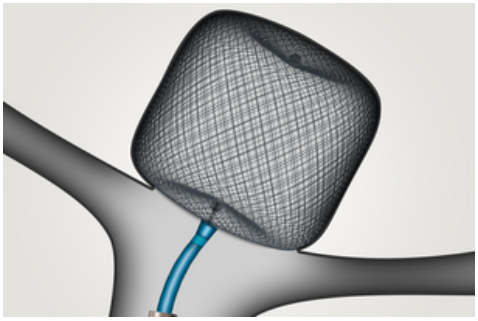
Pioneering brain treatment makes U.S. debut in Memphis

Jan 29, 2019, 2:09pm CST

A local doctor led the clinical trials for an innovative new treatment for brain aneurysms. Now, he and two other Memphis doctors are helping to train others on the device.



MICROVENTION

WEB Aneurysm Embolization System illustration of placement in aneurysm using a catheter

Dr. Adam Arthur was the principal investigator for clinical trials on the WEB Aneurysm Embolization System and was also the first neurosurgeon in the U.S. to use the new FDA-approved device. The procedure involving the system — the first of its kind in the U.S — occurred at Methodist University Hospital on Monday, Jan. 28, and was broadcast live to the nearby Medical Education & Research Institute (MERI).

Arthur is a neurosurgeon with Semmes Murphey Clinic, chairman of neurosurgery at Methodist University Hospital, and a professor of neurosurgery at the University of Tennessee Health Sciences Center. Methodist Le Bonheur Healthcare is the first to offer the new treatment.

Two of his colleagues at Semmes Murphey, Dr. Daniel Hoit and Dr. Lucas Elijovich, were also involved in the clinical trials and will perform the procedure for teaching purposes. Doctors from other health systems observed the new procedure and trained on it at MERI. They will then go back to their hospitals to treat patients with the new device.

“The first cases in the U.S. were today, and two tomorrow,” Arthur said Monday. “Then, [the next] cases are in New York on Thursday … and then cases all around the U.S. at Centers of Excellence for aneurysms.”

The WEB Aneurysm Embolization System was developed by Sequent Medical Inc., which was acquired in 2016 by California-based MicroVention Inc. Essentially, the device treats aneurysms that have a wide opening in the vessel by depositing a soft woven spherical basket in the aneurysm using a catheter. The device then prevents blood from going into the aneurysm, restoring more normal vessel function.

As principal investigator of the WEB system, Arthur led the clinical trial, which enrolled patients from August 2014 to March 2016. It involved 150 patients at 27 sites in the U.S. and in Europe. The highest enrollment center of the clinical trials was Methodist University Hospital, with about 30 patients.

The WEB system passed the “most rigorous standard” of FDA approval, Premarket Approval (PMA), MicroVention announced in early January 2019.

Arthur said the first person to undergo the procedure is doing well; she was a patient of Arthur's who had a more invasive procedure done in 2016 to fix a similar aneurysm. The prior treatment involved a craniotomy — an opening created in the skull — to place an aneurysm clip in place on the vessel.

“I think it’s a device that’s going to make [treating wide-neck aneurysms] safer for a lot of people. They’ve had it in Europe for seven years, so to have it in the U.S. is a good step forward,” Arthur said.

The procedure to install the WEB device takes about 30 minutes. Recovery is much shorter than with a craniotomy, with the patient potentially going home the same day versus a five-to-seven day hospital stay.

Arthur sees about 500 to 600 new patients with aneurysms a year. About a third of aneurysms needing treatment are right for the new device.

“Every person is different. Every aneurysm is different. And so, the more options the better, and the more safer, minimally invasive options the better,” Arthur said.

Jason Bolton
Data Editor
Memphis Business Journal