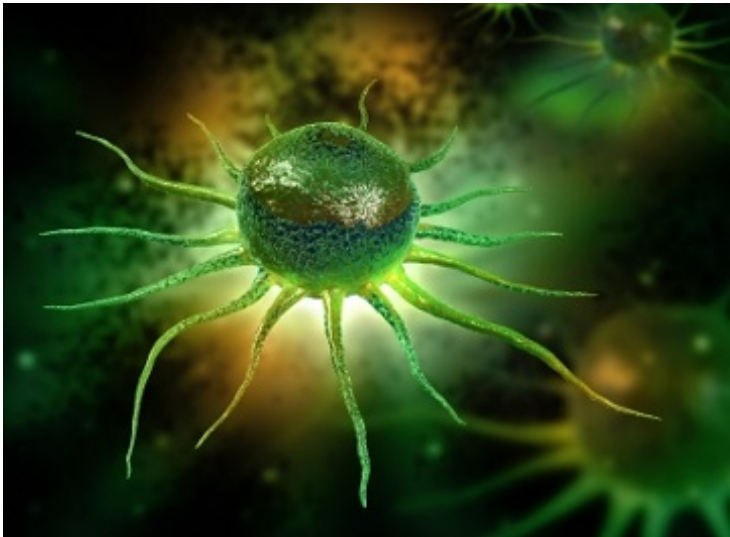


Research: Stem cell to kill cancer cells

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Scientists at Harvard Stem Cell Institute (HSCI) have discovered a novel way to fight the deadly brain cancer with toxin-resistant stem cells. The research was led by Indian-origin Scientist Dr Khalid Shah. It could pave the way for a new class of cancer treatment.

In experiments on mice, the stem cells were genetically engineered to produce and secrete toxins which kill brain tumours, without killing normal cells or themselves.

"A few years ago, we recognised that stem cells could be used to continuously deliver these therapeutic toxins to tumours in the brain, but first we needed to genetically engineer stem cells that could resist being killed themselves by the toxins," said Dr Khalid Shah, lead author and director of the molecular neurotherapy and imaging lab at Massachusetts General Hospital and Harvard Medical School. He added, "Now, we have toxin-resistant stem cells that can make and release cancer-killing drugs."

During the tests, the main brain tumour was surgically removed before the stem cells were placed at the site of the tumour in a biodegradable gel to eradicate the remaining cancerous cells.

The researchers now plan to test the technique using a number of different therapies on mice with glioblastoma, the most common brain tumour in human adults. Dr Shah predicts that clinical trials with the therapy will begin within the next five years.