

# Dual Kidney Transplantation Surgery with Double Difficulty

By Chung Huai-Hsuan

Mr. Hsu, a 63-year-old renal patient, has been receiving dialysis treatment including peritoneal and hemodialysis for almost two decades. In June of 2022, he underwent dual kidney transplantation (DKT) surgery at Hualien Tzu Chi Hospital. After the procedure, Mr. Hsu, who gained a new lease of life through this surgery, made the following statement: "I am deeply grateful to the organ donors. They are the true heroes and bodhisattvas who sacrifice themselves to save others." This was the first surgery of this kind performed in eastern Taiwan. The two kidneys of the donor had to be transplanted simultaneously into the recipient's body. Dr. Chen Yen-Cheng, Director of the Hualien Tzu Chi Hospital Organ Transplantation Center, points out that DKT surgery is twice as time-consuming as regular unilateral renal transplantations and the wound is much larger. This represents a daunting challenge for the surgery team and the organ recipient.

Due to the advanced age of the



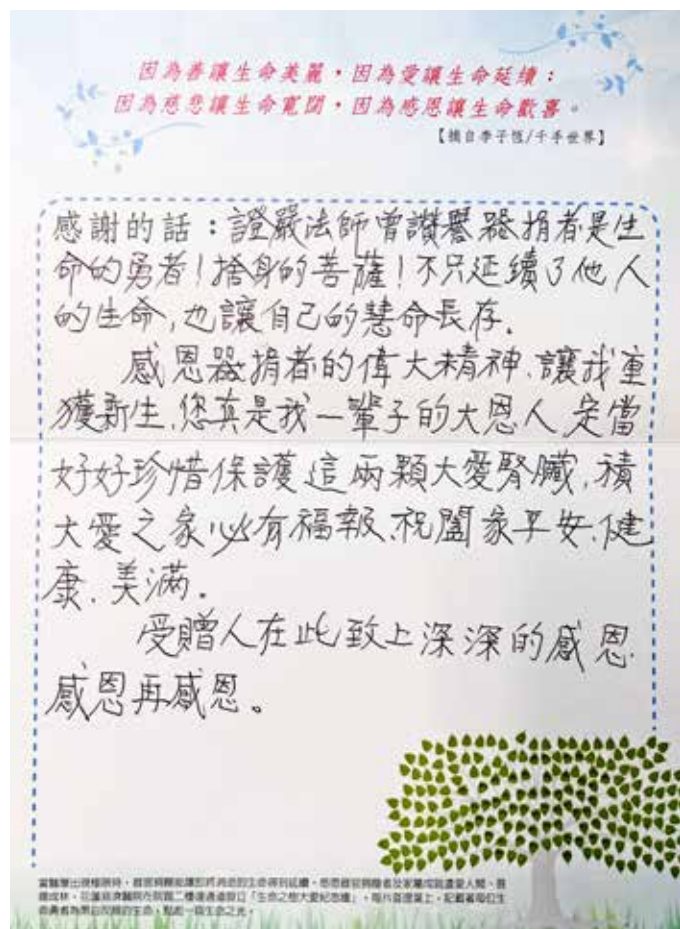
**Hualien Tzu Chi Hospital successfully performed the first dual kidney transplantation surgery in eastern Taiwan. The challenges associated with the twofold risk and complexity of this surgery were overcome through a concerted effort by a cross-departmental team composed of members of the general surgery, anesthesia, nursing, and administrative teams. The two kidneys of the organ donor were simultaneously transplanted into the recipient's body.**

donor, the renal functions had already degenerated to a certain extent. Even the transplantation of one such kidney can seriously affect the normal body functions of the donor and the likelihood of delayed recovery of renal functions is quite high. Simultaneously, long-term functionality of the kidney can be impaired. Patients ranked higher on the waiting list all chose to pass on this opportunity after discussions with the medical team. In consideration of the fact that the patient had already been waiting for a donor kidney for more than ten years and it was unclear how much longer he would have to wait if he let this opportunity slip away, Director Chen proposed dual kidney transplantation provided that no matching donor could be found in another hospital. The medical team and Mr. Hsu therefore decided to take on the challenge of transplanting both kidneys simultaneously into the recipient's body.

