Cerebral Embolization Gives Patient New Life

Standard treatments for brain aneurysms can often require removing part of the skull to seal the aneurysm with a platinum clip. An alternative option uses platinum wiring, but large aneurysms that have an irregular shape or are located in hard-to-reach parts of the brain can be a challenge with these treatments.

A new variation of cerebral embolization is being utilized by the University of Miami’s Neurological Surgery Department in conjunction with Jackson Memorial Hospital. This innovative method threads a catheter into the brain of the patient and slowly injects a liquid polymer, which immediately turns into a solid. Once the aneurysm is blocked off, the blood flow returns to normal.

This procedure recently impacted the life of Carmen Graff, a Florida resident who learned she had two brain aneurysms during diagnostic fertility testing. If either one had burst, there was a high probability for immediate stroke.

Like many patients, Graff was entirely unaware of her condition. Aneurysms, which create a weakness in the blood vessel wall, have little or no symptoms. Statistically, aneurysms have a 75 percent chance of being life threatening upon diagnosis.

After learning the news, Graff who was visiting the doctor solely to seek assistance regarding her inability to become pregnant, was very distraught. Graff also recalled that an aneurysm had killed her mother at age 53.

Graff’s neurologist in Port St. Lucie, FL quickly recommended that she seek the care of the University of Miami’s neurosurgeon and director of neuroendovascular surgery, Ali Aziz-Sultan, M.D. Dr. Sultan immediately took her case, knowing she was an ideal candidate for cerebral embolization.

Graff’s procedure was extremely positive. “The outcome was excellent,” says Dr. Sultan. “Carmen is definitely a success story. This procedure is another major advancement in our ability to treat aneurysms, and Jackson Memorial is one of the few facilities in the U.S. to offer this procedure.”

Graff was given a second chance and felt immediately impressed to reciprocate this gift. Graff, still unable to conceive, utilized her four-day stay in the hospital to adopt baby Tyler Patrick with her husband Kevin.

Thanks to the expertise of Dr. Sultan and the breakthrough of cerebral embolization, Carmen Graff recently passed her six-month check-up and angiogram with a clear bill of health.
Neurological Surgery

Acute Spinal Cord Injury

A grant proposal has been submitted to the NIH for a randomized, prospective, multicenter Phase III clinical trial to investigate the beneficial effects of moderate hypothermia (cooling the body to 33.0 C) following an acute cervical spinal cord injury. The grant proposal is for $10 million. Based upon Dr. Levi’s pilot (Phase I) safety trial, it is believed that this intervention may be of benefit for Neuroprotection after these devastating spinal cord injuries.

~Michael Wang, M.D., F.A.C.S.

Traumatic Brain Injury

The DOD recently awarded the department of Neurosurgery, at The University of Miami, a $2.2M CDMRP award, to perform a clinical phase IIA randomized trial of Oxycyte, in severe TBI, which will commence during 2010, subject to an FDA IND. A new 3rd generation Perfluorocarbon (PFC), Oxycyte, is being used to dissolve 40 ml of oxygen per 100ml, compared to approx. 3.5 ml, for whole blood. The small particle size of this PFC (~3 microns) makes it especially attractive in CNS injury, and ischemia, where capillary narrowing, due to astrocyte swelling, is a major limiting factor for oxygen delivery. Animal model TBI studies and a “proof of concept” severe human TBI study have shown better outcomes, tissue oxygenation, and neurochemical profiles, after PFC, than in controls.

~Ros Bullock, M.D., Ph.D.

Normal Pressure Hydrocephalus: Cognitive Recovery

Normal Pressure Hydrocephalus (NPH) is characterized by disturbances in gait, urinary function and cognition that affects 1 in 200 adults over the age of 50 and is often treated with the insertion of a ventriculoperitoneal (VP) shunt. This NIH-sponsored study examines the pattern of cognitive recovery in NPH following placement of an adjustable shunt. The rate of improvement of different neuropsychological skills and the extent to which post-operative shunt pressure adjustments contribute to better cognitive and functional outcome will be examined.

~Heather Katzen, Ph.D.

Small Subcortical Strokes

Small subcortical strokes, or lacunar strokes, account for up to 1 in 4 strokes and affect Hispanics and African Americans more commonly. This study, focusing on the Secondary Prevention of Small Subcortical Strokes (SPS3), is a multicenter NIH-sponsored trial evaluating two interventions: determining whether aspirin plus clopidogrel is superior to aspirin alone and evaluating if very aggressive blood pressure control is superior to usual blood pressure management. Patients with small subcortical strokes within 6 months of the event are eligible to participate.

~Jose Romano, M.D.

SENTIS Acute Stroke

The Safety and efficacy of Neuroflo™ for treatment of Ischemic Stroke (SENTIS) clinical trial provides an interventional treatment alternative beyond the 8 hour window for FDA approved devices. The trial is based on initial promising results from the pilot phase showing safety of using partial abdominal aortic occlusion using the double balloon NeuroFlo catheter with the anticipated benefit via increasing brain perfusion.

~Dileep Yavagal, M.D.
Acute Endovascular Therapy for Stroke with Dramatic Reversal of Hemiplegia

Stroke is the third leading cause of death and primary cause of serious, long-term disability in the United States each year. Statistics show that someone suffers a stroke every 45 seconds, and someone dies of a stroke every 3.1 minutes. Stroke can happen to anyone at any time, regardless of race, sex or age.

