SVIN Society of Vascular and Interventional Neurology

SVIN QUARTERLY

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Society News

The 3rd Annual Meeting of the Society of Vascular and Interventional Neurology will be held at the Palace Hotel in San Francisco, January 16-17, 2010. Online submission of abstracts will soon be open at https://svin.conference-services.net. We were pleased to have a high caliber of submissions last year and hope to continue this tradition of scientific excellence. Abstracts presented at other scientific proceedings are still qualified for presentation at the SVIN meeting.

The inaugural issue of the *Journal of NeuroInterventional Surgery (JNIS)* was published July, 2009. *JNIS* serves as the official journal for the Society of NeuroInterventional Surgery (SNIS, formerly American Society of Therapeutic and Interventional Neuroradiology) and SVIN. Numerous contributions from SVIN members included reports on national case volumes of systemic and local thrombolysis by Dr. Noguiera et al and long term outcomes of Wingspan stenting by Drs. Fitzsimmons and Zaidat et al. Proceedings of the SNIS annual meeting, held in Boca Raton Florida, were also published in this issue which again included several oral abstracts by SVIN members. SVIN members are encouraged to submit their original work to this journal online at www.jnis.org.

The first SVIN executive board retreat recently convened in Chicago, September 11-12th. The purpose of this meeting included establishing and reaffirming the future society mission and goals. Major initiatives of the society to date have included issuing position statements on the topics of Medicare reimbursement for carotid artery stenting and training standards for practitioners in the field of neurointervention. Future agenda will include ideal training for neurology residents in neurointervention.

SVIN has signed an agreement with the Carotid Artery Revascularization and Endarterectomy (CARE) Registry, a national multi-organizational sponsored database instituted to track and compare benchmark quality measures for patients undergoing surgical and endovascular carotid repair at individual institutions. Drs. Nirav Vora and Alex Abou-Chebl serve as SVIN delegates to this registry.

Science and Industry News

NeuroVasx, Inc. (Maple Grove, MN) has applied for 510(k) clearance of their novel aneurysm embolization coil, cPax. Device development and investigation has in part been aided by grant support from the National Institutes of Health. The polymer strand is delivered through traditional microcatheters used for neurointerventional work and is unique in having multiple detachment points enabling adequate aneurysm compaction with fewer coils. Other purported advantages of this system include reduced artifaction on imaging. Thirty five patients have been studied in the initial clinical trial evaluating safety of the device, which is currently available in Europe.

Micrus Corp. (San Jose, CA) and Genesis (Redwood City, CA) are collaborating in the marketing of the F.A.S.T. Funnel catheter, a novel device for mechanical thrombectomy/ vacuum aspiration in the setting of acute ischemic stroke.

The Gore flow reversal system (Gore Medical, Flagstaff, AZ) for distal protection during carotid stenting procedures has been approved in the United States. This device reverses downstream blood flow during endovascular therapy to prevent the migration of emboli.

Following the recent review period during which the Centers for Medicare Services (CMS) reviewed opinions from various professional organizations on the subject of reimbursement policies for carotid artery stenting, CMS has determined not to change current reimbursement policies to include more asymptomatic patients.

Concentric Medical Corp. (Mountainview, CA) has launched a new distal access catheter available in a 0.057" lumen size to complement the existing 0.038" lumen size as an additional tool for coaxial support for distal microcatheter access. The catheter is fully compatible with the Merci Retriever system as well as other microcatheters used for other neuroendovascular procedures.

Penumbra Inc. (San Leandro, CA) has begun the SMART (Stroke Treatment and Revascularization Therapy) trial, which will study clinical outcomes after acute ischemic stroke intervention and correlate those with pre-treatment imaging characteristics. Trial design is a prospective, single-arm, multicenter study recruiting patients with National Institutes of Health Stroke Scale scores of at least 10, anterior circulation large vessel occlusion with known infarct size on admission, within 8 hours from symptom onset. A central core lab headquartered at Massachusetts General Hospital in Boston will read all imaging data.

INSIDE THIS ISSUE...

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President's Message

The society of vascular and interventional neurology (SVIN) had its first formal board of directors business meeting Saturday, September 12, 2009. This meeting focused on the strategic planning and the SVIN goals for the next few years.

It was exciting to see the participation from all board members during the meeting. Among the issues discussed, I will focus on two main points in this newsletter.

