

# Doctors prescribe stem cell cure for tumours

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CHENNAI: After extensively using stem cell therapy for treatment of leukemia, doctors are now pushing for using it to help cure solid tumours.

Doctors from various countries have congregated in the city to deliberate on the efficacy of using stem cells to treat the side-effects of chemotherapy, which, if given in high dosage, kills healthy cells as well.

"In several patients we have observed that the white blood cell count plummets following chemotherapy. This brings down the person's resistance to infections. By transplanting stem cells we could counter that," said Dr Ranjan Kumar Mohapatra, oncologist at Global Cancer Institute which is organizing the two-day convention that begins on Saturday.

Doctors from various centers in Europe that specialize in stem cell therapy are participating in the convention.

Stem cells are produced in the bone marrow and can develop into cells with different skills. Stem cell transplants help people with severe blood or immune system illnesses. They can also help people with non-cancerous diseases, such as serious immune deficiency problems, autoimmune diseases (like lupus), or blood disorders (thalassemia or sickle cell disease for example).

However, stem cell transplant to help fight solid tumours is still at its nascent stage in India, say a section of doctors. "We are working on using this treatment for helping cure breast cancer," said Dr Giovanni Rosti, director of a medical oncology unit in Treviso, Italy. "We need to do more research on this line, but to do that doctors need to sit up and realize the importance of this therapy," he said.

Doctors say the procedure is reserved for patients who are critical. "It is commonly administered to patients who are already resistant to standard forms of therapy such as chemotherapy," said Dr Mohapatra.

At the conference, oncologists from Europe and India will share their expertise and insights. As the treatment is still at its nascent stage, the cost incurred can go up to Rs 10 lakh. Doctors say with more studies on this line, the treatment would become cheaper.

# **Stem cell therapy gets paraplegic Capt back on feet**

*Indira Rodericks*, TNN | Aug 24, 2014, 05.09 AM IST  
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MUMBAI: Two years after he was shot at by an Afghan militant in Kashmir, Captain Manish Singh, who was left paraplegic by the injury, can walk again, thanks to 18-month stem cell treatment. Coupled with rehabilitation, Capt Singh, who could not even sit, is now mobile with the help of calipers.

Buoyed by the improvement, he now determined to return to the Special Forces he was assigned to.

After an AK47 bullet ripped through his stomach on September 25, 2012, Singh was injured in the D12 vertebra; he became paraplegic and lost control over bowel and bladder functions. "I was taken to a hospital in Srinagar and then to the army hospital in Delhi where I was operated upon. Though my upper body functions were normal, I had no sensation or motor control below my navel," said Singh, who is originally from Ludhiana. While rehabilitating at the army hospital at Kirkee in Pune, a colleague from the army suggested to Singh about stem cell therapy and rehabilitation.

"Capt Singh arrived at our center in an ambulance, incapable of any movement," said Dr Alok Sharma, director, NeuroGen Brain and Spine Institute, Nerul. "There are a number of reasons why I was confident of great results from our treatment: First, he was provided with precise medical care for the first four months. Secondly, he is young thirdly, him being an army man, he is determined and extremely focused," said Dr Sharma, who is also the head of neurosurgery department at Sion Hospital.

The series of four stem therapy at the clinic was interspersed by bed mobility techniques that included rolling and shifting from bed to wheelchair and vice versa, gait training, ambulation lessons and physiotherapy, which comprised push-knee splints and balance training to improve trunk balance.

Now almost back on his feet, Capt Singh will return to Kirkee in September and after a week, he will travel to Mhow, an army cantonment in Madhya Pradesh where he will go to infantry school. "I feel better, stronger and more determined to return to my life as it was. I want to get back into shooting, to represent India at the next Commonwealth Games," said Singh who was awarded the Shaurya Chakra in January 2013.

"What makes this case special is that Singh never gave up hope. He doesn't even encourage his parents to visit as it is emotional for him," said Dr Sharma.

# **Bihar's 1st stem cell therapy at AIIMS-P**

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PATNA: AIIMS-Patna achieved a major feat on Wednesday by performing first stem cell therapy in Bihar. A very rare experiment done in select hospitals of the country, stem cells therapy was performed on a Chhapra patient whose spinal cord has been damaged.

Stem cell therapy includes impregnation of cells of bone marrow in a patient. It is done in cases when all other therapies fail to repair the damaged cells of an organ. On Wednesday morning, a team of AIIMS doctors extracted 190ml of bone marrow from the patient. A special kit was procured for the purpose by the institute from Delhi. The marrow cells were then sent to Mahavir Cancer Sansthan, which is very close to AIIMS, for centrifugation. After centrifugation, 30 ml of stem cells were obtained from the marrow.

The doctors brought the marrow cells back to the institute in afternoon and at 1pm they impregnated the cells in the patient. They were able to successfully impregnate them into vertebral artery. Via brain, the cells travelled to the artery of spinal cord and settled exactly at that portion of the cord in which the cells were damaged. The doctors took all precautions to avoid any complication, that included a possible brain stroke.

The speciality of the stem cells is that they settle only in that portion where they are required, and not anywhere else. The cells are now expected to grow of their own and it is expected that they will replace the damaged cells of the cord. As of now, the doctors are not in position to say anything about the success of the therapy. Empirically, they say, the success rate of such experiments is not bad.

The patient, 24-year old Shankar, had fallen from roof and got his spinal cord damaged. He was admitted to AIIMS-Patna a month ago. The doctors were thinking of doing stem cell therapy on him for 20 days.

If the cells grow successfully in the damaged spinal cord of Shankar, it will be a great boon for him because, as of now, the lower half of the body is completely paralyzed. He is not able to move his lower limbs.

AIIMS-Patna director Dr G K Singh said, "It is a major achievement for us. After three months, we will be able to asses the development of growth of cells. The patient is fit and under observation." The team that performed the therapy included doctors of orthopedic, biochemistry, anaesthesia and radiology departments.