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# Doctor claims new stem-cell technique for kidney transplant

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**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 Rs100,000 ($2,100) from the present about Rs1mn ($21,600). Expenditure on subsequent maintenance is also reduced from around Rs15,000 to a mere Rs300.

"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.

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. – IANS