Nearly one percent of infants are born with a congenital heart defect in the United States and here in South Texas, the rate is even higher. Since the 1970s, surgical techniques to repair severe defects in babies and young children, including the use of infant cardiopulmonary bypass, have dramatically improved the survival into adulthood for these patients. Now, as they age, adults with congenital heart disease frequently develop risk factors for acquired heart disease, like high cholesterol, type 2 diabetes, high blood pressure, as well as other conditions associated with aging. These medical problems along with late complications from earlier surgeries add to the complexity of care needed for these challenging patients which can be daunting even for very experienced cardiologists.

“There is no other subspecialty in cardiology that is growing faster than the field of adults with congenital heart disease, and South Texas is a hot-spot with nearly twice the national average of patients requiring this kind of care,” says Dr. Fernando Triana, cardiologist and strategic advisor for cardiology at Methodist Healthcare System. “The problem in our community is that even with a large group of practicing cardiologists, the level of expertise to address this specific population has been limited.”

Until now.

Adult Congenital Heart Disease Cardiologist Dr. Pankaj Madan

Dr. Pankaj Madan, who is one of a handful of physicians in the US who have received formal training in adult congenital heart disease and is board certified in this specialty, joined Cardiology Clinic of San Antonio in May 2016 and the impact of his expertise was immediately recognized. Within a short time, Dr. Madan consulted on a number of cases, including a patient with a rare congenital abnormality who had developed serious complications that confounded even the most seasoned cardiologists in the practice. “What Dr. Madan’s expertise has revealed in us is a sense of vulnerability that I think is healthy. Even after 25 years of practicing cardiology, I still have so much to learn relating to the adult patient with congenital heart disease,” says Dr. Triana.
Optimal Management of ACHD Patients

The interest his colleagues expressed in learning more about adult congenital heart disease was welcome news to Dr. Pankaj Madan early in his tenure with the practice, as optimal management of these patients depends on collaboration with referring cardiologists in the majority of cases.

“For the least complex—and most common congenital defects, like atrial and ventricular septal defects (ASD and VSD), I might see the patient one time, make a plan for their referring cardiologist and see them again in three or four years to confirm rare complications aren’t developing,” says Dr. Madan.

“For moderately complex cases, I can follow the patient along with their regular adult cardiologist. We might alternate six-month appointments, and if things are going well, I might stretch it out as long as 24 months.”

“For the most complex cases, like patients with a single ventricle, I would fully assume their care. Adult and pediatric cardiologists are stretched to their limits caring for these patients, and what we really don’t want is to have them turn up in pediatric emergency rooms where they are not equipped to care for adult patients.”

Indeed, studies support that adults with CHD have better long-term survival and outcomes if they are seen at a specialized center headed by someone with Dr. Madan’s qualifications.

Pediatric Interventional Cardiologist Dr. Rolando Zamora-Salinas who performs minimally-invasive procedures on patients with congenital heart disease of all ages appreciates having Dr. Madan’s expertise available for his older patients with acquired heart disease and other medical conditions. “It’s a big advantage to have Dr. Madan here. After 28 years in practice, a great number of my outpatients—many of whom are now married with kids—have developed type 2 diabetes and hypertension and that’s outside of my expertise. Dr. Madan is board-certified in adult internal medicine, adult cardiology and adult congenital heart disease and it helps to have someone like him who is comfortable and qualified to manage adult patients,” says Dr. Zamora.

Pankaj Madan, MD
Adult Congenital Heart Disease
Cardiology Clinic of San Antonio
Methodist Heart Hospital

BOARD CERTIFICATIONS
Adult Congenital Heart Disease
Echocardiography
Cardiovascular Disease

FELLOWSHIP
Adult Congenital Heart Disease:
Mayo Clinic, Rochester, MN
Cardiovascular Disease:
University of Washington, Seattle, WA

RESIDENCY
Internal Medicine:
Baylor College of Medicine,
Houston, TX

MEDICAL SCHOOL
Bachelor of Medicine and
Bachelor of Surgery (MBBS):
All India Institute of Medical Sciences,
New Delhi, India
Salvador’s Story

During the first few years of his life, Salvador Garza spent more time in the hospital than at home. Born with a congenital heart condition called tetralogy of Fallot, he underwent his first open-heart surgery to repair the defects in 1974 at age four.

Twenty years later, Salvador required a second open-heart surgery to repair his leaking pulmonary valve. He recovered nicely and lived a “normal” life: he got married, had two children, and started a flooring installation business. Salvador developed type 2 diabetes and high blood pressure yet even with congenital heart disease, he proudly worked hard and played hard, too.