Without efficient and functional subcommittees; our goals cannot be achieved. Activating the committees and improving efficiency to move agenda items forward as well as encouraging active vascular neurologists and interventional neurologists to participate in committee activities is one key goal. No interventional or vascular neurologist should be left behind. We envision the SVIN to be the lead society for vascular and interventional neurology. Committees are restructured and will be posted on the website, please contact SVIN to volunteer for committee functions.

The second goal concerns activating the clinical trial and research committee and SVIN Research Consortium (SRC). The SVIN has one of the strongest assets among other societies; young members eager to mobilize the field along and a vital willingness to collaborate on research. The society collective is essential for us to garner a place on the scientific map and advance the research of the field in order to enhance patient care and outcome.

Other issues raised at the executive board meeting included membership drives and strategies to recruit non-interventional, vascular neurologists and international members as participating members of SVIN. The SVIN will have an exhibit during the American Neurological Association meeting in Baltimore this coming October and another exhibit during the American Academy of Neurology meeting in April.

I will finalize with the following additional announcements:

1. Joint society journal: *Journal of Neurointerventional Surgery (JNIS)* is the official journal of SVIN jointly with SNIS for the time being. We should have a discounted subscription to our members.
2. The Endovascular Stroke Training standards paper on behalf of SVIN/SNIS/AAN/AANS is published in *JNIS* and *Journal of Stroke and Cerebrovascular Diseases* and may be possibly published in *Neurology* and *Journal of Neurosurgery*
3. The Third Annual SVIN meeting will convene in San Francisco on January 16-17, 2010 at the Palace Hotel and will be jointly held with the American Society of Neuroimaging.
4. Submit your abstracts! The Annual Meeting Abstract Website is now open on the SVIN website www.svin.org
5. The SVIN registry website is open now; please contact Randall Edgell, redgell@gmail.com, for more details on participation and authorship rules and bylaws for participation.
6. Contact us for volunteering opportunities with SVIN activities

In the next issue of the newsletter, we will address other initiatives and goals set forth by the board of directors.

Thank you and see you during the annual meeting in San Francisco.

Osama (Sam) O. Zaidat, MD
SVIN President
Milwaukee, Wisconsin

Upcoming Neurology Meetings

American Neurological Association
October, 2009 – Baltimore, MD

American Stroke Association
February 2010 – San Antonio, TX

American Academy of Neurology
April 2010 – Toronto, Ontario, Canada

SVIN
Society of Vascular and Interventional Neurology

Editor's Corner – Unconventional Allies or Professional Competition

Meyers et al recently published guidelines for accepted minimum procedural competency for endovascular acute stroke intervention ("Performance and training standards for endovascular ischemic stroke treatment"). This paper, endorsed by the American Academy of Neurology, the joint cerebrovascular section of the American Association of Neurological Surgeons and Congress of Neurological Surgeons, Society of NeuroInterventional Surgery, and our Society of Vascular and Interventional Neurology, appeared in the *Journal of NeuroInterventional Surgery* (2009; 1:10-12), also to print in the *Journal of Neurosurgery*.

Parallel with this, 'white papers' by non-neurological specialists on the interventional treatment of acute ischemic stroke have circulated (White et al, "Interventional Stroke Therapy: Current state of the art and needs assessment"), and the medical literature contains periodic reports from non-neurointerventionalists who treat acute ischemic stroke (DeVries et al, Acute Stroke Intervention by Interventional Cardiologists, *Catheter and Cardiovascular Intervention*, 2009).

These articles reflect two often competing needs in the reality of acute stroke care: the desire of the consulting neurologist to utilize any and all available resources (including personnel) to offer revascularization therapy to patients *in extremis* and the desire of the neuro-interventional elite to maintain high performance standards.

The stated commitment to maintain practice standards ostensibly arises in part from the current state of scientific proof in this area, or lack thereof. While the validity of endovascular therapy still awaits establishment, neuro-interventionalists can ill afford to undermine treatment results by substandard technique. Despite the overwhelming need for research in acute ischemic stroke, progress has been slow, though not for lack of effort. There is a whirlwind of activity involved in acute stroke research. The Interventional Management of Stroke (IMS) 3 trial continues to move forward, though enrollment occurs at low rates, due to a combination of factors: few candidates for therapy and fewer still available interventionalists. Concentric, Inc. (Mountain View, CA) and Penumbra, Inc. (San Leandro, CA) have active registries tracking the real world experience of their device usage in the setting of acute ischemic stroke. Concentric had initial plans for a randomized trial comparing sole pharmacological therapy to endovascular therapy, though such a trial has ultimately not proved cost-effective for the company and was abandoned.

