

Stem cells to become benchmark for medical treatment

08 February 2013 | News | By Narayan Kulkarni

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"Today, regenerative medicine, stem cells, neurology have tremendous potential. Stem cells will become a major benchmark for medical treatment. They can be utilized in many ways," said Mr BN Manohar, chief executive officer, Stempeutics Research.

Chairing a session at Bangalore India BIO 2013, he said, "BioPharma can change the present \$5 billion to \$100 billion by 2025. Globally \$150 billion revenue is made by biotechnology industries in which 15 percent is from pharma industries, and India contributes 10 percent to pharma revenue."

Sharing his views on use of stem cells, Dr NK Venkataramana, director of Advanced Neuro-Science Institute and vice chairman of BGS-Global Hospitals said, "Stem cells can become a boon for people with neurological disorders. In India more than 15 million people are suffering from neurological disorders every year. In the past 30 years, I have never seen a recovery of spinal cord injury, but now the stem cells are giving hope that recovery is possible."

He further said, "Different sources of stem cells give different genetic expressions and can be used for different purpose. All stem cells are not equal. Most of the researchers use adult stem cells, embryonic stem cells for the research. Use of mesenchymal stem cells, a multipotent, hypo neurogenic in large scale production is possible. Bone marrow transplantation was known because of stem cells. With the advancement, we can distinguish the cells and utilize them for the purpose."

Sharing the research initiatives taking place at his laboratory, Prof. Ravi Bellamkonda, associate vice president for research, Carol Ann and David D Flanagan Chair in Biomedical Engineering and GCC distinguished scholar, Georgia Institute of Technology, USA, said, "The concept of damaged cells to regenerate the cells in the nerve gap, the polymer drug for the cell therapy to grow organ, which is to be viable but needs investments. When the nerve gaps are more than 10mm they don't heal fast on their own, surgeons use pseudo nerve for nerve grafting. Nerve grafting has many disadvantages like second surgery. The multiple grafting has 40 percent success rate. We are working in our lab to design a pseudo nerve, which has genetic approach and has the capacity for bridging for auto grafting and also developing a gel. This was developed directly in

the tissues but it did not work. So we tried to work with the embryonic cells (rat), fiber cells with polymer, which allows the gel formation and subsequently allows the nerve growth. The study is still under process."