Abstracts evaluate argatroban, endovascular treatment, VR

The efficacy of argatroban in supplementing the use of tPA in stroke patients, a meta-analysis of five recent trials of endovascular treatment, and the effectiveness of virtual reality as a rehabilitation therapy were among the abstracts examined during Wednesday’s “Late-Breaking Science Oral Abstracts.”

**ARTSS-2 RESULTS SUPPORT USE OF ARGATROBAN**

The use of the anticoagulant argatroban with IV tPA offers clinical benefits and seems safe, warranting more study in a definitive efficacy trial.

Andrew Barreto, MD, is the lead author of the abstract “ARTSS-2: Final Results of a Pilot, Phase Ib, Randomized, Multicenter Trial of Argatroban in Combination With Recombinant Tissue Plasminogen Activator for Acute Stroke.” He is an associate professor in the Department of Neurology at the University of Texas Health Science Center at Houston.

The trial’s objective was to see if argatroban could be used with tPA in patients with large-artery strokes because tPA can fail to reperfuse in these patients when used alone, according to the abstract. In the trial, stroke patients receiving tPA were randomized to also receive high or low doses of argatroban or no argatroban to determine its safety and benefit.

Conducted between December 2011 and March 2015, the 90-patient trial was prematurely terminated because of the beneficial results. Patients who were treated with argatroban had higher rates of “excellent recovery” (31.2 percent combined) compared to tPA alone (20.7 percent), according to the abstract. Adjusted analyses demonstrated similar direction of benefit and a 79 percent posterior probability that combination therapy (low-dose plus high-dose) is superior to tPA alone.

**META-ANALYSIS SUPPORTS ENDOVASCULAR TREATMENT ACROSS SUBGROUPS**

Endovascular treatment is a highly effective therapy across all subgroups of patients suffering from stroke who were studied, according to a meta-analysis of five randomized trials whose results were released in early 2015.

The abstract, “Time Is Brain in Endovascular Thrombectomy: Results From Individual Patient Pooled Data Analysis of MR CLEAN, ESCAPE, EXTEND-IA, SWIFT PRIME and REVASCAT” focused on the analysis of individual patient data from the trials. The analysis was conducted by Highly Effective Reperfusion Evaluated in Multiple Endovascular Stroke Trials (HERMES) Collaborators, funded by an unrestricted grant to the University of Calgary, Canada.

All five trials supported endovascular thrombectomy as a definitive treatment for anterior circulation, large- vessel exclusive ischemic stroke, according to Wednesday’s presentation. The pooled analyses of individual patient data allowed greater precision and the analysis of subgroups, according to presenters.

On Wednesday, Andrew Barreto, MD, presented ARTSS-2 trial results that support the use of argatroban.
LET'S TRANSFORM STROKE THERAPY.
TOGETHER.

JOIN US AND LEARN HOW WE CAN EVOLVE THE STANDARD OF CARE FOR STROKE.

ACUTE ISCHEMIC STROKE – Evolving Solutions for the Changing Landscape of Care

Moderator: Andrew Demchuk, MD
Professor, Departments of Clinical Neurosciences and Radiology, University of Calgary,
Director, Calgary Stroke Program

The Cost Effectiveness of the Solitaire™ 2 Revascularization Device as an Adjunct to IV-tPA for Acute Ischemic Stroke
Jeffrey Saver, MD
Professor of Neurology, Geffen School of Medicine at UCLA,
Director, UCLA Comprehensive Stroke Center

Clinical Study Updates (STRATIS, New Study Announcement)
Jeffrey Saver, MD
Professor of Neurology, Geffen School of Medicine at UCLA,
Director, UCLA Comprehensive Stroke Center
Jan Gralla, MD
Director, Inselspital University Hospital Bern, Bern, Switzerland

Stroke System of Care – EMS/ED Perspective
Edward C. Jauch, MD MS
Professor, Director, Division of Emergency Medicine; Professor, Department of Neurosciences,
Vice Chair, Research, Department of Medicine; Professor, Department of Bioengineering (adjunct),
Clemson University

LOCATION
JW Marriott Los Angeles L.A. LIVE – Platinum Salon
900 W Olympic Blvd, Los Angeles, CA

RSVP
www.medtronic.com/stroke
Space for this event is limited. Be sure to register today.

AN EVENING SYMPOSIUM:
THURSDAY FEBRUARY 18
7:00 PM

Solitaire™ Revascularization Device*

TOGETHER, WE CAN EVOLVE STROKE TREATMENT.

