

Indian doctor's new stem cells technique for kidney transplant

Ahmedabad - A doctor in Gujarat claims he has pioneered a technique of kidney transplantation using human embryonic stem cells that not only overcomes the problem of organ rejection but also cuts treatment cost dramatically.

Researchers across the world have been grappling with the problem of rejection of the kidney transplanted in the recipient. To overcome this situation, patients are given strong immunosuppressants that leave them vulnerable to infections as they lower immunity.

However, H.L. Trivedi of the Civil Hospital here says his procedure does away with the need of immunosuppressants, thus lowering the cost of the transplantation.

The treatment cost comes down to Rs.100,000 (\$2,100) from the present about Rs.1 million (\$21,600). Expenditure on subsequent maintenance is also reduced from around Rs.15,000 to a mere Rs.300.

'Though work is going on in Harvard, Stanford and Pittsburgh, we are the first in the world to use human embryonic stem cells to generate new equivalent cells in laboratory,' Trivedi, director of the Institute of Kidney Diseases and Research Centre at the hospital, told IANS.

Human embryonic stem cells have the ability to develop into any other cell produced in the human body. Thus they have the potential to treat a range of diseases including Parkinson's, Alzheimer's, diabetes, heart disease, stroke, spinal cord injuries and burns.

Kidney failure has emerged as the third most common killer across the world after cancer and heart diseases.

The technique used by Trivedi and his team of doctors comprising Vineet Mishra, Aruna Vanikar, Pranjal Modi and Veena Shah has given a new lease of life to 20 patients not only from India but also Nigeria and Kenya and the US who are afflicted with kidney failure, he said.

The procedure essentially entails growing in the laboratory human embryonic stem cells that have been derived from the female who is donating the kidney. These stem cells are then co-cultured with the same person's bone marrow cells. This gives them 'direction' to develop into bone marrow cells.

These cells are then infused into the recipient's liver and protect the kidney from rejection when it is transplanted. Patients can resume normal activity within 10 days of the operation.

Ten-year-old Riya Patel, Trivedi's youngest patient, bears witness to the efficacy of the procedure. With both her kidneys having failed, her US-based parents approached several doctors in Nadiad of Kheda district, adjoining Ahmedabad, where their relatives came to know about Trivedi.

'Our anxiety vanished after we talked to Dr. Trivedi,' said Riya's mother Kavita, who donated her kidney to her daughter. Riya was operated upon June 1 and has recovered well. 'Riya is active like other children and all her reports are normal,' said her parents, who hope to soon take their daughter with them to the US.

Nalin, 34, too had consulted many doctors after his kidneys failed. Now, a fortnight after his operation, the welder from the coastal town of Porbander in western Gujarat said he was feeling fine.

'He could not even walk before. But now he is able to move about,' said his wife Jyoti who donated her kidney for the transplant. 'Doctor sahe

b is like god for us,' she said.

Ikram came here from Ajmer in neighbouring Rajasthan and was operated upon three weeks back. 'I am very thankful to the doctors for curing me,' said Ikram, 37, who works in a general store.

Hemant, 29, a driver in the Kutch collectorate in northwestern Gujarat too underwent a successful transplant about five weeks back.

Trivedi, who returned to India from Canada in 1977 with the dream of developing an affordable treatment for kidney failure, has treated about 800 patients since his first transplant in 1998.

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