Other reasons for consensus opinion regarding performance standards are more practical. The quandary of providing interventional acute stroke coverage with the ability to maintain technical skills with high case volume stands at the center of this issue and has been addressed before in this newsletter. Similarly, the interest of other specialists in AIS may derive in part from perceived high hospital reimbursement levels for stroke intervention, against a backdrop of decreasing physician reimbursement in many other medical areas.

Where do we as a society stand in this regard? Do we accept the challenge that proof of therapy is needed, and our primary goal is to provide the answers, though this may entail enlisting the help of other (non-neuro) practitioners of endovascular therapy? As a larger lobbying group, would we be able to more effectively arbitrate for more equitable physician reimbursement for our procedures?

There is also little counterargument to offer to a treating clinician facing a patient with large vessel occlusion, for whom the only possibility of revascularization may be treatment by a non-neuroscience interventionalist. However, will we feel prepared to continue to treat emergency conditions if our case volume steadily declines?

If we, as a group of a neuro-interventionalists, assume that for stroke patients, endovascular revascularization therapy is a valid treatment strategy, then the next step is implementation of this. Each of us practicing in our home institutions know that delivery of this therapy is impacted simply by virtue of our presence on site. Along these lines, could this therapy be delivered at other institutions without neuro-interventionalists, by other endovascular specialists? The only other limiting factors may be availability of equipment and ancillary staff essential to make the case happen.

Allies are important in all and any circumstance. That other stroke neurologists would be our allies is assumed. The question concerns those able to help share the burden of delivering this treatment. Where do interventional cardiologists, vascular interventional radiologists, and diagnostic neuroradiologists fit into the picture? We find ourselves wishing for more practitioners to deliver the therapy such that patients may have access to treatment and ease call burden, yet at the same time, we wish to restrict the people who may deliver this therapy.

With national healthcare so prominently in the forefront of public perspective, we must consider the public need and perspective in our opinion. Indeed, the only solvent solution in the end must have the endorsement of the general populace, as a strategy primarily aimed at delivering the most expeditious quality care to the widest needing public. Future SVIN policy must be implemented with this in mind.

Do you have an issue you wish to discuss? Please send your "Letters to the Editor" to svin.org@gmail.com.

Meeting Abstract Summaries

34th International Stroke Conference
February 2009, San Diego, CA

Preliminary Experience with the Use of Intra-arterial Tenecteplase for Acute Ischemic Stroke Treatment.

Muhammad Zeeshan Memon, Qaisar A Shah, Gabriela Vazquez, Adnan I Qureshi; Zeenat Qureshi Stroke Research Center, University of Minnesota, Minneapolis, MN

This prospective study compared intra-arterial (IA) tenecteplase (TNK) treated group with other IA thrombolytic therapy (each group with or without adjunctive use of mechanical devices). Among 72 patients; 23 received TNK during endovascular outcome, with a higher tendency towards recanalization in this group.

Comparison Of Safety, Radiographic and Clinical Outcome Of Intra-Arterial Thrombolysis Under Conscious Sedation Versus Pre-procedural Intubation.

Tudor G Jovin, Mouhammad A Jumaa, Fan Zhang, Univ of Pittsburgh Med Cntr, Pittsburgh, PA; Rishi Gupta, Cleveland Clinic Foundation, Cleveland, OH; Syed F Zaidi, Ridwan Lin, Aitziber Aleu, Nirav A Vora, Vivek Reddy, Maxim D Hammer, Lawrence R Wechsler, Ken Uchino; Univ of Pittsburgh Med Cntr, Pittsburgh, PA

This interesting prospective study addresses the question of safety of IA thrombolysis under conscious sedation (as opposed to general anesthesia) when feasible. One hundred fourteen patients with anterior circulation strokes were enrolled of whom 56 underwent IA therapy under conscious sedation. Using quantifiable stroke scales, mortality rates, and rates of "good clinical outcome," they found conscious sedation as safe general anesthesia for these patients.

Comparison Between Medical Therapy And Endovascular Treatment Of The Extracranial Atherosclerotic Vertebral Artery Stenosis: A Systematic Review.

Muhammad Zeeshan Memon, Robert A Taylor, Gabriela Vazquez, Adnan I Qureshi; Zeenat Qureshi Stroke Rsch Cntr, Univ of Minnesota, Minneapolis, MN

In this retrospective review, the investigators identified 37 reports in the literature regarding extracranial vertebral artery stenosis (EVAS) of which two reports concerned sole medical therapy in comparison to all others evaluating endovascular intervention. These reports indicated that the risk of all strokes and death was higher in patients treated with medical therapy compared to endovascular treatment at 1 year (23% versus 6%). The authors conclude that a prospective randomized trial is warranted in order to better understand the efficacy of the endovascular treatment compared to the standard medical therapy.