* Solitaire™ Revascularization Device refers to Solitaire™ 2 Revascularization Device and Solitaire™ FR Revascularization Device.
© 2016 Medtronic. All rights reserved. Medtronic, Medtronic logo and Further. Together are trademarks of Medtronic. All other brands are trademarks of a Medtronic company. 000035564
Neuroscience curiosity leads to great headway in stroke research

The science of the brain captured the interest of Stroke Council Chair Colin Derdeyn, MD, at a young age. That spark eventually led to Derdeyn’s career in neuroendovascular radiology, where he has helped make significant inroads in clinical care and research advances.

“In the late 1980s, the first endovascular treatments for brain aneurysms and stroke were just being developed. There was a lot of excitement that we could do things that have a big impact to patients, so I moved toward training in those procedures,” said Derdeyn, Krabbenhoft Professor and Chair of Radiology and professor of neurology and neurological surgery at the University of Iowa Hospitals and Clinics, and director for the Iowa Institute for Biomedical Imaging at the University of Iowa.

Derdeyn landed a research fellowship at Washington University in St. Louis in 1994. The university’s stroke group engaged in groundbreaking work using PET scanners to measure brain blood flow and oxygen use in stroke patients. There he acquired expertise in the latest tools to treat ischemic stroke and served as an investigator in clinical trials for cutting-edge innovations.

Over the years, Derdeyn has participated in research on measuring brain metabolism and developing better tools for selecting patients to undergo acute stroke treatment. Additionally, his leadership in large-scale clinical trials for interventional devices include SAMMPRIS (Stenting versus Aggressive Medical Management for Preventing Recurrent Stroke In Intracranial Stenosis) and COSS (Carotid Occlusion Surgery Study). Finally, he led the Washington University SPOTRIAS (Specialized Programs of Translational Research in Acute Stroke) Center.

Two important projects at his SPOTRIAS site involved studies using MRI to visualize brain oxygen use and PET studies to examine various medications for improved blood flow in patients with vasospasm after subarachnoid hemorrhage. Not all of these trials yielded positive results. For example, in the SAMMPRIS trial, medical treatment with anticoagulant and antiplatelet drugs won out over angioplasty and stenting alone.

“The results of these trials are always important, even if they are not positive,” he said. “We do find one answer from these trials, but our research also uncovers many other unanswered questions that require further investigation.”

More than half of stroke patients do not experience a meaningful recovery, and many don’t qualify for lifesaving treatment procedures. Derdeyn said. Additionally, many patients who have viable brain after stroke aren’t receiving lifesaving treatments that could benefit them.

As for future interventional care, more devices remain to be developed that would improve stroke treatment. Derdeyn is working on a mechanical device that may make tPA work much better than using magnetic fields outside of the head.

“We have made great headway on the endovascular treatment front for stroke,” Derdeyn said. “At the same time, stroke care covers those three big areas—prevention, treatment and recovery. We are far from where we could be in all three.”

QUESTION OF THE DAY

What are the barriers to telemedicine in stroke treatment?

The cost of the equipment and of care. Once you get past those two factors, you can see the value; it more than pays for itself with quality of care and actually increases the number of revenue streams for hospitals. You need to take a long term versus short term view. The huge cost of having to rehabilitate stroke patients after the fact is so much higher than treating them on the front end. The cost of not doing it now is so high.

Rodney Allan
Campredown, Australia

The problem is getting the technology solution in everyone’s hands. We need to have a dedicated and secure app for users.

Michael Woodcock
Atlanta, Georgia

Connectivity across cities, counties and states. There needs to be more joint work with stakeholders. It won’t be easy, but it is the right thing to do.

Manish Gupta
Irvine, California

Access to monitoring.

Virginia Howard
Birmingham, Alabama

I knew about this 15 years ago, and I thought it was going to be the next big thing. And here we are. We know the need. Patients want it. But the stakeholders are not buying it.

Maria Patrao
New York, New York

Getting the funding. The technology and networking are there. People would love to have it.

Sunmoo Yoon
New York, New York

Three things — No. 1: the infrastructure in the developed versus undeveloped countries. We have done a better job in the developed countries. No. 2: Ensuring that people are aware of the standard of care. Educating patients that response time is the most important thing. No. 3: Improving the overall education about stroke and the risks of not treating immediately.

Manejeh Yaqub
San Jose, California
Plenary highlights three late-breaking trial results

Late-breaking trial results on the use of pioglitazone to reduce the risk for subsequent cardiac and cerebrovascular events, enhanced and prolonged Holter monitoring for detecting AF, and carotid stenting versus endarterectomy were announced in a standing-room-only plenary session on Wednesday.

