



New Heart New Life

By Tsao Yun-Chi



Mr. Chang was the 18th case of heart transplant in Taipei Tzu Chi Hospital. On October 15th, 2021, he was discharged from the hospital and accompanied by Supt. Chao You-Chen and the medical team.

Mr. Chang suffered from shock and was immediately taken to the Taipei Tzu Chi Hospital for emergency care. He had out-of-hospital cardiac arrest (OHCA), and emergency teams performed extracorporeal cardiopulmonary resuscitation (ECPR, aka ECMO+CPR) on him. While receiving quality CPR, the extracorporeal membrane oxygenation (ECMO) was also applied to Mr. Chang. Even after a successful operation to resuscitate him, the treatment continued. The emergency team set out to uncover the real cause for his shock.

After an examination of his cardiac catheterization, Mr. Chang was diagnosed and it was detected that three arteries were blocked. The anterior descending branch and the circumflex branch of the left circumflex artery (LCX) were blocked completely. The right coronary arteries were intact, but there were a few blockages as well. Images of blood vessels looked like a string of sausages. The cardiovascular team strived to successfully insert stents to open up the right coronary artery. Despite this, his heart functions remained at just about 15% of normal. His recovery was not satisfactory.

He recovered from the shock and showed no intra-cerebral hemorrhage (internal bleeding inside the brain). The ventricular assist device (VAD) was fitted to prepare for a heart transplant.

After 30 minutes of emergency care, Mr. Chang finally regained consciousness and opened his eyes. His life was saved. The medical team faced a more difficult challenge. He was conscious with eyes opened, but his limbs were numb. How and where could they go from this point?

The head of the cardiovascular surgery department, director Shen Ta-Chung, made the following statements: "The cerebrum could undergo only four minutes without oxygen. Here is the worst-case scenario. In emergency care, if we can recover the heart, but the cerebrum is permanently damaged due to insufficient supply of blood, then the patient would be in a persistent vegetative state (PVS). In the case of Mr. Chang, he became conscious and responsive right after the emergency treatment. But he could not move his limbs. This scenario had never happened before." After a series of examinations, it was confirmed that there was no internal bleeding inside the brain. The chance of him experiencing a wide-area stroke was not likely. We speculated that it was caused by the lack of blood supply temporarily. After a discussion with his family members, the medical team decided to install a temporary ventricular assist device (VAD). This device sustained the heart functions so that a heart transplant would be possible later.

Mr. Chang could only control and move his head. This disqualified him as a candidate for a heart transplant. The rehabilitation team kept on working. They showed abundant love and care to Mr. Chang. First, he endured a series of muscle exercises, including stretching and warming up. His rehabilitation was fully assisted by the team. Gradually, his intensity increased on the upper limb drillings. Mr. Chang cooperated fully with his rehabilitation and made amazing progress. He had numb limbs. But now



he could walk with the help of a four-legged cane. In the end, he was qualified to receive a heart transplant.

During this difficult period, Mrs. Chang quit her job and became a delivery worker in order to look after her husband. Faced with both fatigue and worry, she still was able to keep her composure. To all medical personnel, she always was polite and modest. She thanked the medical team from Taipei Tzu Chi Hospital. They rescued her husband's life. In addition, she thanked



He was unable to move about from the head down. Later, he could walk with the help of a four-legged cane. Mr. Chang was accompanied by rehab team and his family members. His hard work in rehabilitation paid off eventually. He qualified to be a recipient for a heart transplant.

the follow-up team for the continuing treatment and rehabilitation. They never gave up on saving her husband.

On the Wedding Anniversary, the Selfless Contribution from the One with a Wealth of Compassion

It took almost six months for Mr. Chang to rehab and wait patiently. Finally, great news came. A compassionate elder, who signed up before his passing, wished to donate his heart. There was no



compatibility issue between his heart and Mr. Chang's. This news was announced on the wedding anniversary of Mr. & Mrs. Chang. Mrs. Chang kept saying that it was the best gift from heaven. She expressed gratitude and blessing for the donor.

