

AUBMC Structural Cardiology Team Performs the First Transcaval Percutaneous Aortic Valve Replacement in the Middle East and Asia

(September 25, 2017) Beirut-Lebanon- The structural cardiology team at the American University of Beirut Medical Center (AUBMC), Department of Internal Medicine, performed the first transcaval percutaneous aortic valve replacement (TAVI) in the Middle East and Asia, a novel alternative for patients with severe aortic stenosis where TAVI is indicated but cannot be performed with conventional methods.

Developed by researchers at the National Institutes of Health and performed in limited centers in the US and Europe, the percutaneous aortic valve replacement through the transcaval approach is a unique and advanced procedure that offers a new access route option to patients eligible for TAVI but whose conditions are contraindicated for the standard femoral artery access and are unable to tolerate an open heart surgery.

Assistant Professor of Medicine in the Department of Internal Medicine, Division of Cardiology, Dr. Fadi Sawaya assisted by Founding Director of the Heart and Vascular Clinical Center of Excellence, Dr. Ziyad Ghazzal performed the recent advent on an elderly lady with high risk severe aortic stenosis. The patient had no surgical options and was not a candidate for the conventional TAVI method through the leg.

Dr. Fadi Sawaya said, “The transcaval route in percutaneous aortic valve replacement proves a viable alternative access option.” He added, “We continue to strive to bring the latest techniques and cutting edge technologies in cardiovascular care to our patients at AUBMC so that they receive the best and most comprehensive care.”

Dr. Ghazzal said, “This first-of-its-kind procedure in Lebanon and the region is a great proof that even high risk patients can be treated with the latest advances available, and that we, at AUBMC, have a team of highly trained, qualified, and nationally recognized cardiologists who have established a legacy of excellence in cardiovascular medicine.”

Until 10 years ago, the only way to replace the aortic valve was with open-heart surgery. *Transcatheter Aortic Valve Implantation* (TAVI) was developed as a minimally invasive technique. Under sedation, a catheter is inserted into either the chest or the groin area and threaded through an artery to the heart to deliver the replacement valve. The original damaged aortic valve is left in place. Once the new valve is set in position and expanded, it pushes the original valve leaflets out of the way and the tissue in the replacement valve takes over the job of regulating blood.

However, TAVI doesn't work for everyone. When patients have narrow arteries—often due to peripheral artery disease—it becomes difficult to pass the catheter through the femoral artery. In such cases, an open incision in the chest is created to deliver the valve, which prolongs recovery. With transcaval TAVI, the catheter is inserted through the femoral vein instead of the femoral artery. A communication is then delicately created between the vena

cava and the aorta by passing the obstructions in the legs. The TAVI procedure is then completed in the usual fashion. After valve placement, the communication is closed percutaneously with a special closure device.

The operation is another proof of AUBMC being on track of achieving its 2020 Vision, being the leading Medical Center in Lebanon, the Middle East and Asia in using state-of-the-art procedures that help in saving lives.

About AUBMC

Since 1902, AUBMC has been providing the highest standards of care to patients across Lebanon and the region. It is also the teaching medical center for the Faculty of Medicine at AUB (established in 1867), which has trained generations of medical students and physicians, and whose graduates can be found at leading institutions around the world. AUBMC is the only medical institution in the Middle East to have earned the five international accreditations of JCI, Magnet, CAP, JC and ACGME-I attesting to its superior standards in patient-centered care, nursing, pathology/laboratory services and graduate medical education.

The Faculty of Medicine has graduated over 4,000 medical students and physicians; the Rafic Hariri School of Nursing provides excellent education for the nursing staff, and the Medical Center meets the healthcare needs of over 360,000 patient visits annually.

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