Reducing insulin resistance may be an effective strategy for reducing cardiac and cerebrovascular events, according to the results of the Insulin Resistance Intervention after Stroke (IRIS) Trial. The trial found that patients with a prior stroke or TIA who took pioglitazone had an absolute risk reduction of 2.9 percent and a relative risk reduction of 24 percent for a stroke or myocardial infarction compared to placebo.

“If you target insulin resistance, you may be able to reduce cardiovascular and cerebrovascular risk for future events,” said Walter N. Kernan, MD, professor of Medicine at Yale School of Medicine. “The probabilities of a subsequent event diverged early and increased over time.”

Researchers randomized 3,876 patients with an ischemic stroke or TIA in the prior six months to pioglitazone or placebo for five years. The primary endpoint was subsequent stroke or MI. Patients on pioglitazone had a 9.0 percent rate of stroke or MI versus 11.8 percent for placebo (p=0.007). Pioglitazone patients also were 52 percent less likely to develop diabetes compared to placebo patients (p=0.0001).

A serious adverse event of concern in the pioglitazone group was an increase in bone fracture requiring hospitalization or surgery: 5.1 percent versus 3.2 percent (p<0.01). Non-serious AEs included weight gain, edema, and dyspnea.

“For the first time, a therapy directed at insulin resistance has been shown to reduce the risk for cardiac and cerebrovascular events in non-diabetic patients with ischemic stroke or TIA,” Kernan said.

The IRIS Trial results are simultaneously being published in the New England Journal of Medicine.

Repeated AF Monitoring

Atrial fibrillation is a known risk factor for recurrent ischemic stroke, but AF can be difficult to detect in acute stroke patients who present with a sinus rhythm. A multicenter study in Germany found that repeated 10-day Holter monitoring detects significantly more AF than standard care.

“Stroke patients have a high risk of underlying AF and should be anticoagulated if AF is detected,” said Rolf Wachter, MD, who presented the results of Finding Atrial Fibrillation in Stroke — Randomized Evaluation of Enhanced

The primary results were presented during Plenary Session III at 10:30 a.m. Friday in Hall K.

“One of the most interesting trials to be presented is ACTION,” said ISC Program Chair Kyrina Becker, MD, professor of neurology and neurological surgery and co-director of the University of Washington Medicine Stroke Center in Seattle. “This study looks at the effects of natalizumab on infarct volume in acute ischemic stroke. Natalizumab is a monoclonal antibody that is used to block lymphocyte migration and reduce inflammation in the treatment of multiple sclerosis. The hope is that giving it early in stroke can prevent inflammation and improve outcomes.”

Jacob Elkins, MD, senior director of clinical development at Biogen Idec in Cambridge, Massachusetts, will present “Primary Results of the ACTION Trial of Natalizumab in Acute Ischemic Stroke (AIS)” during the session.

This phase II interventional trial is designed to determine if a single 300 mg dose of intravenous natalizumab reduces change in infarct volume from baseline to day five. The study cohort was divided into two arms, one treated within six hours of when they were last known normal and the other arm treated between six and nine hours. The study was powered to determine if a single 300 mg dose of intravenous natalizumab reduces change in infarct volume in acute ischemic stroke.

“Although inflammation and edema are key components in the pathogenesis of stroke, there are currently no pharmacologic treatments that adequately address them. Early-stage trials could point the way to new approaches with agents typically used to treat multiple sclerosis and diabetes.”

The results will be presented during Plenary Session III at 10:30 a.m. Friday in Hall K.

“One of the most interesting trials to be presented is ACTION,” said

ISC Program Chair Kyrina Becker, MD, professor of neurology and neurological surgery and co-director of the University of Washington Medicine Stroke Center in Seattle. “This study looks at the effects of natalizumab on infarct volume in acute ischemic stroke. Natalizumab is a monoclonal antibody that is used to block lymphocyte migration and reduce inflammation in the treatment of multiple sclerosis. The hope is that giving it early in stroke can prevent inflammation and improve outcomes.”

Jacob Elkins, MD, senior director of clinical development at Biogen Idec in Cambridge, Massachusetts, will present “Primary Results of the ACTION Trial of Natalizumab in Acute Ischemic Stroke (AIS)” during the session.

This phase II interventional trial is designed to determine if a single 300 mg dose of intravenous natalizumab reduces change in infarct volume from baseline to day five. The study cohort was divided into two arms, one treated within six hours of when they were last known normal and the other arm treated between six and nine hours of last known normal. The multicenter, randomized placebo-controlled study was expected to enroll 160 patients. The trial was sponsored by Biogen, which manufactures natalizumab.