After all transplant requirements were satisfied, the organ donation team began preparations. The task of the heart transplant was divided into two squads. Since Mr. Chang already had open-heart surgery, he had a significant showing of tissue adhesion. One squad was headed by Director Shen. They stayed at the hospital to remove Mr. Chang's VAD and clean his tissue adhesion. The other squad followed Dr. Hsu Chan-Yang. They took the high-speed railway to procure the new heart for Mr. Chang.

There Began a Race against Time to Acquire the Heart and the Transplant

At long last, heart beats could be heard again.

Three hours later, Director Shen Ta-Chung was still vigorously engaged in removing tissue adhesion. Simultaneously, the process of acquiring the heart donated to the hospital was underway. At that time, the number of available trains had been reduced due to COVID-19 pandemic. Therefore, the

team could not get on the high-speed railway to return to the hospital. That was distressing and time wasn't on their side. The squad finally got on the train to Taichung (midway to Taipei). The organ transplant coordinator RN Yu Tsui-Tsui arranged for an ambulance van to meet the squad at Taichung train station. The ambulance van then hurried back to Taipei Tzu Chi Hospital.

At the same time that the squad of Director Shen was diligently cleaning up the tissue adhesion, the squad led by Dr. Hsu arrived. They carefully extracted the donated heart and placed it on the operating table. Team members cooperated in sync to carry out this mission. The transplant surgery was about to enter its critical stage.

When the first rays of morning sun come into sight, fog disappears gradually. After twelve hours of painstaking surgery, the medical team finally declared the surgery to be successful. Mr. Chang received a new heart and consequently, a new lease on life. Outside of the surgery room, Mrs. Chang turned tears into smiling after hours of waiting.

Gather Love from All, Strive to Recuperate and Let Love Spread

One week after the surgery, Mr. Chang went back for the follow-up. His heart functions recovered to nearly 60%

of normal. A biopsy was done and he started the rehabilitation.

The road to recovery was grueling for Mr. Chang. With help from the medical team and the support from his family members, he began his rehab with gratitude. He rigorously worked on his muscle endurance improvement drills that included towel exercises, leg lifts and so on.

Reflecting back on the entire rehab process, Mr. Chang said this: "It was trial and tribulation. I gritted my teeth and held on despite the hardship. I wanted to be renascent. I wanted to start my life anew. I wanted to go for it because everyone was cheering me up and was supportive."

On October 15th, 2021, Mr. Chang was discharged from the hospital. The superintendent of the hospital Chao You-Chen, medical teams, psychiatrists and social workers got together and held a warm party for him. They wished him a happy and healthy life. Supt. Chao commented, "After staying at the hospital for a span of two hundreds and five days, now is the time to discharge. It's not easy to be able to revive again. It took the love and care from many people in the process. The weather is chilly now. So we have a warm jacket for you. It comes with all our love when you wear it." Supt. Chao encouraged Mr. Chang

to keep on fighting and rehabbing. When you recuperate, then you can pass on your love and affection to others. Be a Good Samaritan and do things to benefit all sentient beings.

Mr. Chang replied, “Yes, I will become a Tzu Chi volunteer after recovery! Even though I have been in the hospital for a while, but I am not alone. Because I feel that I am a part of a large family. The staff here gives painstaking attention to service combined with enthusiasm to care for patients. I truly appreciate that you gave me this opportunity to revive. Though the road

to recovery is rough and bumpy, but in the end, it will be worthwhile.” Mr. Chang and the family acknowledged the staff with flower basket and snacks. They expressed appreciation to the medical teams for saving his life and staying with him to the end.

After enduring this ordeal, Mr. Chang has a new outlook on the life ahead of him. He is filled with gratitude for the opportunity to start with a clean slate. After his recuperation, not only will he become a vegetarian, also he vows to join Tzu Chi and spread the love indefinitely.



The head of cardiovascular surgery department, Director Shen Ta-Chung, came to look after Mr. Chang at the ICU. He encouraged Mr. Chang to keep on rehabbing.