

Male sex organ is new source for stem cells

May Help Treat Injuries, Replace Diseased Tissue And Perhaps Even Regenerate Organs: Experts

Washington: Stem cells that normally make sperm can be taught to make other tissues as well, perhaps offering men a medical repair kit, US researchers said.

They found a way to easily pick the cells out from other tissue in the testicles and to grow them into batches big enough to use medically. This provides a new source of stem cells, the body's master cells, which experts hope can be used to treat injuries, replace diseased tissue and perhaps even regenerate organs.

Dr Shahin Rafii of Weill Cornell Medical College in New York and the Howard Hughes Medical Institute worked with mice, and is starting work now to find the same cells in humans. "Some hurdles remain, of course — we have to replicate these findings in humans, and we haven't discovered the exact 'switch' that would allow us to control (their) development on demand," Rafii said.

"Nevertheless, it appears that these unique specialised spermatogonial cells could be an easily obtained and manipulated source of stem cells with exactly the same capability to form new tissues that we see in embryonic stem cells."

On Tuesday, the National Institutes of Health said it would follow a presidential executive order to encourage the search for various sources of stem cells. US president George Bush opposes the use of most embryonic stem cells — those taken from tiny human embryos. Rafii's is one of many new sources being worked on by researchers, who have found so-called adult stem cells in blood, bone marrow and other tissue. Other, more primitive cells have been found in the placenta and amniotic fluid.

In general, the more primitive the stem cell, the more flexible it is and the more various tissues it can be used to make. "Adult stem cells are much more difficult to work with," Rafii said in a telephone interview. "But now we have another potential source and in this paper we have delineated all the things we have to do to get these amazing stem cells."

A small little sample of flesh from the testicles should provide enough cells to work with, Rafii said. Once isolated, they grew the mouse cells into blood vessel, heart and muscle cells. These could provide a perfectly matched transplant for the patient himself and perhaps others as well.

"They can also be transferred to other individuals who are a genetic match. You could even give it to a sister if they are genetically compatible," Rafii said. The cells should be robust in most men, the researchers believe.

"Normally, the spermatogonial progenitor cell is committed to only that function, and they're remarkably efficient, keeping men fertile well into advanced age," said Dr Marco Seandel, a researcher at Memorial Sloan-Kettering Cancer Center in New York. REUTERS