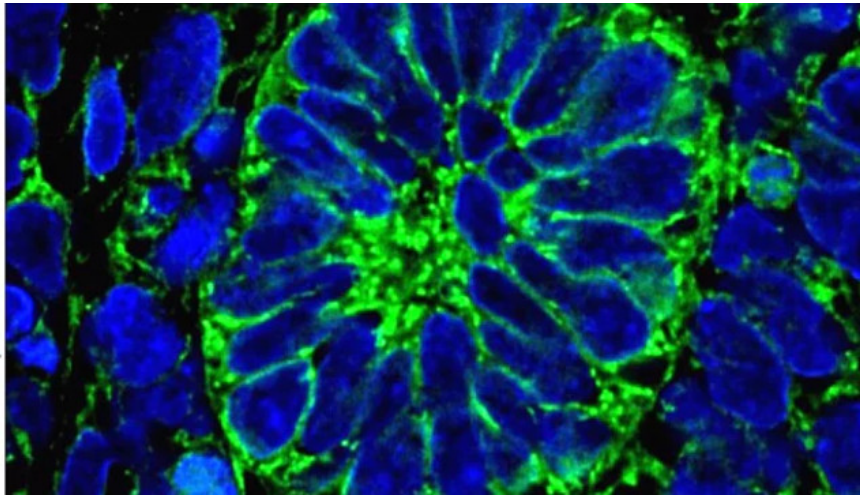


Successfully created human kidney tissue from stem cells

For the first time, scientists have succeeded in developing kidney tissues that act as human kidneys in a laboratory capable of producing urine.

For the first time, scientists have successfully developed kidney tissue that acts as a human kidney in a laboratory capable of producing urine. Kidney tissue is made from human stem cells, implanted under mouse skin and continues to develop into active kidney cells.

Millions of people worldwide die each year from kidney disease, or undergo dialysis while waiting for a transplant. This remarkable progress brings the medical industry a step closer to being able to repair or replace damaged kidney tissue in humans by developing a similar function organ from stem cells.



This landmark study was led by researchers from the University of Manchester and began by developing small parts of the kidney, called glomerulus, in a Petri dish using the pluripotent stem cells of human. This period had previously been achieved by a scientist, but in this study, the work of scientists has gone a step further.

These kidney cells were then implanted under the skin of mice, the mice were treated to allow the mouse immune system to function. Twelve weeks later, tissue developed successfully revealed a nephron structure, easily found inside a normal human kidney. Along with the development of a network of blood vessels, kidney structures have shown the ability to produce a substance like urine called glomerular filtration.

Sue Kimber, one of the project's leading researchers, said: *"We have shown that these structures function as kidney cells that can filter blood and produce urine - although they are I still cannot say how long this function of activity exists in particular, and it is particularly interesting that these structures are made up of human cells,*

providing excellent capillary blood. , thanks to the association with rat blood " .

This new study is published in the journal Stem Cell Reports.

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