Kidney used in two different transplant patients makes medical history

By Loren Grush

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Twenty-five-year-old Ray Fearing had waited 10 years for a new kidney.

At 15, he had been diagnosed with focal segmental glomerulosclerosis (FSGS) – a disease that causes scar tissue to form on the part of the kidney that filters waste out of the blood, ultimately leading to kidney failure.

"Try telling a 15 year old that he's chronically ill – it didn't set in right away," Fearing said of being diagnosed. "Then I had to go on all sorts of medications to improve kidney function, and that's when I really started to feel sick. It was a really difficult time back then."

After a decade of living with FSGS, Fearing finally received a new kidney from his younger sister Cera.

But just days after the operation, Fearing's illness started to come back – even worse than before.

"A week after surgery, we did a biopsy, and that didn't heal very well," Fearing said. "I had a lot of internal bleeding, and it was probably the most painful experience of my life."

Doctors at Northwestern Memorial Hospital in Chicago, where Fearing was being treated, informed him that they would most likely need to remove the new kidney. But instead of just throwing the organ away – which is the case for all failed organ transplants – Fearing was told he could do something that had never been done before: donate the kidney to another person.

"They gave me the option to see if I wanted to keep it in longer," Fearing said. "But with the fact that it was three days after the transplant, and there were already signs of the disease recurring, and it didn't seem like they could turn it around - the decision was a no brainer."

"The choice was either to destroy this gift to me or try to help someone else," he said.

Fearing's decision to "re-donate" his kidney paved the way for the first ever donated kidney to be removed from its original recipient and transplanted again into a new patient – the third person to have the organ.

From trash to treasure

Fearing had been prepared early on for the possibility that the new kidney would not work.

"When patients [with FSGS] get transplanted, there is a 50 percent chance of recurrence – that the illness will come back," said Dr. Lorenzo Gallon, transplant nephrologist and medical director of the kidney transplant program at Northwestern, as well as one of the doctors who treated Fearing. "We did all the therapy we could to save the kidney, but the kidney still started failing."

Typically when surgeons remove a failed organ transplant, they just toss it in the trash. But because of the nature of Fearing's illness, Gallon knew that the kidney wasn't completely useless and could be utilized again.

"The disease that Ray has is within the blood," Gallon said. "So the idea was if we took the kidney out of Ray, the kidney would not be exposed to what Ray has. Then maybe if it goes into someone else who did not have the same disease that Ray had, it'll heal them."

So instead of simply throwing out failed kidney transplants in the future, Gallon said surgeons can possibly decide whether or not the organ has just enough damage to be used again. However, the decision to re-transplant must be made fairly quickly after the
first transplant.

"This could not have been done three years after transplantation," Gallon said. "The longer the kidney stays in the body, the more scar tissue forms on the kidney to the point where it might become irreversible damage. Then it would be almost impossible to remove it."

According to Gallon, Fearing’s quick decision-making contributed to the operation’s success, as well as a possible medical model for the future.

"Ray is an incredible person," Gallon said. "This kid is in the storm of a disease, and he has the strength to think about someone else. It was really an altruistic gesture."

A brighter future

Just two weeks after first being transplanted into Fearing, the kidney was removed and given to 67-year-old surgeon and father of five, Erwin Gomez.

Gomez had been diagnosed with end stage kidney disease a year earlier. While he had been on dialysis to treat the condition, his health was still deteriorating. He decided to consult with physicians at Northwestern to be considered for a kidney transplant, and to his surprise, they approached him with a novel idea.

"This was a chance for me to get a kidney early," Gomez said. "I was one of three people who were good matches to the kidney. Dr. Gollam explained to me that the kidney was not a ‘perfect’ kidney and that it had been transplanted into a person and had been damaged by circulating antibodies. But he explained to me that the problems were reversible. I discussed this and with some hesitation, we considered it."

Just 24 hours after surgery, the kidney regained full basic function within Gomez. A week later, the damage caused by the FSGS in Fearing’s body had been completely reversed.

Now, almost a year later, Gomez is back to his old self.

"I gained back my weight and my strength, and I’m thinking of going back to work," Gomez said. "I cannot express my gratitude enough to Dr. Gallon and to Ray."

Meanwhile Fearing is back on dialysis to control his FSGS. Once his disease becomes less aggressive, Gollan and Fearing are determined to transplant him again.

"I’m very hopeful now," Fearing said. "And it’s much easier for me now knowing I was able to help someone else. Plus they have a better understanding of my disease now and how this transplant of organs works from person to person. It could very well change people’s experience in the future."