Two neurointerventional radiologists join Scripps’ hospitals to combat strokes and aneurysms with X-ray-guided surgery

By Arthur Lightbourn

They’re called neurointerventional radiologists. There are fewer than a dozen of them in San Diego County.

If you suffer a stroke, hopefully, within three hours of your first symptoms, you will be rushed, (and “rushed” is the operative word) to one of the county’s 15 designated stroke centers and a neurointerventional radiologist will be available to perform an X-ray-guided, minimally invasive procedure to search for and destroy the offending blood clot before it causes even more damage.

Case in point: On July 17, an 18-year-old recent grad of Westview High was driving with her boyfriend from her home in Rancho Penasquitos to La Jolla for a relaxing day at the beach before starting college on a relaxing day at the beach. Suddenly, without warning, a blood clot lodged in the girl’s brain. She was in the process of suffering a massive stroke.

She lost control of her car and as the vehicle veered off the road into the Parkway median, her car and as the vehicle veered off the road into the Parkway median, her car and as the vehicle veered off the road into the Parkway median, her car and as the vehicle veered off the road into the Parkway median, her brain. She was in the process of suffering a massive stroke.

Doctors have a three-hour window of opportunity after the first stroke symptoms to begin removal of a clot blocking the blood flow to the brain. Two million brain cells die every minute during a stroke, increasing the risk of permanent brain damage, disability or death.

With the clock ticking since the onset of the stroke almost four hours earlier, Ammirati was set to begin the procedure. “Maybe 2 percent of people who have a stroke actually receive that drug,” Ammirati’s colleague, Dr. Barr estimated, “because so few people make it into a hospital and get a CT scan and are ready to be treated within three hours.”

When the intravenous drug doesn’t work or doesn’t work fast enough, the neurointerventionists get to work with catheter-guided micro-catheters to the location of the blood clot.

Stroke is the third leading cause of death in the U.S., killing 144,000 people each year, and a leading cause of serious, long-term adult dis-ability. Thus, it’s a valid concern for the National Stroke Association.

We interviewed Dr. Ammirati and Barr, in the Schaeetzl Center medical library on the campus of Scripps La Jolla.

Both doctors have their specialty as: “X-ray-guided, inside-out neurosurgery…. It’s real surgery except it’s done through catheters.”

“The society we had for years was called the American Society of Interventional and Therapeutic Radiology. A few years ago, I was the president of that,” Barr said.

“Two years ago, we changed the name because there are now neurosurgeons that are trained to do this and a handful of neurologists who are trained to do this as well. So now we call this the Society of Neurointerventional Radiologists.”

The two docs deal mostly with strokes and aneurysms.

“An aneurysm,” Barr explained, “is a bubble on the blood vessel that doesn’t belong there and there are weak spots that can rupture.”

“So, people need to see us before they rupture, if we can find them. Other times, they rupture quickly and we do our best to help those patients, about a third of them, just die on the spot. But the others are very ill and, if they survive the bleed, once, there is a very high risk, they’ll bleed again; so the first thing to do is fix the aneurysm so it doesn’t bleed again.”

The choice is to fix the aneurysm by open surgery or by the less invasive neurointerven-tional surgery, using catheters to fill the aneurysm with coils and glue.

“A landmark study with over 2,000 patients provided very solid evidence that patients that are treated with coils should be treated with coils and the patients do significantly better than with open surgery,” Barr said.

Asked what distinguishes a good neurointerventionist, Barr said: “You need really good hand-eye coordination, every bit as much as in open surgery. You need to be able to think in three dimensions.

“One of my colleagues is a neurosurgeon, so he’s used to having his hands on things directly. And it’s hard for them to conceptualize that things are happening four and a half feet away at the end of the catheter.”

“I’ve been doing this for 16 years now,” he added.

Barr was born in Glasgow, Montana. His father was an Air Force career officer.

He earned his B.S. and M.D. degrees, and completed his residency in diagnostic radiology, from University of Virginia; followed by fellowships in vascular and interventional radiology, and diagnostic and interventional neuroradiology, at the University of Pittsburgh Medical Center.

He is a former assistant professor of radiology and surgery at Penn State University and staff physician with the Cleveland Clinic Foundation.

A local resident, Barr is divorced and father of two children.

“What drew him to medicine? “I think it’s endlessly fascinating and challenging,” he said. “And eventually to radiology, because every patient in the hospital gets some kind of imagining, so it’s like a central repository.”

At five-foot-eight, 145 pounds, Barr keeps in shape running. “I’ve done five marathons. I’ve done Big Sur four times. Actually, last night, in a fit of insanity, I signed up to do the 2010 Boston Marathon and seven days later the Big Sur.”

Dr. Ammirati was born in Naples, Italy. His father is a neurosurgeon.

Coming to the U.S. in 1998 when he was 25, he earned his B.S. and M.D. degrees at the University of California Irvine in 2002. He completed his internship at the Albert Einstein Medical Center, Philadelphia, Pa.; a residency in diagnostic radiology at Temple University Hospital, Philadelphia; and a fellowship in interventional neuroradiology at UCSD.

Also a local resident, Dr. Ammirati is married and is the father of two pre-school children. He keeps in shape jogging, playing soccer and practicing martial arts.

Both doctors are certified by the American Board of Radiology.