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Stem cells from hair follicles may someday reverse paralysis

Posted By admin On February 23, 2007 @ 1:53 am In Sci/Tech | No Comments

A scientist from San Diego has published some intriguing research suggesting that stem cells taken from hair follicles may someday be used to restore nerve damage.

Dr. Robert M. Hoffman of the San Diego-based AntiCancer, Inc discovered that a certain protein marker called Nestim, which is present in neural stem cells, is also present in hair follicle stem cells. This suggests that stem cells from hair follicles have the same properties as stem cells from nerve cells.

Stem cells are a type of undifferentiated (generic) cell that can be turned into a number of specialized cells like muscle cells, neurons etc. Stem cells can be used to replace damaged specialized cells that cannot be regenerated. For example, stem cells can turn themselves into nerve cells and can be used to restore a damaged spinal cord and allow a paralyzed person to restore some or all of their previous function.

In the resulting studies done on mice, it was demonstrated that hair follicle stem cells can differentiate into blood vessels and neural tissue after being transplanted to a layer of skin in the mice. Researchers also found that the hair follicle stem cells, when implanted into a region of a severed sciatic or tibial nerve in the mice's leg, greatly enhanced the rate of nerve regeneration and the restoration of nerve function. The improvement was so great that the mice even regained the ability to walk normally after treatment with the hair follicle stem cells.

Based on his research, Dr Hoffman concluded that hair follicle stem cells provide an effective and accessible source of stem cells for the treatment of peripheral nerve injury.

Reference: **"Expert Opinion on Biological Therapy Journal" - March 2007, Vol. 7, No. 3, Pages 289-29**1

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