

REGENERATIVE MEDICINES

Stem cell therapy market picking up as 4 new firms look to expand

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Regenerative medicine using human cells, a new segment in modern healthcare that has been subjected to scrutiny worldwide, from regulatory to religious, is picking up in India with at least four companies expanding their product base in the nascent market.

They are **Reliance Life Sciences Pvt. Ltd.**, **LifeCell International Pvt. Ltd.**, **Regenerative Medical Services Pvt. Ltd.** and **Cryo-Save India Pvt. Ltd.** Each of them is offering cell culture and supplying it to select specialty hospitals across India.

Even though these firms have been developing this technology for the past few years, Indian hospitals have started accepting this as a treatment option only now.

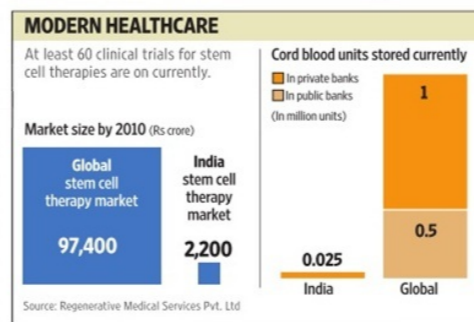
According to Indian Council for Medical Research, a government agency that monitors biomedical research in India, at least 15 firms, including commercial ventures and research institutions, are planning to enter this space.

Stempeutics Research Pvt. Ltd, Nichi-In Centre for Regenerative Medicine, state-owned Centre for Cellular and Molecular Biology, LV Prasad Eye Institute, Chennai, National Centre for Cell Science, Pune, and Manipal Hospital, Bangalore are some of the organizations that have reached advanced stages of clinical trials of regenerative medicines, using stem cells.

Stem cell therapy, using bio-cells extracted from the same patient or biosuitable alternative human sources, targets diseases which are either incurable or with no complete or effective treatment available in the traditional healthcare system. Since this therapy is based on the concept of regenerating damaged cells in the injured or disease-affected areas of the body, it is called regenerative medicine.

Tissue engineering, another regenerative medicine system for replacement of damaged skin tissues, has been in practice for burn therapy in India for the last few years.

At least 60 clinical trials for stem cell therapies are under way currently and many more trials will start soon with the



approval of the Drug Controller General of India. The recent government decision to allow patenting of micro-organisms and its processes, and increased awareness about cord blood cell banking are giving a boost to the new therapy.

Sri Ramachandra Medical College in Chennai, Kokilaben Dhirubhai Ambani Hospital and Medical Research Institute in Mumbai and Amrutha Hospital and Research Institute in Kochi, among others, are offering stem cell therapy.

According to K.V. Subramaniam, president and chief executive, Reliance Life Sciences, the institute is developing a wide range of novel researched, autologous and allogenic cell therapies and tissue-engineered products. The company is working in the areas of embryonic stem cells, ocular stem cells, haematopoietic stem cells and skin and tissue engineering under this initiative.

Mayur Abhaya, executive director of Chennai-based LifeCell International, said stem cell therapy is already being used by doctors and hospitals specializing in blood cancer and other blood-related disorders as an effective treatment solution. According to him, as new areas are emerging in stem cell therapy with the advent of mesenchymal stem cells (that can differentiate into a variety of cell types), their potential use is being investigated in tissue regeneration too for ailments such as diabetes, arthritis, heart stroke, spinal cord injury and multiple sclerosis.

Besides these clinical applications, stem cells are also being used to study mechanisms of various diseases in the human body, Abhaya said.

LifeCell is claiming to be the country's largest stem cell solutions provider by number of clients. It is currently involved in research, therapy, banking and clinical applications.

It offers umbilical cord blood stem cell banking and stem cell therapy solutions for patients. At least 12,000 clients have stored the umbilical cord blood stem cells of their children with LifeCell.

According to Satyen Sanghvi, chief scientific officer of Mumbai-based Regenerative Medical Services, which brought autologous cell therapy to India in 2008 through a technology tie-up with Korea's Sewon Cellontech Co. Ltd, stem cells have demonstrated the ability to repair different types of tissue and offer real opportunity to develop new treatments for various diseases.

LifeCell is planning to introduce bone marrow aspirate concentrate technology in association with Harvest Technologies Corp. of the US. It already has a technology collaboration with Cryo-Cell International Inc. of the US for cord blood banking.

It currently has an operational stem cell therapy centre at Sri Ramachandra Medical College in Chennai.

Abhaya said LifeCell has also initiated clinical trials with Harvest Therapeutics on critical limb ischemia, a severe obstruction of the arteries which decreases blood flow to the hands, legs and feet. "A few more clinical trials are being planned in other disease settings, apart from the proposed collaboration with Cryo-Cell to launch the menstrual blood stem cell banking service in India," he said.

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