

Gene therapy's rocky media ride, and its lessons for stem-cell therapy

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NewScientist

Early optimism

Four-year-old is first gene therapy patient

22 September 1990

The world's first course of gene therapy began last week. Doctors in Bethesda, Maryland, infused white blood cells back into a four-year-old girl, after genetically altering them to correct a fatal illness.

W. French Anderson, a haematologist at the National Heart, Lung and Blood Institute, directed the experiment in collaboration with Michael Blaese of the National Cancer Institute. 'If this works gene therapy might very well become a major new revolution in medicine,' Anderson said.

Gene therapy promises cure for cystic fibrosis

18 January 1992

Prospects of a cure for cystic fibrosis improved dramatically this week with the announcement that researchers have successfully introduced a corrective gene into the lungs of experimental rats. 'I have no doubt that we will be equally successful with humans,' says Ronald Crystal, leader of the research team.



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Slow progress

Gene dream fades away

25 November 1995

Genetic treatments for cystic fibrosis, a fatal inherited lung disease, have scarcely benefited patients. Neither have attempts to treat cancer, which now account for half of all gene therapy trials.

The disappointing results from these trials has led the US National Institutes of Health to rethink its whole approach to gene therapy. An NIH committee is expected to give its verdict on gene therapy early next month. The word is that it will recommend diverting funds away from clinical trials and back to basic research.

Back to basics for gene therapy

16 December 1995

Gene therapy researchers are trying to run before they can walk, says an expert panel advising the US National Institutes of Health. Many researchers try out treatments before they understand the basic science behind the diseases they hope to cure. The panel, commissioned to advise the NIH on its spending, says less money should go on clinical trials and more on basic science.

In a report published last week, the panel says that many researchers have rushed to start clinical trials prematurely. As a result, not one of the 100 trials so far has resulted in an effective treatment.



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Gelsinger and the backlash

Who needs to know?

13 November 1999

Jesse Gelsinger, who died in September, made headlines as the first patient killed by a side effect of gene therapy. But members of the advisory panel that oversees gene therapy trials in the US fear that they have not been fully informed about other complications, following revelations that other deaths were not made public.

Who controls gene therapy?

12 February 2000

Skeletons are still tumbling from the cupboard in the US as investigations into gene therapy continue to find serious shortcomings.

Stop the trials

18 March 2000

With gene therapy researchers still reeling from the unexplained death of 18-year-old Jesse Gelsinger last September during a clinical trial, critics of biotechnology are calling for an immediate moratorium on the use of some techniques.



NewScientist

Cancer concerns

Cancer scare hits gene cures 2002

12 October

Roller Coaster is the only phrase for it. Soon after "patient X" was born he was diagnosed as lacking vital immune defences due to a life-threatening genetic mutation. Six months later a pioneering treatment corrected the genetic defect and doctors pronounced him cured. Now, in a cruel reversal of fortune, the boy has leukaemia and is at the centre of the latest international row about the safety of gene therapy.

Double trouble for gene therapy 2003

25 January

Numerous gene therapy trials have been put on hold after a second child in a French trial developed a leukaemia-like disease. In both the affected children, the added gene landed in the wrong place, turning on a gene that increases the chances of getting cancer.

The bad news is that this may happen far more often than thought.



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Stem cells: heading for a fall?

Risky business

19 July 2003

The death of a single gene therapy patient in a clinical trial in the US a few years ago triggered a wave of nervous government inquiries, clampdowns from regulators and uncertainty about how to proceed. Is stem cell science heading the same way?

Certainly some stem cell therapies are being offered to patients surprisingly quickly.

Don't go breaking my heart

25 September 2004

Stem cells are seen as the medicine of the future. Once we fully understand what they are and how to manipulate them, over the next decade or two, they are expected to provide a cure for many of humanity's ills. But in one field, cardiology, doctors are already rushing to the clinic to test them out.

Some of the early results have seemed spectacular, with patients...pulled back from the brink of death. But amid the excitement, scientists are warning that the research is progressing way too fast...Is the field a disaster waiting to happen?



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