

For the First Time, Researchers Test Genetically Modified Pig Lungs in Human Bodies

Poonam Sharma, Sujatha Suriyamoorthi
MOHAN Foundation, India

Scientists in China have successfully transplanted a genetically engineered pig lung into a human for the first time ever—an accomplishment that turns the scientific community's perspective. The transplant conducted at the First Affiliated Hospital of Guangzhou Medical University, sets a new record of achievement in xenotransplantation.

The recipient was a 39-year-old man declared brain-dead after a severe brain hemorrhage. With his family's consent, scientists transplanted the left lung from a genetically modified Bama miniature pig - one altered in six genes to reduce the risk of rejection and dampen inflammatory responses. Over the next nine days, while the lung functioned and showed signs of overcoming the body's hyperacute rejection, the patient experienced complications, including pulmonary edema and antibody-mediated damage. Ultimately, the experiment was terminated.

This experiment offers significant evidence that genetic engineering and immune suppression can be combined to overcome biological barriers. Essential hurdles still remain - optimizing immunosuppressants, refining genetic modifications, enhancing preservation methods, and preventing primary graft dysfunction. The results from such experiments underline the promise of xenotransplantation - not as a permanent fix yet, but as a bridge while patients wait for human organs.

Corresponding Author: Dr. Sunil Shroff,
MOHAN Foundation, Chennai, Tamil Nadu, India
Email: shroff@mohanfoundation.org

To cite : Sharma P, Suriyamoorthi S. For the First Time, Researchers Test Genetically Modified Pig Lungs in Human Bodies. In the news. Indian Transplant Newsletter. 2025 July-Sep; 24(3):p2. DOI: 10.64384/ITN.2025.042

