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New pig clones born

The five cloned pigs: Noel, Angel, Star, Joy and Mary

A biopharmaceutical company that helped clone Dolly the Sheep has produced new cloned pigs.

PPL Therapeutics says the pigs, which partially lack a specific gene, are a major step towards using animal organs for human transplants.

The female piglets were born on Christmas Day in the United States.

They have been named Noel, Angel, Star, Joy and Mary.

"This advance provides a near term solution for overcoming the shortage of human organs for transplants"

David Ayares, PPL

The pigs are not the first to be cloned.

But PPL, a commercial offshoot of the Roslin Institute in Scotland, says the pigs are the first to be engineered in a way that should prevent their tissues being rejected by the human body.

The animals' biological make-up is slightly different from ordinary pigs.

'Near term' solution

A specific gene, which makes the human body reject pig organs, has been knocked out.

PPL says that it intends to use the pigs as part of its programme to seek a cure for humans suffering from diabetes.

Dr David Ayares, Vice-President of Research at PPL's US division said the birth of the

"It raises serious ethical issues over

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PPL Research Director Alan Colman
"The field has been held back"

BMA Head of Policy Vivienne Nathanson
"There will be pressure because we are letting people die on the organ transplant waiting list"

BUAV spokesperson Sarah Kite
"Rather than using animals just as spare parts we should be looking at other methods"

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pigs was a critical milestone in the company's xenograft programme.

the use of animals and a major question of safety

Dr Donald Bruce, Church of Scotland

"This advance provides a near term solution for overcoming the shortage of human organs for transplants as well as insulin-producing cells to cure diabetes," Dr Ayares said in a statement.

The news was given a cautious welcome by the Society, Religion and Technology Project of the Church of Scotland.

Safety concerns

Dr Donald Bruce said the disabling of a gene that would otherwise cause the rejection of a pig organ by the human body might, potentially, be ethically acceptable in the context of xenotransplantation but only if a number of conditions were fulfilled.

"The prospect of using pig organs to save many human lives, or to improve substantially the quality of life of dialysis patients or diabetics, is attractive from the viewpoint of human medicine," he said.

AP

Genetically altered pigs are now a reality

"But it raises serious ethical issues over the use of animals and a major question of safety."

PPL was the first to clone pigs in spring 2000. In April 2001, PPL said that it had produced gene-altered, or transgenic, pig clones.

The pigs had had a foreign gene added to the cells from which they were developed.

A month later an Australian company, BresaGen Ltd, said it had also produced a cloned pig using a different technology.

Potential obstacles

Pigs are thought to be the most suitable animals for providing organs for transplant into humans.

A pig's heart is about the same size and has about the same power output as a human

heart.

Furthermore, scientists understand the steps they need to take to genetically modify pig tissue so that it will not be rejected by the human immune system.

However, there are a number of major problems to be overcome.

They include the theoretical risk that pig viruses might jump into humans and cause new diseases.

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