Five years ago, his normal life took a turn for the worse. Despite dramatic lifestyle changes to improve his health, potentially-fatal heart rhythm problems meant frequent trips to the emergency department and numerous hospital admissions. For Salvador, it was history repeating itself.

His cardiologists, running out of options, were frustrated: they had implanted a defibrillator, tried numerous medications, put Salvador on permanent disability and even suggested his arrhythmias were all in his head which took an emotional toll on Salvador as well.

As the population of adults with CHD continues to expand, there are not only an increasing number of patients who need longitudinal care, but also a larger group of older adults who present with unique needs that may not have been recognized previously. The progression of natural history of disease and childhood repairs and superimposed acquired heart disease offer new challenges for management, as well as opportunities to understand the evolution of many CHD lesions.

Discouraged but determined, Salvador sought a second opinion. In early 2016, he went online and saw that Cardiology Clinic of San Antonio had five-star ratings. He called and got an appointment with Cardiac Electrophysiologist Dr. Zalmen Blanck. The two instantly hit it off and Dr. Blanck started from scratch to investigate the cause of his arrhythmias. Still, Salvador ended up in Methodist Hospital several more times with dangerous heart rhythms. During a hospitalization around Memorial Day—as luck would have it—Dr. Pankaj Madan, who had just joined Cardiology Clinic as an adult congenital cardiologist, took on Salvador’s case.

After a thorough history, an extensive review of his medical records and new imaging studies, Dr. Madan discovered Salvador’s pulmonary valve was severely leaking and was likely causing the arrhythmias. This time, though—as luck would have it—instead of a third open-heart surgery to replace the leaky valve, there was a new, minimally-invasive option to implant a valve through a catheter requiring only small puncture in his groin!

As one of the first adults to be a candidate for this procedure at Methodist Heart Hospital, a campus of Methodist Hospital, Salvador took a leap of faith based on his experience with Dr. Blanck and Dr. Madan. “I’m gonna trust them. I trust them all. They dig and they dig. They do their homework. I made them work and they never gave up on me!” says Salvador.

Pediatric Interventional Cardiologist Dr. Rolando Zamora successfully performed the procedure and Salvador was released from the hospital about a day and a half later. Today, he’s feeling great, and is truly back to normal. He has also lost 45 pounds, is eating healthy, getting regular follow-ups and is grateful for the expertise and attention he received from his “Super Doctors” Dr. Blanck, Dr. Madan and Dr. Zamora. “Thanks to God—they were like angels who were sent to me for a reason—and got me going again!”

It probably happened about 10 or 12 years ago in the United States and elsewhere in the western world that there are now more adults than children with congenital heart disease because we’re getting them into adulthood. But this population has been neglected for a long time because no one knows how to care for them—they’re kind of in a no-man’s land. With Dr. Madan’s arrival, we can offer services that we couldn’t provide before in an organized fashion. He has done an exemplary job getting the word out by aggressively meeting with referring physicians and marketing himself in our community.

John Kupferschmid, MD
Congenital Heart Surgeon
Pediatric Specialists of Texas
Minimally-Invasive Transcatheter Pulmonary Valve Replacement

Advances in minimally-invasive technology to treat structural heart disease—like transcatheter aortic valve replacement—are also offering new options for adults with congenital heart disease and delaying additional open-heart surgeries.

When 46-year-old Salvador Garza, who was born with tetralogy of Fallot, faced a third surgery to replace his pulmonary valve, the opportunity to avoid getting his chest cracked open again was a very welcome relief. Dr. Rolando Zamora-Salinas is a pediatric interventional cardiologist with Pediatric Cardiology Associates of San Antonio who performs procedures on infants, children and adults with congenital heart disease. “Even if you were young when you had open-heart surgery, you remember waking up with tubes in your nose and chest and IVs in your arm. When you give someone the chance to get a new valve with no stitches and the next day their chest is clear, there are no drains, and the following day they can go home, it’s like night and day,” says Dr. Zamora. “This is an awesome technique especially for the younger and middle-aged adult who has been through the mill before!”

While not everyone is a candidate for the transcatheter valve replacement procedure, and the procedure doesn’t necessarily preclude surgery down the road, advances in devices and delivery systems offer tremendous hope for many adults with severe congenital heart defects and their complications.

Dr. Pankaj Madan is one of only a very few subspecialists with both the expertise and certification to enrich our system by caring for this population of patients. He has a level of skill not found within hundreds of miles, he trained at one of the leading centers for this subspecialty, and, in addition to the great reviews from his peers, no one is more excited than I am to have him in our community.

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