First Multi-Center Real World Clinical Data on use of the Penumbra System in Acute Ischemic Stroke.

R. Tarr, D. Hsu, Z. Kulcsar, C. Bonvin, D. Rufenacht, K. Alfke, R. Stingele, O. Jansen, D. Frei, R. Bellon, M. Madison, T. Struffert, A. Dorfler, I. Q. Grunwald, W. Reith, A. Haass

Rob Tarr et al (Cleveland Clinic) presented post marketing analysis data of the Penumbra device for acute ischemic stroke. In this prospective registry of 137 patients in 7 centers, baseline results included mean ages of 63 years, 49% female patients, mean National Institutes of Health Stroke Scale scores of 18. The majority of target vascular occlusions were located in the middle cerebral artery (51%) followed by the internal carotid artery (26%) and vertebrobasilar system (24%). This latter group contrasted with the pivotal study which included 9% vertebrobasilar strokes. The majority (92%) of patients had baseline angiographic thrombolysis in myocardial infarction (TIMI) scores of 0. After treatment 84% of patients achieved TIMI scores of 2-3. The rates of symptomatic hemorrhage were 7.2%, slightly lower than that seen in the pivotal study (11%).

Updated follow up data was presented at the Society of NeuroInterventional Surgery meeting in Boca Raton, FL. Of the 110 patients (out of the total 139 studied), 40% had modified Rankin scales of 2 or less at 90 days.

Update on Stenting vs. Aggressive Medical Management for Preventing Recurrent Stroke in Intracranial Stenosis (SAMMPRIS) Trial.

Colin Derdyn, Marc Chimowitz, David Fiorella, Tanya Turen, Michael Lynn, Bethany Lane, Scott Janis, SAMMPRIS Investigators

Presentation of the SAMMPRIS data discussed results of the National Institutes of Health registry which included intervention for patients with 70-99% intracranial stenoses. The technical success rate of Wingspan™ (Boston Scientific, Natick, MA) stenting was 96% and rates of stroke, intracranial hemorrhage, death at 30 days was 14%.

The HIAT Score: Identifying Patients At High Risk For Poor Outcome After Intra Arterial Therapy For Acute Ischemic Stroke.

Hen Hallevi, Andrew D Barreto, Univ of Texas Houston, Houston, TX; David S Liebeskind, Univ of California Los Angeles, Los Angeles, CA; Miriam M Morales, Univ of Texas Houston, Houston, TX; Sheryl B Martin-Schild, Tulane Univ, New Orleans, LA; Anitha T Abraham, Univ of Texas Houston, Houston, TX; Jignesh Gadia, Jeffrey L Saver, Univ of California Los Angeles, Los Angeles, CA; James C Grotta, Sean I Savitz; Univ of Texas Houston, Houston, TX

The authors developed a score utilized to identify potential poor responders to IA therapy. Variables associated with poor outcome were: age, baseline National Institutes of Health Stroke Scale score (NIHSSS), admission glucose, diabetes, heart disease, previous stroke and the absence of mismatch on the pre-treatment MRI. Logistic regression identified three variables independently associated with poor outcome: age, NIHSSS, and admission glucose. Using this data, investigators devised the Houston IAT (HIAT) score: 1 point for age > 75; 1 for NIHSSS > 18 and 1 point for glucose > 150 mg/dL (range 0 to 3). The percentage of poor outcome by HIAT score was: score of 0: 44%; 1: 67%; 2: 97%; 3: 100%. Recanalization rates were similar across the scores. Their study demonstrates that the HIAT score estimates the chances of poor outcome after IAT even with recanalization. It may be useful in comparing cohorts of patients and when assessing the results of clinical trials.

Time to Microcatheter for Endovascular Therapy in Acute Ischemic Stroke: A Multicenter Review.

Jefferson T Miley, Muhammad Zeeshan Memon, Haitham M Hussein, Douglas A Valenta, M Fareed K Suri, Adnan I Qureshi; Zeenat Qureshi Stroke Rsch Cntr, Univ of Minnesota, Minneapolis, MN

The investigators evaluated times to microcatheter treatment of the target vessel among patients presenting with AIS at their institution. Of a total of 91 patients, with mean ages of 68 years, and median NIHSSS of 15, the median time from obtaining initial radiographic study to microcatheterization was 173 minutes.

