

Miraculously Saving a Ruptured Heart

By Tseng Tsiu-Ying

A part-time delivery man collided with a truck late at night, and was seriously injured and sent to Taichung Tzu Chi Hospital. During the rescue process, it was found that the patient's heart ruptured and extremely critical. The medical team mobilized resources from five departments. Director Hsieh Shih-Rong of the Cardiovascular Center, with his many years of experience and judgement, adopted a coordinated approach using extracorporeal circulation machine to rhythmically drain blood, stitching of the heart, and the return oxygenated blood. It took at least half-an-hour for five stitches suture. After the patient recovered, he said gratefully, "My life is saved by a strong team at the Tzu Chi Hospital!"

Taking no credit for the operation, Director Hsieh Shih-Rong said: "In my many years of medical career, I have never encountered a patient with an accidental heart rupture who could be sent to the hospital and could be



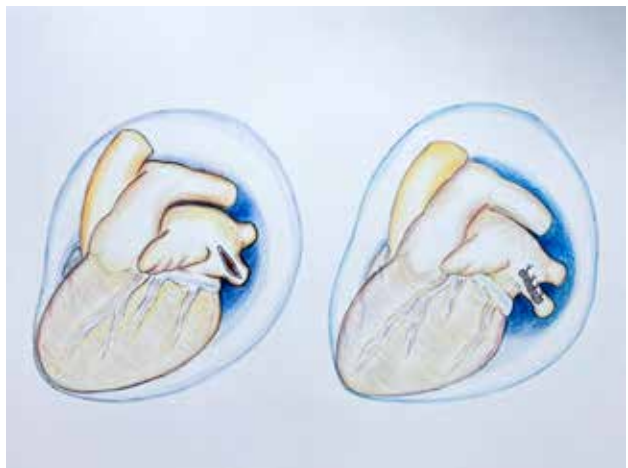
The acute and critical care team of Taichung Tzu Chi Hospital urgently rescues a patient with a ruptured heart in the operating room.



Director Hsieh Shih-Rong (left) sent Mr. Zhong hand-painted color pictures of the heart before and after cardiac surgery.

rescued by surgery. Most of the patients with heart rupture lost too much blood and died at the scene. Zhong was saved by his own blood clot that gave valuable life-saving time for our medical team!”

A 35-year-old delivery man named Zhong was seriously injured in a car accident and was sent to the emergency department of Taichung Tzu Chi Hospital late one night. An examination found that



the patient had eight rib fractures on the left side and severe hemothorax, lung contusion, spleen rupture, pelvic fracture and pelvic hemorrhage. More than 1,000 milliliters blood were drained urgently, but bleeding continued. Due to unstable blood pressure, patient was rushed to the operating room. Patient cried out in pain along the way and went into septic shock unexpectedly. Thoracic surgeon Ke Chih-Lin and others convened for the rescue. Fortunately, the heartbeat and blood pressure recovered and the patient underwent thoracoscopic surgery.

During a thoracoscopy, Dr. Ke found that the main bleeding area was not near fracture chest wall, but a ruptured pericardium with blood oozing out intermittently. He suspected it was the rupture of the heart and/or a large blood vessel inside the pericardium. But strangely, the computed tomography taken in the emergency room before surgery showed absolutely no evidence of hemorrhage of a large blood vessel.

Director Hsieh Shih-Ron received an emergency call in the middle of the night and rushed to the operating room. After careful examination, it was confirmed that the heart ruptured. The bleeding area was two-finger wide behind where the pulmonary vessels and the heart merge. Director Hsieh found a hole was

covered by a ten-millimeter-sized blood clot, which just covered the hole so that the blood would not flow out in large quantities. More amazingly, there was also a crack outside the pericardium, allowing blood to seep out and form a delicate balance to prevent cardiac tamponade which could disable the function of the heart.

While witnessing the miracle of life, the biggest difficulty was to find a way to safely repair the hole in the heart. Director Hsieh decided in the shortest possible time to protect the brain, as well as other bleeding areas such as the spleen and pelvis. He used an extracorporeal circulation machine to drain most of the patient's blood to facilitate sutures. On the other hand, the need to add anticoagulant to the machine may exacerbate bleeding in the spleen and pelvis, increasing the risk of blood loss.

Firstly, Director Hsieh emptied some blood to the machine, taking advantage at the moment of pressure drop, he immediately stitched once with a needle, then pressed on the hole with his hand while starting the circulation of oxygenated blood back to the body. In close coordination with the circulation technician, it took him a few minutes for each suture back and forth. Director

Hsieh and the team patiently waited for the timing of each stitch, and made five stitches in total, but it took more than half-an-hour. After the heart was sutured, the medical team performed a whole-body scan, and a relay team to continuous imaging for bleeding in the spleen and pelvis areas.

After the operation, the intensive care unit and the general ward team took over the care relay. Zhong recovered

and was discharged after 26 days at the hospital. After a near-death catastrophe, he thanked the medical and nursing team for saving his life, and specially told the nurse who persuaded him to quit smoking that he did it! More importantly, he felt the pain and decided to end his slaughtering business. Tzu Chi volunteers also encouraged him to try vegetarian food and start a new life.



The patient Mr. Zhong's heart ruptured and extremely critical, Director Hsieh Shih-Rong of the Cardiovascular Center, Taichung Tzu Chi Hospital is the key person of saving Zhong's life.