

Gene therapy may improve sexual function in diabetic men

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Scientists have conducted successful tests of a gene therapy designed to improve sexual function in men with diabetes.

The experimental treatment temporarily repairs damage caused by the disease that leads to erectile dysfunction in 70% of diabetic men, many of whom do not benefit from drugs such as Viagra (sildenafil).

Tests conducted on rats bred to develop a diabetes-like condition showed the gene therapy boosted their ability to achieve erections for one month following treatment. If the treatment is proved to be safe to use in humans, it could be available in five years, according to lead scientist Jesse Mills of the University of Colorado health sciences centre in Denver.

Diabetes damages male sexual function by destroying endothelial cells that line the inner walls of blood vessels. One function of the cells is to release nitric oxide, a chemical signal that makes the smooth muscles around blood vessels relax, allowing more blood to flow into the genitals.

Drugs such as Viagra work by preventing nitric oxide from endothelial cells from breaking down, but because diabetic men have fewer of the cells, they still have lower levels of nitric oxide even if they take the drugs.

"Sildenafil or Viagra only works in 40% to 60% of men with diabetes, so half of the men out there are not benefiting from these drugs," Dr Mills told the American Society for Reproductive Medicine conference in New Orleans.

The doctors developed soluble particles containing a gene, VEGF, that is absorbed by endothelial cells and forces them to multiply, replacing the lost cells.

Tests on the rats showed that monthly injections improved their sexual function to 75%.