⇨continued on page 5

⇨ continued from page 4

No significant time delay was found in patients who were intubated, were administered IV rt-PA (intravenous recombinant tissue plasminogen activator) or had MRI performed. There was also no significant delay in patients presenting at night or weekends. Time to microcatheterization was significantly delayed in patients with NIHSSS of 10 to 19 (194 + /-65 minutes) compared to those with NIHSSS of 20 or more (147 + /-65 minutes). The authors summarized their data with the point that standardization of times to microcatheter therapy are required across institutions and all patients.

61st Annual meeting American Academy of Neurology April-May 2009, Seattle, WA

Late Endovascular Revascularization in Acute Ischemic Stroke Based on Clinical-Diffusion Mismatch (REVASC)

Nazli Janjua, Brooklyn, NY, Ahmed El-Gengahy, Newark, NJ, John Pile-Spellman, New York, NY, Adnan I. Qureshi, Minneapolis, MN

This was a retrospective review of patients presenting with acute ischemic stroke (AIS) beyond 8 hours who underwent endovascular revascularization therapy. Patients were triaged according to their fulfillment of 'clinical-diffusion mismatch' criteria (having NIHSSS of 8 or more and diffusion weighted imaging lesion abnormality restricted to 25 cc^3 or less). Early neurological improvement (decrease in NIHSSS by 4 points at 1 week) was greater and early neurological deterioration (increase in NIHSSS by 4 points at 1 week) was prevented in patients receiving treatment. A prospective study is planned. Results were also presented at the 10th WFITN meeting in Montreal, Canada June-July, 2009 and have been published in the May 2009 issue of AJNR.

Organization of Acute Stroke Services in the Western United States

May A. Kim, Los Angeles, CA, Timothy Ingall, Phoenix, AZ, Gene Sung, Los Angeles, CA

A survey based study looking at stroke centers organization and monetary compensation of stroke physicians in academic or private settings in the Western States Stroke Consortium, a collective of 71 centers of which 44% responded (31 centers). Of these 65% had designation as comprehensive stroke centers and 71% Joint Commission of American Hospital Organization (JCAHO) certified. Further analysis demonstrated that 24 centers had a dedicated 24/7 available stroke service. The average number of physicians per institute sharing stroke call was 4.7 and the average compensation for a stroke physician director was $34,700. The final conclusion of the study was a greater need of physician taking stroke calls requiring higher compensation.

Preliminary Data for the DAWN Trial (DWI/PWI and CTP Assessment in the Triage of Wake-Up and Late Presenting Strokes Undergoing Neurointervention): Imaging based Endovascular Therapy for Proximal Anterior Circulation Occlusions Beyond Eight Hours from Last Ween Well in 193 Stroke Patients.

Raul Noguiera, Boston, MA, David Liebeskind, Los Angeles, CA, Rishi Gupta, Cleveland, OH, Elad Levy, Buffalo, NY, Ansar Rai, Morgantown, WV, Andrew Barreto, Houston, TX, Osama Zaidat, Milwaukee, WI, Nazli Janjua, Brooklyn, NY, Alex Abou-Chebl, Louisville, KY, Dileep Yavagal, Miami, FL: Marilyn Rymer, Kansas City, KA, Blaise Baxter, Omaha, NE, Anthony Furlan, Cleveland, OH, Tudor Jovin, Pittsburgh, PA

This data was presented as an oral platform during the stroke/interventional neurology section of the 61st American Academy of Neurology meeting in Seattle, WA as well as at the Society of Neuro-Interventional Surgery meeting in Boca Raton, FL. This retrospective analysis of multi-center data of 193 patients presenting with anterior circulation stroke syndromes presenting on average 16 hours or more from the time of the last known normal neurological baseline underwent endovascular revascularization therapies. Good outcome at 90 days (modified Rankin scale < / = 2) was achieved in 45% of the patients, with symptomatic hemorrhage rates of 10% and mortality rates of 22%.

Safety of Treatment of More Multiple Aneurysms in the Same Session

Mahmoud Rayes, Amit Kansara, Ambooj Tiwari, Chethan Rao, Murali Guthikonda, Andrew Xavier, Detroit, MI

This single center experience evaluated the safety of coiling multiple aneurysms simultaneously. Of a total of 109 patients, four had multiple aneurysms treated in the same session. They found high success rates of complete occlusion of the aneurysm and no incidence of intra-procedural aneurysm rupture in this small analysis.