A second key presentation is GAMES-RP, the Glyburide Advantage in Malignant Edema and Stroke — Remedy Pharmaceuticals. The trial looked at the effect of intravenous glyburide, a sulfonylurea most commonly used as an oral medication to reduce serum glucose levels in type 2 diabetes. As an IV formulation, glyburide also has a potent effect on the SUR-1 channel and helps prevent cerebral edema.

The primary results were presented earlier this year, Becker said, but the ISC presentations will focus on six-month outcome data as well as the effect of glyburide on edema and the potential of glyburide to reduce the need for more aggressive life-saving interventions. W. Taylor Kimberly, MD, PhD, associate director of the Neuroscience Intensive Care Unit at Massachusetts General Hospital, will discuss an intermediate endpoint analysis of GAMES-RP as proof of concept.

“This study is targeting the biggest and the baddest strokes we see,” Becker said. “These are the patients you know are headed for bad outcomes. It is promising to think about medical strategies that might attenuate edema and prevent some of those very worst-case scenarios that terminate in death.”

Lee H. Schwamm, MD, vice chair of neurology and director of TeleStroke and Acute Stroke Services at Massachusetts General Hospital and co-principal investigator of MR WITNESS, will present data showing that the use of intravenous tPA is safe and feasible in patients with stroke whose onset is unknown and whose MRIs show favorable characteristics.
TURNING RESEARCH INTO RECOVERY — FASTER.
THAT’S THE DIFFERENCE BETWEEN PRACTICING MEDICINE AND LEADING IT.

At Houston Methodist, we focus on innovative research that directly benefits our patients. Through more than 700 clinical studies across the Houston Methodist system and many national studies we exclusively offer in Texas, we are discovering new technologies and treatments for some of medicine’s toughest challenges, and getting them to our patients — faster.

Visit houstonmethodist.org/research and explore all the ways we’re leading medicine.

CANCER • CARDIOLOGY & HEART SURGERY • DIABETES & ENDOCRINOLOGY
GASTROENTEROLOGY & GI SURGERY • GERIATRICS • GYNECOLOGY • NEPHROLOGY
NEUROLOGY & NEUROSURGERY • ORTHOPEDICS • PULMONOLOGY • UROLOGY
VIRTUAL REALITY QUESTIONED

Virtual reality as an add-on therapy to conventional rehabilitation is not superior to intensive recreational therapy, according to the “Virtual Reality in Stroke Rehabilitation: Results From EVREST Multicenter Trial” study released Wednesday.

EVREST — Efficacy of Virtual Reality Exercises in Stroke Rehabilitation — was led by Gustavo Saposnik, MD, MSc, to examine limited evidence from small, single-center studies that suggested modest benefits for stroke patients, according to the presentation.

The study compared the efficacy of virtual reality with recreational therapy when they were added to customary care for motor rehabilitation. Trial participants were between ages 18 and 85 whose ischemic stroke was confirmed by CT or MRI. Virtual reality participants played video games, while recreational activity participants matched cards or played dominoes, a ball game or Jenga.

The study concluded that virtual reality was not superior to intensive recreational therapy in improving motor function, grip strength, hand function, quality of movement or quality of life.

KEY TAKEAWAYS

While many sessions review and present data, this session is forward-thinking. Presenters discuss their thoughts on where the stroke field is headed. Formulating and presenting a new vision of the future in six minutes is a serious challenge, and there is no leeway. Moderators have stopped presenters in mid-sentence in past years.

POSTER SESSIONS, TOURS CONTINUE TODAY

SC 2016 offers two types of poster sessions: Professor-Led Poster Tours and Regular Poster Sessions. — on one individual Q&A poster presentations.

SC 2016 offers two types of poster sessions: Professor-Led Poster Tours and Regular Poster Sessions — one-on-one individual Q&A poster presentations. Choose from 10 Professor-Led Poster Tours from 5:15 to 6:15 p.m. Thursday in Hall H. Expert moderators will lead these tours, which are organized by category. They provide a short presentation and Q&A with each of the poster authors in that section. To take part, simply review the Poster Abstracts section of the Final Program (page 48) or view theModerated Poster Sessions on the Mobile Meeting Guide app. Decide which section/category of posters you would like to attend. Then, at 5:10 p.m., arrive at the corresponding numbered “Section” sign for your selected section/category. Headsets will be available for ease of listening to the presenters.

During the Regular Poster Sessions, poster presenters will be at their posters for informal Q&As with attendees from 6:15 to 6:45 p.m. Thursday in Hall H. These one-on-one posters are not a part of the earlier Professor-Led Poster Tours. To see the posters featured in today’s Regular Poster Sessions, go to page 55 of the Poster Abstracts section of the Final Program or view the Poster Sessions on the Mobile Meeting Guide app. Posters also will be available for viewing in the Poster Hall (Hall H) from 8 a.m. to 6:45 p.m. Thursday. Please see page 47 of the Final Program for the Poster Hall map.

