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Sidra Cardiologist Pioneers New Heart Valve Surgery in Qatar **Prof. Ziyad M. Hijazi evaluates Venus P-valve on patients born with congenital heart defects**

Doha, Qatar, 30 May 2017 – Every year more than 1.6 million babies are born globally with congenital heart defects (CHDs) – with figures indicating that mild types of CHDs are on the rise¹. There are over 130 types of CHDs, which include abnormalities in the heart's structure including valves, electrical system and other abnormalities that affect the function of the heart.

CHDs are also the most common type of birth defects and are a leading cause of birth defect-associated infant illness and death. About 25 per cent of babies with a CHD have a critical version of the disease². Infants with critical CHDs generally require open heart surgery or other invasive procedures within their first year of life. This is then followed up by other surgeries and procedures into adulthood – making it an extensive and expensive process.

One form of critical CHD, affecting approximately 100,000 babies world-wide each year³, are defective pulmonic valves. The only life-saving solution is for the babies to undergo surgical procedures for an artificial valve replacement. Traditionally, valve replacements are performed via open-heart surgery.

Thanks to advances in medical science, there are valves designed for infants and adults that can be inserted without open-heart surgery. However, only 20 per cent of patients with defective pulmonary valves, are able to benefit from this minimally invasive procedure. This leaves the majority of 80 per cent, still having to undergo open-heart surgery to get a valve replacement.

Prof. Ziyad M. Hijazi, Chair of the Department of Pediatrics and the Director of the Sidra Cardiac Program at Sidra Medical and Research Center (Sidra) recently performed and oversaw four pioneering surgeries on CHD patients in Qatar, with a new proprietary heart valve.

Prof. Hijazi is an interventional cardiologist who is a pioneer and specialist in treating congenital and structural heart disease in both children and adults. His major area of interest, is in the development of techniques, catheters, devices and valves to help treat or cure congenital and structural cardiac disease without open-heart surgery.

In his ongoing mission to implement minimally invasive procedures for CHD patients and to drive forward Sidra's clinical research agenda, Prof. Hijazi has been the Global Principal Investigator (PI) for a consortium of international cardiac interventionists to evaluate a new heart valve – the Venus P-valve. The valve, manufactured by Venus Medtech (Hangzhou) Inc. is seeking to address the needs of a large majority of CHD patients who are unable to benefit from existing minimally-invasive valve implantations and have to undergo open-heart surgery.

Prof. Hijazi, the Global PI and expert in implanting the Venus P-Valve, said, "Clinical research is a key part of our remit at Sidra. As surgeons and physicians we are committed to ensuring that we never stop researching new treatment and technologies that can save lives and ease the care and treatment of our patients."

“The Venus P-valve implantations were a truly pioneering procedure for CHD patients in Qatar. This is the first time that the implantation with the valve has been done in the country after successful evaluations in other parts of the world. More than 100 patients world-wide have benefited from the implantation. Thanks to the foresight and vision to support advancement in healthcare, the Ministry of Public Health in Qatar granted Sidra the rights to bring this innovation to Qatar,” Prof. Hijazi continued.

The trans-catheter self-expanding Venus P-Valve, designed for the pulmonary valve, is implanted via a catheter inserted through the groin. The process does not require the use of a heart and lung machine to stop the heart during the operation (normally done during open-heart surgery). The procedure is carried out while the heart is still beating.

“The advantage with the Venus P-Valve is that it can be customised according to the shape of the patient’s heart – ensuring accuracy in positioning. We were able to put in custom requests of all the valves, as Sidra has the unique ability to print an exact 3D replica of the patient’s heart prior to surgery. Realistic physical models of the heart allows us to examine and familiarize ourselves with the anatomy of a rare defected valve, in advance of a scheduled procedure,” Prof. Hijazi continued.

The Qatar based patients, ranging from ages 14 to 40, received the Venus P-Valve implantations at Hamad General Hospital. The operations were performed jointly by Prof. Hijazi and Dr. Qi-Ling Cao from Sidra and Dr. Hesham Al-Saloos, an interventional cardiologist from Hamad Medical Corporation.

“Open heart surgery is quite an extreme procedure and in many instances the only option available for very young CHD patients – many of whom may require repeat surgeries as they grow up. I am committed to seeking more ways of finding alternative minimally invasive methodologies for CHD patients. The implantation of the Venus P-Valve brings us one step closer to doing away with open heart surgery for a vast majority of patients,” concluded Prof. Hijazi.

Qatar is a partner country in addition to the United Kingdom, Germany, China and Jordan to host the evaluation of the valve for CE (European Conformity) certification. All implantations of the Venus P-Valve in Qatar, are being conducted under the aegis of Prof. Hijazi with full consent and support from patients and their families. Once the Venus P-valve is CE certified, it can be customised for patients globally. This will help save the lives of thousands of CHD patients world-wide who no longer have to undergo open heart surgery as the only option to treat their condition.

Mr. Peter Morris, Chief Executive Officer at Sidra said, “Sidra has a firm commitment towards innovation – one of our organization’s core values. Our interventionists like Prof. Ziyad M. Hijazi are leading the way, by bringing new treatments and methodologies that improve the treatment and outcomes for our patients. We are delighted that we have this opportunity to perform the procedures in Qatar and this would not have been possible without the continued support of our partners – the Ministry of Public Health and Hamad Medical Corporation. We are working closely with our partners to ensure that our patients receive outstanding healthcare services in this country.”

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- 1- <http://www.childrensheartfoundation.org/about-chf/fact-sheets> - accessed on 20 May 2017
- 2, 3 - <https://www.cdc.gov/ncbddd/heartdefects/data.html> - accessed on 20 May 2017



About Sidra Medical and Research Center

Sidra Medical and Research Center will be a groundbreaking hospital, research and education institution, focusing on the health and wellbeing of children and women regionally and globally.

Sidra represents the vision of Her Highness Sheikha Moza bint Nasser who serves as its Chairperson. The high-tech facility will not only provide world-class patient care but will also help build Qatar's scientific expertise and resources.

Sidra will be a fully digital facility, incorporating the most advanced information technology applications in all its functions. Designed by renowned architect Cesar Pelli, Sidra features a main hospital building and a separate outpatient clinic.

Sidra opened its Outpatient Clinic on 1 May 2016 and offers outpatient services for women and children through a referral based system in partnership with other healthcare providers in Qatar.

Sidra is also part of a dynamic research and education environment in Qatar and through strong partnerships with leading institutions around the world, Sidra is creating an intellectual ecosystem to help advance scientific discovery through investment in medical research. For more information please visit www.sidra.org.

For any media inquiries, please contact:

Farhana Coelho

T: (974) 44042176

E: fcoelho@sidra.org

The Communications Department
Sidra Medical and Research Center