

Main Highlights

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| ◆ Direction for Stem cell Research in India | The Central government has taken the first significant step in regulating stem cell research in the country by constituting a National Apex Committee for Stem Cell Research and Therapy last month after years of debate on the subject |
| ◆ New stem cell treatment raises hope for people with cervical damage | The first human embryonic stem cell treatment for human testing shows promise in helping people with cervical damage after restoring limb function in rats with neck spinal cord injuries. |
| ◆ Skin stem cell spray heals burns | A new spray could heal second-degree burns more easily and less painfully compared with conventional skin graft methods |
| ◆ Stem Cells Help Teen Grow Cheek Bones | Stem cells are helping a U.S. teen grow cheekbones. Brad Guilkey's face was malformed due to a genetic defect, but he has hope due to a new procedure. |

1. Direction for Stem cell Research in India

11th November, 2009

The National Apex Committee (NAC) headed by Dr Mammen Chandy of Christian Medical College (CMC), Vellore is expected to closely review and monitor activities of this highly promising research activity in the country.

NAC will be a multidisciplinary body with a secretariat having the sole responsibility to examine the scientific, technical, ethical, legal and social issues in the area of stem cell based research and therapy. All institutions involved in any type of stem cell research and therapy will have to be registered with the NAC through Institutional Committee for Stem Cell Research and Therapy (IC-SCRT). NAC will set standards for procedures for collection, processing, differentiation, preservation and storage of human tissues to their assure quality and sterility. The constitution of NAC at this juncture is an extremely important initiative as stem cell research is already coming up with rapid scientific developments and throwing up complicated ethical, social and legal issues.

Most countries do not have any scientific body and legal framework at present to regulate the use of this technology. Drug regulatory authorities across the world are still deliberating the need for laying down a set of rules for this emerging branch of medical research considering the possible misuse by unscrupulous practitioners. In India, some private research institutes and medical practitioners have been claiming magical cures for fatal diseases by using stem cell therapy. Some time in 2007, *Pharmabiz* had reported that a number of small hospitals and one-man clinics in Karnataka were found to be engaged in drawing stem cells from peripheral blood of patients and using them for treating certain diseases. As per the clinically approved practice, stem cells should not be drawn from peripheral blood. Doctors in these establishments have been reportedly giving false hopes of a dramatic cure from stem cells and charging exorbitant fee. It is important that such rackets in the name of stem cell therapy should be curbed forthwith in the public interest. It is in view of such possibilities, the Union health ministry had decided to set up a high level committee to frame a policy for genomic research including stem cell technology seven years ago. A draft guideline for stem cell research was then prepared by Indian Council of Medical Research and it is already with the government. As per the draft, the health ministry was to set up a national regulatory system to monitor and approve stem cell research programme in the country.

Now, with the constitution of NAC with a good number of experts, there should not be no delay in notifying a policy for the stem cell research and therapy. A clear cut policy can only give the right direction to the growth of any emerging sector.

Source: Pharmabiz

2. New stem cell treatment raises hope for people with cervical damage

10th November, 2009

The first human embryonic stem cell treatment for human testing shows promise in helping people with cervical damage after restoring limb function in rats with neck spinal cord injuries.

Researchers at University of California, Irvine, found that the walking ability of the rats that were treated with the stem cell therapy was restored to 97 percent. The primary author of the study, Keirstead, is keeping fingers crossed that the finding will prompt authorised clinical testing of the treatment in people with both types of spinal cord damage.

Keirstead said: "People with cervical damage often have lost or impaired limb movement and bowel, bladder or sexual function, and currently there's no effective treatment. It's a challenging existence.

"What our therapy did to injured rodents is phenomenal. If we see even a fraction of that benefit in humans, it will be nothing short of a home run."

Lead author and doctoral student Jason Sharp, Keirstead and team discovered that the stem cells further prevented tissue death and triggered nerve fiber regrowth.

"The transplant created a healing environment in the spinal cord," said Keirstead, who is co-director of the Sue and Bill Gross Stem Cell Research Center and on the faculty of the Reeve-Irvine Research Center.

Source: Stem cells Journal

3. Skin stem cell spray heals burns

06, November, 2009

A new spray could heal second-degree burns more easily and less painfully compared with conventional skin graft methods. Technology developed by an Australian surgeon uses a small number of skin cells obtained through a biopsy, which are then suspended in solution. When the cells are sprayed on a burn wound, the skin stem cells proliferate to create a new layer of skin. A kit called ReCell allows surgeons to harvest, process and apply these cells to treat a burn as large as 10.5 square feet, MIT Technology Review reported

Source: Investors.com

4. Stem Cells Help Teen Grow Cheek Bones

04 November, 2009

A team of doctors in Cincinnati recently broke new ground in reconstructive surgery. They used stem cells to help generate fuller cheekbones, because 14-year-old Brad Guilkey's were under-developed. The stem cells used were from fat tissue, not the controversial embryonic stem cells.

Brad Guilkey was born with a genetic defect called Treacher Collins Syndrome that left some of the bones in his face underdeveloped.

Doctors had experimented with a stem-cell bone regeneration technique for two years, testing on animals, and Guilkey became their first human patient.

The procedure itself only took one day. Surgeons implanted bone scaffolding onto his face, drilled holes into it and filled the holes with a combination of stem cells from fat tissue, plus growth protein. These techniques prompted bone tissue to grow where his cheekbones should be.

Surgeon Dr. Jesse Taylor, who helped guide this experiment, admitted that the boy's facial results may still not be in place a few years from now. Currently, though, Dr. Taylor said the chances for this procedure's long-term success are better than 50 percent.

Source: Eurostemcell