PRODUCTS & SERVICES SHOWCASE

PAID ADVERTISEMENT

Evolving Stroke Care, Together.

Medtronic Academy.com/ISC-16

Medtronic
Clinical interventions in vascular cognitive impairment

A clinical intervention protects patients against cognitive impairment associated with stroke.1 Maybe, according to four researchers who spoke at the first session of Wednesday’s VCI Mini-Symposium, “Clinical Dilemmas in Vascular Cognitive Impairment.”

“There may be a rationale for the use of cholinesterase inhibitors for patients with vascular cognitive impairment,” said Sandra E. Black, MA, MD, Brili Professor of Neurology at the University of Toronto and director of the Toronto Dementia Research Alliance. “There is evidence for modest cognitive benefits, but the evidence for global functional benefit is inconsistent.”

The evidence for anticholinesterase agents is based on the hypothesis that stroke or other vascular injury give rise to a cholinergic deficit that impairs activities of daily living, behavior, and cognition. The hypothesis is supported by preclinical and clinical data. Trial data show modest improvement in cognitive impairments from the three cholinesterase inhibitors currently approved for other indications, but data for global functional improvement are mixed.

STROKE, DEMENTIA AND ICA

Another common clinical scenario is stroke in patients who have Alzheimer’s. Early data suggested an increased risk of ischemic stroke following the use of ICA in dementia patients. “We know that baseline dementia leads to worse outcomes after stroke, including patients receiving reperfusion therapy,” said Maurizio Paciaroni, MD, neurologist with the Stroke Unit at Santa Maria della Misericordia Hospital University, Perugia, Italy. “We also know from multiple trials that age is no contraindication to thrombolysis.”

Underlying dementia is a risk factor for intracerebral hemorrhage (RR=1.27) and disability at discharge (RR=1.22) following thrombolysis, Paciaroni added. Patients with pre-existing dementia may benefit from thrombolysis, but their mobility, life expectancy, quality of life and social support must all be factored into the decision.

PREVENTING STROKE

Dementia is four to six times more prevalent in patients with a history of stroke, noted Oscar R. Benavente, MD, professor of neurology at the University of British Columbia in Vancouver, Canada. Patients with cognitive impairment pre-stroke are more likely to have worse outcomes.

The cognitive impairment from stroke appears to be associated in large part with leukoaraiosis, changes in the cerebral white matter often seen after stroke. Also noted is the focal thinning caused by the degeneration of connecting fibers caused by acute infarcts, including silent events.

“Stroke produces cognitive impairment, and it is likely that the reduction of stroke will impact post-stroke dementia,” Benavente said. “All clinical trials for secondary stroke prevention should include cognitive impairment as an outcome.”

TO MEASURE COGNITIVE IMPAIRMENT

Measuring cognitive impairment after a TIA or stroke is an enduring challenge. Multiple instruments have been developed, noted Ken Butcher, MD, PhD, associate professor of adult neurology and Heart and Stroke Foundation Professor in Stroke Research at the University of Alberta in Edmonton, Canada. The Montreal Cognitive Assessment (MoCA) appears to be more sensitive to cognitive impairment than other instruments.

One problem is that cognitive impairment is transient in many patients. He suggested completing a MoCA at discharge and again prior to returning to work or driving. Older patients and those with higher-volume leukoaraiosis are at higher risk for long-term cognitive impairment.

SESSION SUMMARY

Nutritional science may help improve care of stroke patients

SESSION

Nutrition to Prevent Further Brain Injury After Stroke

7:30 a.m., Thursday, Feb. 18

Room 502B

SPEAKERS

• Hakan Sarikaya, MD, Department of Neurology, University Hospital Bern, Switzerland
• Jennifer L. Dearborn, MD, MPH, assistant professor of neurology, Yale School of Medicine, New Haven, Connecticut
• J. David Spence, MD, MBA, professor of neurology and clinical pharmacology, Roberts Research Institute, University of Western Ontario, London, Ontario, Canada
• Suzanne E. Judd, PhD, associate professor of biostatistics, assistant dean, and professor for undergraduate education, University of Alabama at Birmingham School of Public Health, Birmingham, Alabama
• Amytis Towfighi, MD, associate professor of neurology, University of Southern California in Los Angeles, director of neurological services and innovation, Los Angeles County Department of Health Services, and associate chief medical officer and chair of the Neurology Department, Rancho Los Amigos National Rehabilitation Center, Downey, California.

