HOUSTON

Dying liver cancer patient first in Houston to have life-saving transplant using experimental procedure

By Mike Hixenbaugh | December 13, 2016 | Updated: December 13, 2016 6:32pm

2

The doctor at MD Anderson Cancer Center had told Randy Smith to get his affairs in order: The cancer in his liver was too pervasive, Smith recalls him saying. He probably wouldn't survive much longer than a year.

That night he lay awake in bed and prayed: "God, I'm ready to die," he remembers thinking, "but my wife and son are not ready to handle life without me. I want to live."

A year later, in August, his prayer was answered.

Photo: Marie D. De Jesus, Houston Chronicle

IMAGE 1 OF 2
Randy Smith, 65, fills up his pill organizer at his home in Houston, Friday, Dec. 2, 2016. Smith who received a liver during a transplant that took place in August, takes about 16 pills a day. Smith is one of ... more

Smith, 65, received a transplant at Houston Methodist Hospital as part of a nationwide clinical trial. The replacement liver didn't come to Smith packed in ice, as typical, but instead inside a new machine that keeps the liver warm and pumping with oxygenated blood and antibiotics during transport, cleansing it of toxins and possibly making a marginal, fatty liver safe for transplant.

"This thing may have saved my life," Smith said at his home in Houston, a few months after recovering from the August surgery.

His transplant operation, the first of its kind in Houston, was one of just eight nationwide testing the safety of transporting livers inside the Portable Organ Care System. The

device, developed by the Massachusetts-based TransMedics company, has already been proven safe in clinical trials for use with hearts and lungs and is awaiting approval by the Food and Drug Administration for commercial use.

The system is the size of a beverage cart, small enough to be flown to wherever an organ is being harvested. The liver goes inside a heated plastic box attached to the device, where blood and nutrients are pumped into the organ, bringing it to life by simulating the environment inside the body. Sensors attached to the liver relay information to doctors about how well it's functioning.

That last part is key, said Dr. Ashish Saharia, the Methodist transplant surgeon who did Smith's operation. Livers are considered perhaps the riskiest of organs to transplant, he said, because they often come to surgeons too fatty, making them prone to failure.

When a marginal liver arrives on ice, there's no way of knowing how a patient's body will respond, he said, putting them at risk of post-surgery complications. Deciding which livers are good enough is often a gut call for surgeons.

"We're in this gray zone, and you have to go with your best estimate," Saharia said. "Afterward, you have a five- or seven-day window, and by then the liver should be able to support you. And if it does not, if you were wrong, the patient will die."

When Smith's liver arrived inside the portable organ system, the Houston surgeon was confident it would work. He could look through glass and see the liver had "a good color" while immersed in warm fluids. After a few hours in the system, it was already producing bile, a good sign.

"With the machine, my best guess is now much better," Saharia said. "That's the immediate benefit."

What's not yet known, and what researchers hope to study next, is whether the device can deliver on its promise to cleanse and revive marginal organs, potentially expanding the number available for transplant.

About 31,000 organs were transplanted in the U.S. last year, including more than 7,000 livers. But the gap between demand and supply has grown over the years, leaving thousands of people on waiting lists. Roughly 21 people die every day waiting for transplants.

Kevin Myer, president of LifeGift, the Houston area's organ procurement organization, said the TransMedics system and others like it have great potential.

"It's another way to use organs that otherwise might be discarded," Myer said. "If it's your loved one waiting or you're waiting for a transplant, and there's an opportunity through this technology to help get that organ transplanted ... that's a great thing."

Smith's liver problems started 16 years ago when he was first diagnosed with liver disease. He didn't have symptoms, so he did nothing. He became ill a couple years ago and finally went to a specialist. An MRI revealed three cancerous lesions. Next came the grim prognosis from his first oncologist.

At Methodist, he qualified as a transplant recipient and signed up for the clinical trial. He could have received a liver on ice as part of a control group or through the experimental procedure that uses the organ care system. He was randomly selected for the latter.

He awoke from the operation on Aug. 6 full of hope. Months later, his new liver is functioning well, he said, with no signs of complications. He'd prayed for a miracle, and he believes his doctors - and the new device - delivered it.

"It's not just a coincidence to me."

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Reporter

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