Ejaz Lodhi, a 51 year old Miami businessman, was at home watching television this past spring when he had an acute stroke. He suddenly lost sensation and strength in the left side of his body but was able to slowly walk to a neighbor’s home. His speech was slurred and his breathing strained, but he managed to tell his neighbor to call 911.

When fire rescue arrived, Lodhi was rushed to Jackson Memorial Hospital, the only hospital in Miami-Dade County designated as a Comprehensive Stroke Center by the Florida Agency for Health Care Administration – and one of only 15 in the state. Jackson operates in conjunction with neurologists from the University of Miami’s Miller School of Medicine to treat stroke patients 24 hours a day, seven days a week, using clot-busting medication and advanced catheter-based treatments.

When Lodhi arrived at Jackson Memorial’s ER approximately 4 hours from symptoms onset, Dr. Yavagal was able to immediately make a diagnosis of acute occlusion of the cavernous segment of the right internal carotid artery on MR Angiography as the cause of the stroke symptoms. Taking his patient immediately to the Neuroendovascular Angiography Suite, Dr. Yavagal performed a stent-assisted balloon angioplasty to revascularize the acutely occluded right ICA.

The results were immediate and dramatic. Lodhi, who by that time was completely hemiplegic on his left side from the stroke, was able to move his entire body as soon as the procedure was complete. He was walking later that night and walked out of the hospital within a few days. Without the emergency treatment, he likely would have remained paralyzed and in need of rehabilitation.

Dr. Yavagal says that preventive strategies such as smoking cessation, blood pressure control and treatment for metabolic syndrome, avoidance of excessive alcohol drinking and control of cholesterol levels remain our first line of defense against stroke.

That advice has become a way of life for Ejaz Lodhi, who is almost fully recovered. He quit smoking, exercises regularly and eats three healthy meals a day.

“I have to take care of myself,” he said. “I’m not going to let stroke control my life.”
In The News

XIV World Congress of Neurological Surgery
Dr. Roberto Heros, the Department of Neurological Surgery’s Co-Chair, served as this year’s President of the World Congress of Neurological Surgery. The conference’s Scientific Program Committee was chaired under the leadership of Dr. Jacques Morcos, Professor of Clinical Neurological Surgery at The University of Miami. The event, which took place in Boston, MA, on August 20 – September 4, 2009, provided a forum for the presentation of the latest in scientific work related to neurosurgery.

Dr. Green Awarded AXA Advisors Lifetime Achievement Award
The AXA Advisors Lifetime Achievement Award is designed to honor an individual, who, over his/her lifetime, has made a significant impact or changed history in the health care industry in South Florida. The winner for 2009 was Neurological Surgery Department Chair, Dr. Barth A. Green.

Dr. Ralph Sacco Named National President of the American Heart Association
The Chairman of Neurology, Dr. Ralph Sacco, was elected national president of the American Heart Association (AHA) for the term beginning in July of 2010. He is the first neurologist ever chosen to serve in this distinguished position. He was the lead author on the AHA’s most recent stroke prevention guidelines for patients who have already suffered a stroke or a transient ischemic attack (TIA). Dr. Sacco has previously received the AHA’s Chairman’s Award in 2007 and the prestigious William Feinberg Award for Excellence in Clinical Stroke in 2006.

University of Miami to Host Annual Society of University Neurosurgeons (SUN)
March 21st-24th, 2010
The 45th annual SUN meeting will be hosted by Drs. Jacques J. Morcos and Michael Y. Wang on behalf of the University of Miami, Leonard M. Miller School of Medicine. This members-only meeting of leaders in the field of Neurological Surgery will include an exciting program of academic discussion, scientific presentations, and scholarly lectures from experts in the fields of arts and sciences.

Neurology Update and Stroke Intensive 2010
February 18-20, 2010 at The Alexander Hotel - Miami Beach, FL
Neurology Update and Stroke Intensive 2010 is designed to provide clinicians with the most recent developments in the diagnosis and management of neurologic disorders, including stroke. The target audience will include adult and pediatric neurologists, neurosurgeons and psychiatrists, although internists, cardiologists and general practitioners may also find the topics timely and useful.

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Resident Spotlight
Shaping the National Neurology Curriculum: Alon Seifan, PGY-2

Dr. Alon Seifan is currently writing a grant to develop an integrated electronic medical record/education tool where “medical information is used to provide real-time feedback to physicians in training”. Through his participation in an American Academy of Neurology Task Force, his research has been used to shape what is taught to medical students in their Neurology Clerkship throughout the country.

Alon Seifan completed his undergraduate degree in Finance at the University of Florida and then received his M.A. in Decision and Information Sciences at UF. He subsequently completed medical school at Mount Sinai School of Medicine in NYC. Alon was accepted into the Department of Neurology’s Resident Clinician Research Program and specifically choose UM to “take part in this research track, but also because of the strength of the clinical neurology program and faculty. I was especially impressed by the personalities of the residents and attendings and I am excited about the training in clinical research that I have already received.” His specific interest involves medical education, performance improvement and behavioral sciences.