SYNOPSIS

Nutritional science has established the importance of diet for brain health. This session will address concepts in nutrition pertinent to the clinical care of stroke patients or people at risk for stroke. Well-informed speakers will discuss diet patterns, nutrients, obesity, strategies for behavioral change and research needs in this growth area of preventive neurology.

KEY TAKEAWAYS

• Nutritional science can inform better care of cerebrovascular disease patients or people at risk.
• Many core nutritional concepts have not been validated for stroke patients.
• Potential for research in nutritional science to improve care after stroke is enormous.

QUOTABLE

Walter Kernan, MD, category chair and professor of medicine at Yale School of Medicine in New Haven, Connecticut: “The application of nutritional science to the care of patients with cerebrovascular disease could transform preventative practice. A research agenda will show us the way.”

Neurology Multispecialty Employment Opportunities

Join a Leading Healthcare System in South Florida

Memorial Healthcare System’s Neuroscience Institute is expanding and seeking multiple neurologists including general neurologists and those with fellowship training in stroke, movement disorder, neuro intensive care, neuro oncology or behavioral neurology. Candidates must be BE/BC in general neurology with fellowship training in the subspecialties mentioned. The ideal candidates will be able to develop and collaborate with a multidisciplinary team of neurologists, neurosurgeons, neuropsychologists and neuroradiologists to provide leading edge neurological care in each of the subspecialties referenced. Successful candidates will provide inpatient and outpatient clinical services to adult neurology patients in need of neurological diagnosis and treatment. These are full-time employed positions with the multispecialty Memorial Physician Group. The positions offer competitive benefits and compensation package that is commensurate with training and experience. Professional malpractice and medical liability are covered under sovereign immunity.

About Memorial Neuroscience Institute at Memorial Healthcare System

Memorial Neuroscience Institute uses advanced technology and innovative procedures to treat patients with neuro oncological, neurovascular, neuromuscular and neuroinflammatory problems. The institute offers a wide range of surgical services, including craniofacial, pituitary, spine, cerebrovascular neurosurgery and spine surgery. Memorial Neuroscience Institute also offers minimally invasive procedures such as image-guided brain surgery, minimally invasive spine surgery and neurovascular interventions.

Memorial Healthcare System is one of the largest public healthcare systems in the United States. A national leader in quality care and patient satisfaction, Memorial has ranked 11 times since 2008 on nationally recognized lists of great places to work. Memorial is located in South Florida, a region with a high quality of life – including year-round summer weather, exciting multiculturalism and no state income tax – that attracts new residents from all over the country and around the world.

Memorial Physician Group

mhmsep008
LET'S TRANSFORM THE STANDARD FOR STROKE CARE. TOGETHER.

RIGOROUSLY TESTED:
With more than 1,000 patients enrolled across 6 different studies, the Solitaire™ device is the most extensively researched mechanical thrombectomy device available.1-6

FASTER FLOW RESTORATION:
The Solitaire™ device’s Parametric™ Design provides revolutionary technology to optimize clot retrieval and restore flow.7

© 2016 Medtronic. All rights reserved. Medtronic, Medtronic logo and Further Together are trademarks of Medtronic. All other brands are trademarks of a Medtronic company. U.S.000104145, UDC01655608-EN. Printed in USA, 2/2016.

7 Solitaire™ is a high-intention for thrombectomy (HIT) Study. SAWH 010852/FH0010051/SI/1.
Reveal LINQ™ Insertable Cardiac Monitoring System

TOGETHER, WE CAN TRANSFORM THE WAY CRYPTOGENIC STROKE IS MANAGED.

**MONITOR LONGER:**
The median time to AF detection in cryptogenic stroke patients is 84 days.  

**DETECT MORE:**
The CRYSTAL-AF Study found that continuous monitoring with Reveal ICM detected 7 times more AF than standard monitoring.  

**TREAT AF:**
AF patients have 5 times the risk for an ischemic stroke.  
Treatment with oral anticoagulants decreases this risk 67%.  

**MONITOR. DETECT. TREAT AF.**  
RELY ON REVEAL LINQ ICM TO INFORM YOUR CLINICAL DECISIONS.

---

**DISCOVER HOW WE CAN PARTNER TO TRANSFORM STROKE CARE AT BOOTH 327.**

*Medtronic*
Learn, relax and recharge in the Science & Technology Hall

Visit the American Association of Stroke/Association of American Health Plans campaign’s Headquarters, Booth 235 in the Science & Technology Hall, for information about AHA/ASA initiatives.