“If one is not enough, let's use both!” Generally speaking, single-kidney transplantation (SKT) surgery takes around three hours. Dual-kidney transplantation, on the other hand, requires repeated organ extraction and implantation and is therefore twice as difficult, complex, and risky as SKT. It also takes twice as long (6 hours). During surgery, Dir. Chen Yen-Cheng and his medical team had to join the left and right renal arteries and veins with the iliac arteries and veins

(anastomosis has to be performed in four locations). After that, the ureters had to be sown into the bladder to ensure unobstructed drainage of urine. Finally, both donor kidneys were implanted into the recipient's body.

In addition to the length of the procedure, the location of the surgery is also completely different, which contributes to its difficulty. SKT only



**After gaining a new lease of life, Mr. Hsu personally writes a Thank-You-Letter to the family of the donor.**

requires one incision on the side where the kidney is inserted. DKT, on the other hand, requires surgical opening of the abdominal cavity, which causes a larger wound and longer convalescence period. The successful completion of this surgery required a concerted effort by over 15 team members including three attending general surgeons (Director Chen Yen-Cheng, Ho Ching-Chun, and Yang Hsiao-Hui) and three residents, members of the anesthesia team and the operating room nursing team as well as the transplantation coordinator RN and the social worker.

The recipient's renal malfunctions were detected accidentally during an

employee health exam 20 years ago. The doctor determined that Mr. Hsu needed dialysis treatment. Mr. Hsu recalls that "I neglected my health issues since I worked irregular hours due to shift work and I thought I was still young. When the results of the health exam came out, I knew it was already too late." He remembers that the dietary restrictions and precautions were the hardest part of the treatment in the early stages. Every time he waited for the results of his blood tests conducted by the hospital, he felt anxious and uneasy. He was constantly concerned that his renal condition couldn't be controlled. Due to the fact that he had to keep working



**Director Chen Yen-Cheng (center) and the medical team of the Hualian Tzu Chi Hospital Organ Transplantation and Donation Center are deeply committed to saving lives, preserving the compassion shown by the donors, and benefiting a rising number of patients in need of transplants.**

in the daytime prior to his retirement, he could only undergo dialysis treatment in the hospital in the evenings after work. The maintenance of his renal functions was a herculean task requiring a lot of time and effort. This whole process was extremely tiring and exhausting for him and the whole family.

Since he was diagnosed with severe kidney damage, Mr. Hsu has not only undergone ongoing dialysis treatment but has also been one of the patients on the waiting list for organ donations. Owing to the fact that this list is very long, he had been waiting for over ten years when he finally got his chance several years ago. He had already changed into the hospital gown and was lying on the bed in the hospital to get ready for surgery when he was told that the transplantation could not be performed since the donated organ was infected. Although he was extremely disappointed, he tried to stay optimistic: "I told myself to keep a calm mind, harbor good thoughts, and refrain from thinking too much. I knew my opportunity would come.

A few months ago, he was finally notified of a match by the organ donation center. He decided to undergo kidney transplantation surgery which was successfully performed with great professionalism and caution by the Hualien Tzu Chi Hospital transplantation team. Post-surgery recovery has been excellent, and the patient has already been

discharged from the hospital. Mrs. Hsu still recalls the moment her husband regained the ability to urinate independently after the surgery. Although he didn't say much, the smile on his face revealed his true feelings. Since she had been at his side over all those years, she knew what he had gone through. She was therefore deeply grateful for the selfless compassion of the donor and the dedication of the medical team. The two kidneys sacrificed so selflessly by the donor are doing their work diligently in her husband's body. The fact that he hadn't used his bladder in a long time resulted in frequent urination after the surgery. He shares with a smile that he has been earnestly training his bladder recently in a determined effort to gradually restore the ability of his bladder to store urine.

Mr. Hsu states that he is "extremely grateful to the donor and his family and will cherish these two kidneys given to him in an act of selfless compassion." He is steadfastly determined to persist in his efforts to take care of his health and maintain his physical well-being through strict dietary controls and moderate exercise, even after the successful surgery. He also wishes the donor's family good health and peace of mind. He is fully aware that words are not enough to express his gratitude for the two fully functional kidneys of another person in his body. "I must prove that I'm worthy of this selfless sacrifice through concrete action."