



THE TIMES

HOME BRITISH NEWS

BACK TO MAIN INDEX

E-MAIL THIS PAGE TO A FRIEND

E-MAIL THE SECTION EDITOR

WORLD NEWS SPORT BUSINESS COMMENT FEATURES SPECIALS

MONDAY JANUARY 15 2001

Stem cell discovery reverses time

BY NIGEL HAWKES, HEALTH EDITOR

A RESEARCHER based in Britain claims to have achieved the biological equivalent of reversing time. She says that she has perfected a method of creating stem cells from adult cells, bypassing the ethical dilemma of “therapeutic cloning” which recently divided the House of Commons.

Although Parliament voted in favour of research into therapeutic cloning, many people remain uneasy about creating embryos solely for use as a source of spare parts.

If Ilham Abuljadayel’s claims are verified, treatments for a wide variety of diseases such as leukaemia, Parkinson’s disease and Alzheimer’s disease may be transformed. Not only does her method produce a supply of healthy cells from the patient’s own blood, but it generates far more cells, more quickly, than alternative methods, and without raising ethical dilemmas.

So unlikely does the claim seem to many biologists that she has found it impossible to have it published in leading journals. But now, she says, it has been replicated by one of the world’s leading contract research companies, Covance, and a company has been set up to market the idea.

Stem cells are the forerunners of the mature cells that make up the organs of the body. They are “pluripotent”, that is, they have within them the capacity to develop into many different types of cell — brain, muscle or blood, for example. The simplest source of a stem cell is a developing embryo, but until now it has been thought impossible to re-programme a fully developed adult cell and create a stem cell. That is what Dr Abuljadayel says that she can do.

Born in Saudi Arabia and educated at King’s College London, she went back to her native country to work as an immunologist. She made her discovery by accident. She was trying to kill white blood cells by using a particular antibody when she forgot to add one ingredient to the mixture.

The result was not dead cells, but cells that had been transformed into stem cells. She calls the process retrodifferentiation: a reversal of the normal process by which

Newspaper Edition

LATEST NEWS AT 9PM FOR

British News
January 15



immature stem cells differentiate to become mature adult cells.

Since the discovery she has worked to convince others that it is real. She has used a laboratory in the department of physiology in Cambridge and presented a seminar there before Christmas.

One leading scientist familiar with her work, Professor Adrian Newland of the Royal London Hospital Medical School, said that he had repeated her experiments with the same results.

“It’s fascinating, but there could be other explanations for what is going on,” he said. “My own work suggests that it isn’t possible to reverse the process of differentiation, but I have repeated her work and got similar results. I think more research needs to be done to eliminate other possible explanations. As it stands, it could be amazing, or it could be inconsequential.”

The first clinical application of the technique could be in treating leukaemia.

Dr Abuljadayel says that blood would be taken from the patient and treated to create a population of new stem cells, a process that takes only a few hours.

The patient would then be treated with drugs or radiation to destroy the bone marrow cells and kill the cancer, before repopulating the bone marrow with cells generated from the stem cells.

Dr Abuljadayel’s husband, Ghazi Dhout, who is president of Tristem, the Dublin-based company set up to exploit the discovery, says that a big advantage is that a huge volume of cells can be generated.

He says that the first trials, on individual patients, might start in the next six months. The company plans to seek partners among the big drug and biotech companies to develop the business. The invention is patented.

- A cure for leukaemia may be possible with the discovery of an immune cell that can seek and destroy infected cells. The development was announced by researchers at London’s Hammersmith Hospital and the Imperial College of Medicine, who have spent six years investigating the disease.

[HELP](#)

[CROSSWORD](#)

[SEARCH](#)

[CONTACT US](#)

[TERMS & CONDITIONS](#)

[THE SUNDAY](#)