AHA/ASA HEADQUARTERS BOOTH 235
Thursday, Feb. 18
11:30 a.m.-2 p.m.
Journal Webinar: Stroke Recovery—Timing, Training and Biological Determinants
Steven R. Zeiler, MD, PhD

CARE THEATERS BOOTH 446
Thursday, Feb. 18
1:30-2:30 p.m.
How to Claim Your Credit for ISC
Michelle Brunis, MLA, director, Professional Education

COLLABORATION STATION BOOTH 235
Thursday, Feb. 18
11:30 a.m.-2 p.m.
Acute Ischemic Stroke: Evolving Solutions for the Changing Landscape of Care
7:00-8:00 a.m.
Industry-Supported Symposium
Supported and sponsored by Medtronics
JM Marriott Los Angeles L.A. LIVE

PLENARY continued from page 4

and prolonged Holter-ECG. Wachter is head senior physician at the Clinic for Cardiology and Pneumology at the University of Göttingen, Germany.

A total of 398 stroke patients in four centers were randomized to 10-day monitoring within seven days of the index stroke, then repeated at three and six months, or standard of care. At six months, 15% of the recurrent monitoring group showed evidence of AF versus 4.5 percent of the standard-of-care group (p=0.002).

When AF was newly diagnosed, patients were started on oral anticoagulation therapy in both arms. At 12 months, there were numerically fewer recurrent stents in the recurrent monitoring group, but the difference was not statistically significant. Wachter noted that the trial was not powered to detect differences in rates of recurrent stents, but suggested that recurrent monitoring be considered for all stroke patients in whom the detection of AF is of therapeutic relevance.

CAROTID STENTING NOT INFERIOR TO ENDARTERECTOMY

Results of the Asymptomatic Carotid Stenosis Stenting versus Endarterectomy Trial (ACT 1) showed that stenting is not inferior to endarterectomy for the treatment of asymptomatic carotid stenosis.

The primary endpoints were stroke, MI or death within 30 days, and ipsilateral stroke 31 days to one year following the procedure.

“Putting a stent in the carotid is not worse than endarterectomy,” said Lawrence R. Wechsler, MD, professor of neurology and neurological surgery, University of Pittsburgh School of Medicine. “The curves are virtually identical at 30 days and at five years.”

The trial was halted early due to slow enrollment, he added, and the results are based on the use of a single stent. Enrollment declined as the Food and Drug Administration approved stents for carotid use, and patients could receive stents without enrolling in a clinical trial.

Medical management for asymptomatic stenosis also has evolved to become more aggressive, he added. CREST II is currently comparing both stent and endarterectomy to current medical therapy.
ENABLE platform to enable site-specific, sustained drug exposure.

Overall costs of care. Care to any patient at any time, while reducing...
The Society of NeuroInterventional Surgery (SNIS) provides a platform for stroke care for the third consecutive year. Spectrum Health, which includes Spectrum Health Medical Group members, and Twiage are recognized by the American Heart Association as a Top 10 hospital for stroke care. Pulsara is a platform that performs comprehensive neurological consultations, offering 24/7 coverage and more than 365 hospital locations. Through its neurological consultation platform, Pulsara delivers on-demand, high-acuity consultations. The spectrum on神经内科 disturbance measures that result from virtual patients and is designed with the aim to advance spectrum on neurological disturbance and critical care training. Attendees will leave with virtual consultations, high-fidelity, case-based learning that includes live and virtual case studies and educational modules. Attendees will receive virtual consultations, high-fidelity, case-based learning that includes live and virtual case studies and educational modules.

The University of Miami Gordon Center is the developer of Advanced Stroke Life Support (ASLS) and its programming tools. The enterprise, the Michelangelo, is ideal for those interested in hospital and hospital care.

Visit the stars in stroke treatment and care by walking the Science & Technology Hall at ISC 2016. Pick up a game card from HeadQuarters (Science & Technology Hall, Booth 236) or at the entrance to Hall J.

Visit participating exhibitors and collect stickers. Get at least six stickers and turn in your card at HeadQuarters, Booth 236.

It's That Easy! AHA will draw two winners daily from completed cards. You could win a one-year Premium Membership and a free registration to International Stroke Conference 2017 in Houston!
The window of time in which tPA must be administered for treating acute ischemic stroke has limited its use. One result of a new study of tPA in strokes of unknown duration could add inertia status as an indication for thrombolysis.

“The window is different for strokes of unknown duration,” said ISC Vice Program Chair Bruce Ovbiagele, MD, MSc, professor and chairman of neurology at the University of California, Los Angeles. "The window in these stroke patients is wider compared to other stroke patients, so one can use tPA for treating acute ischemic stroke patients with more than 3 hours from last known well status.”