Embolization of Intracranial Dural Arteriovenous Fistulas with Onyx: Single-Center Experience in a Series of 25 Patients.

Raul G Nogueira, James D Rabinov, Carlos Baccin, Albert Yoo, Bob Carter, Christopher S Ogilvy, Joshua A Hirsch, Johnny C Pryor; Massachusetts General Hospital, Boston, MA

The investigators presented their group of 25 patients with dural arteriovenous fistulae treated via the endovascular route of treatment with Onyx liquid embolic agent. The mean age of these 25 patients was 55 years of which thirteen were men. The most common clinical presentation included ICH in 7 patients (28%), and tinnitus in 7 patients (28%). Ten DAVFs (40%) were located at the tentorial region, seven (28%) were located at the transverse/sigmoid sinus region, five (20%) were located at the torcula/transverse sinus region, and three (12%) were located at the midline/superior sagittal sinus region. A total of 33 procedures were performed in 25 patients (Three procedures in three patients; two in two patients; and one in twenty patients). Complete angiographic cure on immediate post-treatment angiography was achieved in 24 patients. One patient underwent surgical resection after partial embolization. There was one technical complication (asymptomatic extracranial vertebral artery dissection managed with anti-platelet therapy). There was no significant morbidity or mortality.

Impact Of International Subarachnoid Aneurysm Trial Results On Treatment Of Ruptured Intracranial Aneurysms In United States.

Adnan I Qureshi, M.Fareed K Suri, Gabriela Vazquez, Ramachandra P Tummala, Mustapha A Ezzeddine; Zeenat Qureshi Stroke Rsch Cntr, Univ of Minnesota, Minneapolis, MN

The authors evaluated changes in clinical practice following the International Subarachnoid Aneurysm Trial (ISAT). Studying admission records from the Nationwide Inpatient Sample dataset, they found 72,390 admissions for ruptured aneurysms in the three year period prior to and 79,718 admissions in the three year period after ISAT publication. There was a significant increase in endovascular treatment after publication of ISAT. The in-hospital mortality for ruptured intracranial aneurysm admission decreased from 9.2% to 8.9% after the publication of ISAT. The median hospital charges was significantly higher after the publication of ISAT ($33,588 versus $51,328). The investigators concluded that the results of ISAT have led to prominent change in practice patterns related to ruptured aneurysm treatment. The cost of hospitalization has increased with a decrease in mortality presumable due to a larger proportion of patients receiving any treatment and endovascular treatment.

10th Biennial WFITN Meeting

by Thanh Nguyen

The Tenth congress of the World Federation of Interventional Therapeutic Neuroradiology convened June 29th to July 3rd, 2009 in Montreal, CA. Contributors included many SVIN members. Some highlights of the meeting are summarized below.

Aneurysm Symposium

The theme discussed at the aneurysm symposium revolved around aneurysm recurrence and its clinical relevance. Dr. Lubicz, from Belgium, discussed magnetic resonance imaging (MRI) surveillance data after coil embolization of aneurysms, showing excellent resolution with 3-D time of flight MR angiography, but cautioned that gadolinium provides better resolution in cases of stent-assisted coiling. Dr. Szikora (Budapest, Hungary) showed a series of patients treated with flow-diverter devices, with very low associated treatment risk. Professor Rinkel summarized the session on post-treatment follow-up and aneurysmal recanalization by stipulating that the rate of rebleed is so low that imaging follow-up is not necessary, according to the International Subarachnoid Aneurysm Trial (ISAT) data.

Intracranial Atherosclerosis Symposium

The intracranial atherosclerosis symposium included an international expert panel of stroke neurologists, neurointerventionalists and trialists. Professor Brown (London, United Kingdom) discussed the clinical neurologists' conservative vs progressive approach of patients with intracranial stenosis and is preparing a parallel international study to the Stenting and Aggressive Medical Management for Preventing Recurrent stroke in Intracranial Atherosclerosis (SAMMPRIS) trial. Drs. Derdeyn, Cloft and Chimowitz discussed details of the SAMMPRIS trial. Dr. Adnan Qureshi spoke on the topic of angioplasty vs stenting, and introduced his randomized trial aimed at evaluating these two techniques for intracranial atherosclerosis. This trial is currently seeking centers and interested groups may inquire at qureshi@umn.edu.

AVM Symposium: Is there a role for embolization?

