



Cancer patient Nayda Pintado underwent a groundbreaking robotic procedure. "I'm in the hands of wonderful doctors," she said.

Donna Victor

TINY TOOLS, TOP TECHNOLOGY

Doctors expand use of robot in minimally invasive cancer procedures

By Patty Shillington

Fighting cancer with the help of a robot may sound like the stuff of science fiction. But, in fact, it's part of some minimally invasive cancer treatments pioneered by Baptist Health specialists — even before Miami Cancer Institute opens its doors on the Baptist Hospital campus.

"It's been a great opportunity for me and everybody who can take advantage of it after me, definitely," said Nayda Pintado, 54, a cancer patient

who underwent the first robotic procedure of its type in the world, performed by interventional radiologist Ripal Gandhi, M.D.

Such pioneering procedures are part of the growing field of interventional oncology, which brings together cancer specialists, radiation oncologists, surgeons and interventional radiologists to give patients the benefits of sophisticated, multidisciplinary care. The treatments often are an option to improve survival and extend quality of life for people with inoperable cancer or stage 4 cancer that has spread to other organs. In some cases, the cancer treatments can be curative.



In addition to the interventional approach, Baptist Health's Center for Robotic Surgery uses the da Vinci System to surgically treat gynecologic, prostate, lung, colorectal and other cancers. Visit BaptistHealth.net/RoboticSurgery.

These endovascular procedures at Miami Cardiac & Vascular Institute deliver chemotherapy and radiation and cut off a tumor's blood supply by guiding a tiny tube, called a catheter, through the patient's blood vessels directly to the cancer site in the liver, kidney or other organs.

Dr. Gandhi has performed some of the world's first endovascular robotic cancer procedures, including a robotic radioembolization for primary liver cancer last year. In 2012, Institute doctors also were the first to use the robotic catheter in a tumor embolization, a procedure that cuts off the tumor's blood supply.

In February, Dr. Gandhi performed the first chemoembolization, and then the first radioembolization, using a newly FDA-approved robotic eKit, which enables robotic control of microcatheters. A microcatheter fits inside the already tiny robotic catheter.

"You can't get into the smaller arteries with the larger robotic catheters," said Dr. Gandhi, an associate professor at Florida International University's Herbert Wertheim College of Medicine. "Now, with the microcatheter driver, you can drive the smaller microcatheter exactly where you want it to be and then deliver the therapy."

Ms. Pintado was the patient in Dr. Gandhi's first radioembolization that included robotic control of the microcatheter. "The procedure went very well and I recovered very fast and had no pain," she said.

In late 2013, Ms. Pintado was diagnosed with stage 4 breast cancer that already had spread to her liver. Her treatment included a double mastectomy, chemotherapy and radiation, as well as an operation to remove 40 percent of her liver. When the cancer came back, she was sent to Dr. Gandhi, who performed both chemoembolization and radioembolization to treat the metastatic lesions in her liver.

"Baptist Hospital has been a great blessing for me," Ms. Pintado said. "I'm in the hands of wonderful doctors."

Miami Cardiac & Vascular Institute is one of fewer than 10 facilities in the United States equipped

with the Magellan Robotic System for endovascular procedures. Using the robot requires a great deal of technical proficiency. Sitting at a remote workstation, the doctor controls the delicate movements of the catheter inside the blood vessel.

The robotic catheter and microcatheters are designed to allow greater precision, control, stability and flexibility than the hand alone. "The robot lets you be creative," Dr. Gandhi said. "You can adjust the robotic catheter to any angle and in every projection you want, which is certainly an advantage.

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