The study’s results will be presented by Theresa I. Shireman, PhD, professor of health services, policy and practices at Brown University in Providence, Rhode Island, on Thursday in Room 616. Shireman and her co-investigators found that the time of tPA administration was not associated with improved outcomes in the group of patients with strokes of unknown duration who received tPA treatment.

“Compared with placebo, tPA was safe and had a beneficial effect on mortality and functional outcomes,” said Shireman. "This is a completely novel indication for tPA treatment."

Shireman and her team studied a total of 133 patients who were treated with tPA for strokes of unknown duration. The patients were divided into two groups: those who received tPA within 3 hours of last known well status and those who received tPA more than 3 hours from last known well status.

The study found that patients who received tPA more than 3 hours from last known well status had similar outcomes to those who received tPA within 3 hours of last known well status. The study also found that the time of tPA administration was not associated with improved outcomes in the group of patients with strokes of unknown duration who received tPA treatment.

The results of this study suggest that tPA may be a safe and effective treatment for patients with strokes of unknown duration, and that the time of tPA administration is not a significant factor in determining the effectiveness of the treatment.

The study was supported by the National Institute of Neurological Disorders and Stroke and the National Heart, Lung, and Blood Institute.
TOGETHER, LET’S HELP REDUCE HER RISK FOR A SECOND STROKE.

Are you looking long enough?

84 Days
Median Time to AF Detection in Cryptogenic Stroke Patients

Learn about AF detection with Reveal LINQ ICM at Booth #327 or visit: CRYSTAL-AF.com
CRYPTOGENIC STROKE AND THE ROLE OF AF MONITORING

Reference

Brief Statement: Reveal LINQ™ LNQ11 Insertable Cardiac Monitor and Patient Assistant
Indications: Reveal LINQ Insertable Cardiac Monitor. The Reveal LINQ Insertable Cardiac Monitor is an implantable patient-activated and automatically-activated monitoring system that records subcutaneous ECG and is indicated in the following cases: patients with clinical syndromes or situations at increased risk of cardiac arrhythmias; patients who experience transient symptoms such as dizziness, palpitation, syncope, and chest pain, that may suggest an cardiac arrhythmia. This device has not been specifically tested for pediatric use. Patient Assistant: The Patient Assistant is intended for unsupervised patient use away from a hospital or clinic. The Patient Assistant activates the data management feature in the Reveal Insertable Cardiac Monitor to initiate recording of cardiac event data in the implanted device memory.

Contraindications: There are no known contraindications for the implant of the Reveal LINQ Insertable Cardiac Monitor. However, the patient’s particular medical condition may dictate whether or not a subcutaneous, chronically implanted device can be tolerated. Warnings/Precautions: Reveal LINQ LNQ11 Insertable Cardiac Monitor. Patients with the Reveal LINQ Insertable Cardiac Monitor should avoid sources of diathermy, high sources of radiation, electrosurgical cautery, external defibrillation, lithotripsy, therapeutic ultrasound, and radiofrequency ablation to avoid electrical reset of the device, and/or inappropriate sensing as described in the Medical procedure and EMI precautions manual. MRI scans should be performed only in a specified MRI environment under specified conditions as described in the Reveal LINQ MRI Technical Manual. Patient Assistant: Operation of the Patient Assistant near sources of electromagnetic interference, such as cellular phones, computer monitors, etc., may adversely affect the performance of this device. Potential Complications: Potential complications include, but are not limited to, device rejection phenomena (including local tissue reaction), device migration, infection, and erosion through the skin. See the device manual for detailed information regarding the implant procedure, indications, contraindications, warnings, precautions, and potential complications/adverse events. For further information, please call Medtronic at 1 (800) 328-2518 and/or consult Medtronic’s website at www.medtronic.com.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician.
Controversies in Stroke
For clinicians who face daily uncertainty in their clinical practice decision making

- Features contrasting opinions of leading experts as to how clinical dilemmas should be approached, an overview of the positions taken by the opposing experts, and recommendations about how to manage the clinical dilemmas.

Illustrative Teaching Cases
Provides early career clinicians better direction as to how to approach similar cases they encounter

- Presents clinical vignettes of challenging cases seen in clinical practice, including an evaluation of the case, the management, and the outcome. Relevant literature related to the case is provided, as well as an outline with the “take home” points pertinent to the case.

State-of-the-Science Nursing Review
For nurses and interdisciplinary team members involved in the care delivery process

- Focuses on the unique contribution nursing plays in addressing prominent healthcare issues for those at risk for stroke, stroke survivors, and their families. Within this series, important aspects of evidence-based interventions and their associated outcomes are described. Key points to incorporate in care throughout the care delivery process are emphasized.