An expert international panel discussed evolution and history of AVM embolization, the role of partial embolization and the current status of A Randomized trial of Unruptured Brain Arteriovenous malformations (ARUBA) which is also actively recruiting more centers. This study will compare the natural history with post-treatment effects of brain AVMs with 5 year follow-up. Evidently, a 10 year follow-up is intended to provide longer term data for these patients. Professor Saatci from Turkey reported impressive results of the high cure rate achieved with AVM embolization in her practice.

SPECIAL SESSIONS

Emmanuel's corner: the Dark Side of Interventional Neuroradiology?

A notable feature of the WFITN meeting were the "Emmanuel's corner" sessions. These closed door complications forums provided an open environment where interventionalists could discuss cases with the intent to learn from procedural dilemmas. Separate sessions covered interventions for aneurysms, AVMs, and intracranial atherosclerosis. Only course participants presenting their personal cases attended these symposia.

Tribute to Professor Pierre Lasjaunias and First Pierre Lasjaunias Grand Lecture

Professor Insup Choi delivered a moving tribute to the late Professor Pierre Lasjaunias. Apart from his tremendous work in interventional neuroradiology and neuroanatomy, Professor Lasjaunias was one of the WFITN cofounders and its president from 2007 to 2008. To honour his work and memory, the WFITN created a session entitled "Pierre Lasjaunias Grand Lecture ," inaugurated by Professor A. Valavanis, a professional peer and friend of Professor Lasjaunias who collaborated on the subject of his lecture: Phylogenesis and Architectonics of the Human Brain Applied to AVMs. This fascinating lecture provided a phylogenic approach of the brain in application to the brain AVM localization and vascularization.

Other topics of discussion and notable speakers included Prof. Marie Bousser (France) on the topic of aspirin, and a "meet the experts" session with a stellar panel, presenting atypical cases of brain AVMs and other cerebrovascular pathology.

Conclusion

In summary, the 10th biennial was a noteworthy event in the field of neuro-intervention. We hope that the 3rd annual meeting of the SVIN may aspire to similar high standards as our own previous meetings and other more well established international meetings in the field.

Neurology Residency Training in Interventional Neurology

by Ramy El-Khoury, Department of Neurology, University of Texas, Houston, TX

10% of Neurologists Become Vascular Neurologists

The current pathway for neurologists to enter neuro-interventional training requires a minimum of one year Vascular Neurology as a prerequisite. Specialty certification in stroke neurology itself similarly requires one year of Accreditation Council of the Graduate Medical Education (ACGME) approved year of training in Vascular Neurology after residency.

Data provided by the ACGME lists 1832 ACGME accredited adult neurology positions divided over three postgraduate years (PG) years of training (PGY2, 3, and 4) offered by 126 programs. Of those, approximately 610 residents graduate every year. Currently the ACGME has accredited 64 Vascular Neurology programs which offered 60 positions in the most recent match year. (Exact data on the number of fellows accepted per program or consecutive years of acceptance of new applicants per program is not provided). Based on these statistics at least 10% of graduating neurologists pursue further training in Vascular Neurology.

Additional data from the ACGME lists only four accredited Endovascular Surgical Neuroradiology programs, offering seven positions. At this time the majority of neuro-interventional training programs are not ACGME approved.

Interventional Neurology is the 'Hottest Fellowship" for Aspiring Neurologists!

Personal conversations with non neurologist and neurologist neuro-interventionalist fellowship program directors indicate that the vast majority (by some estimations, 95%) of applicants to neuro-interventional fellowships have graduated from neurology residencies. In the Neurology section of the Student Doctor Network, an online site geared towards medical students and residents in all areas of training, a survey polled neurology residents and students on their desired subspecialty fellowship training in the fields of Neuro-immunology/multiple sclerosis, cognitive and behavioral neurology/dementia, neuromuscular, neuroimaging, neurocritical care, epilepsy, clinical neurophysiology, etc (http://forums.studentdoctor.net, accessed 9/6/09). Among the total 56 responses, Interventional Neurology ranked as the "hottest fellowship in Neurology", with 44.6% responders choosing this career track. Other top ranking specialties included Neurocritical care (14.3%) and Pain medicine (12.5%). Cerebrovascular disease fellowships, listed separately, returned at 1.8% by respondents. In previous years, some neurology residents seeking training in Interventional Neurology completed Neurocritical Care fellowships to fulfill prerequisite requirements, and these statistics may reflect some overlap in trainees interested in careers in both fields.

