

New stem cell therapy may aid the repair of damaged brains

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According to some experts, newly born neuronal stem cells in the adult brain may provide a therapy for brain injury. But if these stem cells are to be utilized in this way, the process by which they are created, neurogenesis, must be regulated.

A new study, led by Laurence Katz, Co-Director of the Carolina Resuscitation Research Group at the University of the North Carolina School of Medicine, suggests a way in which this might be achieved.

According to the research, neurogenesis can be regulated through induced hypothermia. In rat subjects, a mild decrease in body temperature was found to substantially decrease the proliferation of newly-born neurons, a discovery that marks a major step forward for the development of neuronal stem cell-based brain therapies.

Since the 1930s, brain damage from stroke, head injury, near drowning and cardiac arrest was considered to be permanent because of a lack of repair mechanisms like other parts of the body. However, discovery of neuronal stem cells in the adult brain challenges that belief.

“Many questions remain before we adequately understand how to control these cells to repair a damaged brain,” says Katz. “However, the findings represent an important step in demonstrating that these cells can be controlled by simple external forces like hypothermia.”

The presentation entitled “Hypothermia Decreases Neurogenesis” will be

given by Laurence Katz from The University of North Carolina School of Medicine. This paper will be presented at the 2008 SAEM Annual Meeting, Washington, D.C. on May 31, in the Neurovascular emergencies forum beginning at 10 a.m. in Virginia Rooms A&B of the Marriott Wardman Park Hotel. Abstracts are published in Vol. 15, No. 5, Supplement 1, May 2008 of Academic Emergency Medicine, the official journal of the Society for Academic Emergency Medicine.

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