

HEALTH Link

WHAT'S NEW IN MEDICINE AND HOW YOU CAN STAY WELL



SURGICAL STRIDES

Beating the odds to save a life

HOW HOSPITAL PROFESSIONALS WORKED TOGETHER TO ACHIEVE A “MIRACLE”

Every so often a medical case tests even a top health care institution to the limit. That’s what happened October 6, when several doctors at Monmouth Medical Center saved the life of a 65-year-old woman who had suffered a tracheo-innominate artery (T-I) fistula. The story isn’t for the squeamish, but it’s a dramatic example of how surgeons from different disciplines reacted quickly and in concert to achieve success—against long odds.

A fistula is an abnormal opening between two internal organs or between an internal organ and the body’s surface. For some time, the woman, hospitalized at Monmouth for advanced lung disease, had a tracheostomy—a procedure in which a tube had been inserted through a hole in the neck into her trachea, or windpipe, to aid breathing. Her trachea was unusually curved, and as a result the tube had opened a fistula between the trachea and the innominate artery, a very large blood vessel under the sternum.

T-I fistulas are so rare that head and neck surgeon Vin Prabhat, M.D., who was on call that day, had seen only two in 20 years of practice. The condition carries a 95 percent chance of mortality. “Bleeding can come on so fast the patient bleeds to death, or the blood can fill the trachea and flow into the lungs, causing suffocation,” the doctor explains.

It was a Saturday, and Dr. Prabhat was picking apples with his children when his cell phone rang at about 3 p.m. A nurse was on the line, and she told him she was removing blood from the woman’s tracheostomy tube. It’s common for small amounts of blood to appear in the tube, says Dr. Prabhat. “But this was different. She told me, ‘I’ve never seen so much blood.’ From the urgency of the nurse’s voice, I knew this was probably a T-I.”

Dr. Prabhat asked the nurse to “call a code”—that is, start the hospital’s emergency response system for life-threatening situations. The code team mem-



bers—surgeons, residents, anesthesiologists and nursing staff—dropped what they were doing and rushed to the patient’s aid. Dr. Prabhat then called Cherif N. Boutros, M.D., chief resident of surgery, and asked him to send the on-call surgery resident to the patient’s room. “Have him call me on my cell phone as soon as he gets to the bedside,” he said.

As Dr. Prabhat raced to the hospital, the resident called to confirm that they were looking at a probable T-I fistula and that the patient had already lost several units of blood. Knowing that a tracheal tube has an external cuff that can be filled with air or liquid to create pressure against the trachea, Dr. Prabhat asked the resident to overinflate the cuff to put pressure on the bleeding artery and hold it in place to staunch the flow of blood.

About 15 minutes after leaving the apple orchard, Dr. Prabhat arrived at the hospital. At the patient’s bed, he deflated the trachea cuff and inserted a scope to see the source of the bleeding. The rapid gush made it clear that this was indeed a T-I fistula. He reinflated the cuff and took over from the resident in holding it in place.

Throughout this ordeal, the patient remained awake and alert. She knew she was in serious danger. “Usually when something like this happens, it’s in an intensive care unit and the person is sedated or unresponsive,” says Dr. Prabhat. “But this woman was feeling everything, responding to our gestures and expressions, and she could see the blood coming out of her tube.”

Dr. Prabhat then phoned his partner, otolaryngologist Darsit K. Shah, M.D., and thoracic surgeon Lourens J. Willekes II, M.D.—though neither was on call that day. “I knew we’d need more hands to start the next step,” he says.

They came to help as quickly as they could. And Dr. Shah in turn called Peter Park, M.D., interventional radiologist, and George Constantinopoulos, M.D., vascular surgeon. “Within about 40 minutes on

a Saturday, we had five surgeons come in on their day off,” Dr. Prabhat recalls.

All this time, Dr. Prabhat was holding the trachea tube in place with his own hands. “I couldn’t let go or the bleeding would start again, and we couldn’t fix the tube in place without relieving some of the pressure,” he explains. He had to climb onto the patient’s bed in order to maintain the tube’s position. And he stayed on the bed while the nursing staff helped move it into the operating room, unable to transfer the patient to a smaller surgical bed, which is the usual procedure.

In the OR, the surgical team agreed that their best course was to thread a special stent into the artery to close the wound and stop the bleeding. They discussed their plans—and the odds facing them—with the patient and her family members, who had by now arrived at the hospital. Meanwhile, the OR staff scrambled to get all the proper equipment in place.

The team went to work. Once the patient was under general anesthesia, Dr. Willekes placed an arterial line, a small catheter used in intensive care situations to monitor blood pressure and blood gases in real time. Dr. Constantinopoulos and Dr. Park opened the right carotid artery in the neck and sent in a scope and guide wire to find the point of bleeding. All the while, Dr. Prabhat continued to apply pressure to the bleeding site. “I held the trach tube in place for about three hours,” he says.

Dr. Constantinopoulos then threaded the stent into the bleeding site—the pivotal moment of this lifesaving intervention. Using scopes and an angiogram, the team confirmed that the stent had been successful. They had stopped the bleeding.

The patient was taken to the ICU. Tests showed her blood was pulsing normally to her extremities. “We kept a very close eye on her,” Dr. Prabhat says. “The next day she was awake, alert and grateful. She acted almost as if nothing had happened. It was really incredible.”

The woman still has advanced lung disease, but is out of immediate danger. “The fact that she is alive today is due to the combined efforts of an entire hospital,” says Dr. Prabhat.

“I couldn’t be prouder of the team of physicians, specialists, nurses and technicians who gave freely of their time and expertise,” he adds. “A case like this makes you realize how wonderful a facility Monmouth Medical Center is.” ■