

Cell therapy helps man re-grow dead bones

Kounteya Sinha | TNN

New Delhi: Doctors in have helped a 25-year-old re-grow his hips by injecting in him cells that were extracted from the patient's bone marrow.

A team of doctors in New Delhi, headed by cell therapy specialist Shrish Dutt Mishra, used Autologous Osteoblast Implantation (ABI) to treat Gurjeet Singh, a management student from the UK. Gurjeet was suffering from Avascular Necrosis (AVN), which is caused due to loss of blood supply to bones.

Lack of blood leads to atrophy in bone tissues. Usually, AVN affects the end (epiphysis) of long bones like femur, which extends from knee joint to hip joint.

The most common treatment option for Gurjeet's condition was total hip replacement (THR). Since THR has its downsides — long recovery process and a short lifespan of replaced bones — it is not recommended for youngsters.

Dr Mishra went for ABI, a unique procedure that involves taking bone marrow from the patient's hip through a biopsy and the osteoblast cells (that helps build bones) were extracted from it. The procedure, which took only 10 minutes, was conducted at a south Delhi hospital on April 15.

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The cells were sent to RMS Regrow, the lab of a biotechnology firm, in Lonavala, Maharashtra. The cells were cultured there to transform and expand many folds (up to 48 million cells) for about five weeks, and then sent back to be re-implanted.

The team infused the cells in the areas of the bone, where necrosis had set in for the hip joints to re-grow.

"Within 8-12 weeks, Gurjeet has completely recovered, and is all set to get back to active sports life soon," Dr Mishra told TOL.

"The best part is that Gurjeet didn't have to undergo a THR, nor were additional bones used on him. His diseased bones gave way to fresh ones, with the help of osteoblast cells," Dr Mishra added.

According to Dr Mishra, ABI is catching up in India as a viable option to treat AVN.

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"This surgery is a good option because it allows young people to get back to action quickly, and they can resume normal activity within 10-12 weeks. The patient can walk normally in three months, and return to normal sporting activity within a short span of time," an official added.

THR with artificial joints may reduce symptoms but the patients may have to lead a compromised lifestyle thereafter. "The incidence of AVN is on the rise," Dr Mishra added.

AVN is most common among young men. The male to female ratio is 8:1. Usually, the patients are below 50 years. The peak incidence is between 30 and 60 years.