of Inducible Nitric Oxide Synthase in the Gerbil Hippocampus Following Transient Forebrain Ischemia Hiroshi Abe, MD,Ph.D; Hideaki Tsuchida, MD,Ph.D; Hideyuki Shiratsuyu, MD,Ph.D; Yoshinobu Ueda, MD,Ph.D; Shogo Katsuda, MD,Ph.D, Anesthesiology, Kanazawa Medical University, Uchinada, Ishikawa, Japan. This study addressed iNOS induced in the hippocampus may play an important role in the induction of apoptosis.

A-687 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
A Molecular Mechanism for Action of Neuroprotectants and Paralytic Drugs Ying-Jan Gao, M.D.; John C. Dreidler, Ph.D.; Jeffrey D. Roizen; Michael T. Roberts; Khaled M. Houamed, Ph.D., Department of Anesthesiology and Critical Care, The University of Chicago, Chicago, IL, United States

A-688 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Antioxidant Defenses in Hypoxic Immature Astrocyte Cultures Andrew J. Davidson, MBBS FANZCA; Douglas B. Cowan, Ph.D; Dimitrios N. Poutias, BS; Francis X. McGowan, MD, Department of Anesthesiology, Children’s Hospital, Boston, MA, United States. Hypoxic immature astrocytes are more susceptible to oxidant injury due to altered antioxidant defenses and increased production of oxyradicals.

A-689 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Traumatic Brain Injury or Peroxynitrite Reduces Vasodilatory Responses in Isolated Rodent Cerebral Arteries Douglas S. Dewitt, Ph.D.; Babu P. Mathew, M.S.; Donald S. Prough, M.D., Department of Anesthesiology, University of Texas Medical Branch, Galveston, TX, United States. Brain injury or peroxynitrite reduces vasodilatory responses to CGRP and cromakalin in isolated rodent cerebral arteries.

A-690 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Effect of Hypertonic Saline and Mannitol on Plasma Osmolality and Brain Water Eve Dillman, BS; Johnny E. Brian, MD; Michael M. Todd, MD, Dept. of Anesthesiology, University of Iowa Hospitals and Clinics, Iowa City, IA, United States. Mannitol and hypertonic saline had equal effects on brain water for equal changes in osmolality. More saline is required to achieve the same osmolalities as mannitol.

A-691 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
The Effect of Hypothermia on the Expression of Apoptosis-Regulating Proteins after Cerebral Ischemia in the Rat Kristin Engelhard, MD; Christian Werner, MD; Monika Bach; Eva Eberspacher; Eberhard Hill, PhD, Klinik für Anästhesiologie, Technische Universität München, München, Germany. Mild hypothermia inhibits synthesis of apoptosis-regulating proteins 4h after cerebral ischemia.

A-692 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Cyclosporin A Protects Astrocytes but Not Cerebellar Granule Neuron Mitochondria from Calcium Induced Injury Gary Fiskum, Ph.D.; Kriss Chandrasekaran, Ph.D.; Linda L. Bamberick, Ph.D.; Bruce K. Krueger, Ph.D., Anesthesiology, Univ. of Maryland, Baltimore, Baltimore, Maryland, United States. The neuroprotectant cyclosporin A protects non-neuronal but not neuronal mitochondria against calcium-induced damage.

A-693 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Optical Image Analyses of Neuronal Dysfunction in Hippocampal Slices from the Gerbil Following Transient Brain Ischemia Naoko Fujitake, Ph.D.; Ren-Zhi Zhan, M.D.; Kichiro Taga, M.D.; Kenji Seo, D.D., Department of Medical Technology, Nigata University School of Health Sciences, Nigata, Japan. Ischemic neuronal dysfunction was optically analyzed by a membrane potential imaging technique.

A-694 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Effect of a Single Dose of Ketamine on Apoptotic Neurodegeneration in the Developing Rat Brain Hideaki Hayashi, MD; Pieter Dikkes; Salpicio G. Soriano, MD, Dept of Anesthesiology, Children’s Hospital, Boston, MA, United States. A single dose of ketamine from 25 to 75 mg/kg did not increase neuronal apoptosis in the 3 to 7-day-old rat brains, as examined 24 hours after injection.

A-695 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Cardiopulmonary Bypass (CPB) Increases Brain Inducible Cyclooxygenase (COX2) mRNA Expression in Rats Bradley J. Hinman, MD; Steven A. Moore, MD; Johann Calhoun, BS; Tom Smith, BS, Department of Anesthesiology, University of Iowa, College of Medicine, Iowa City, IA, United States. Compared to surgical shams, rats undergoing 1 h of cardiopulmonary bypass had greater brain COX2 expression 4 h later.

A-696 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Effect of Isoflurane on Neuronal Apoptosis in Rats Subjected to Focal Ischemia M. Kawaguchi, M.D.; J.R. Kimbro, M.D.; J.C. Drummond, M.D.; D.J. Cole, M.D.; P.M. Patel, M.D., Dept. of Anesthesiology, VA Medical Center and University of California, San Diego, CA, United States. Isoflurane reduced the development of apoptosis early after ischemia but did not prevent it at later stages of post-ischemia.

A-697 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
The Neuroprotective Agent Riluzole Inhibits NMDA-Induced FAK 125 Tyrosine Kinase Phosphorylation in the Rat Hippocampus Hauwa Keita, M.D.; Agnes Peczyt, M.D.; Fanny Jardinault; Danielle Rouelle; Jean Manzt, M.D.,Ph.D., Anesthesiology, Hopital Bichat, Paris 7 University, Paris, France. Inhibition of NMDA-induced tyrosine kinase phosphorylation contribute to riluzole neuroprotection.

A-698 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Chronic Hyperglycemia and Insulin: The Effect on Neurologic Outcome Following Transient Focal Cerebral Ischemia in Rats Heidi M. Koenig, MD; Mikkel I. Friedtne, MD/PhD; Roberto A. Santizo, MD; Dale A. Pelligreno, Ph.D., Anesthesiology, University of Illinois-Chicago, Chicago, IL, United States. Insulin decreases brain injury after transient middle cerebral artery occlusion in chronically hyperglycemic rats.

A-699 Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)
Effect of Lomotrigine on MRI-Derived Indices of Brain Water Content during Global Cerebral Ischemia Herbert Konig, MD; John P. Williams, Ph.D; Michael J. Quast, Ph.D; Mark H. Zornow, MD, Department of Anesthesia, University of Texas Medical Branch, Galveston, TX, United States. Lamotrigine did not prevent fluid shifts during global cerebral ischemia, as derived from calculation of the ADC of water.