Though this poll is not restricted to graduating neurology residents alone and thus may not reflect the most accurate subspecialty interest of the postgraduate group most eligible for fellowship training, current data seems to suggest at least 10% of neurology residents seek training in Vascular Neurology, of which much interest may exist to satisfy training requirements for Interventional Neurologists. Current applicants to all types of neuro-interventional training are overwhelmingly arising out of Neurology Residency training programs.

Interventional Neurology Fellowship Recruitment Postings

Stroke/Endovascular Surgical Neuroradiology Fellow: Three year program with ACGME approved Vascular Neurology program/Neurocritical Care training and Endovascular Surgical Neuroradiology training. Currently two positions available (one per year) to begin July 2010 and July 2011. Please send CV for preliminary consideration to Jawad Kirmani; NJNI, JFK Medical Center, 65 James Street, Edison NJ 08818; Phone: 732-744-5805; Fax: 732-744-5684; Email: jkirmani@solarishs.org.

Three year combined **stroke/interventional or neuro-ICU/ interventional** training program for Neurology Residency graduates to commence July 2011. Please send current CV and three letters of recommendation to Dr. Randall Edgell, c/o Sheryll Williams, email, williasj@slu.edu; Neurology & Psychiatry, Monteleone Hall, 1438 Grand Blvd., St Louis, MO 63104.

Interventional Neuroradiology Fellowship position to commence July 2010 at the Baptist Cardiac and Vascular Institute (BCVI) and Radiology Associates of South Florida. Applicants must fulfill one of the following: successful completion of Neurology Residency and one year of Stroke or Neurocritical Care Fellowship, OR Neurosurgery Residency, OR be AB-certified or Board Eligible in Radiology and have completed accredited Neuroradiology fellowship. For further information contact Claudia Rivera: claudiri@baptisthealth.net

Centers for Medicare Services Does not Expand Recommendations for Medicare Reimbursement for Carotid Artery stenting

by Nazli Janjua, MD

After recent reconsideration and deliberation on current recommended policy for Medicare reimbursement for carotid artery stenting (CAS) procedures, Centers for Medicare Services (CMS) recently posted their policy, which ultimately did not expand coverage for these procedures. This followed a national coverage determination (NCD) period in which external commentary was invited. The request to reopen the NCD was internally generated, based on recent newly published data concerning CAS procedures. Three year outcome results of the Stenting and Angioplasty with Protection in Patients at High Risk for Endarterectomy (SAPPHIRE) study appeared in the *New England Journal of Medicine* in April 2009, showing equivalent results for CAS in high-risk surgical patients with symptomatic stenosis of 50% or more and carotid endarterectomy (CEA).

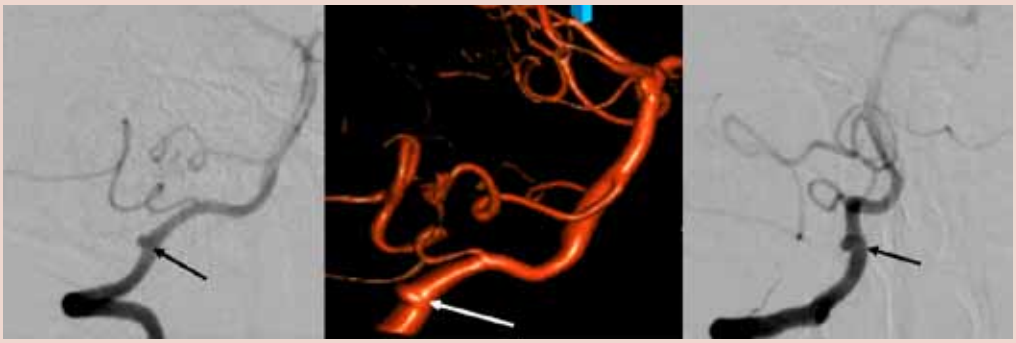
In response to the reopened NCD, the Society of Vascular and Interventional Neurology submitted a letter recommending non-expansion of coverage for procedures, reflecting only support of CAS for clinical paradigms currently backed by medical literature. Other societies providing commentary included the Society of Cardiovascular Angiography and Intervention (SCAI) which favored expansion of coverage to include patients with symptomatic stenoses of 50% or more outside of post-market analysis trials. The Society of Interventional Radiology's position was that coverage should be expanded, provided that standards of 3-6% procedural related morbidity and mortality were maintained.

Current reimbursement is limited to the following settings:

- Patients who are at high risk for CEA and who also have symptomatic carotid artery stenosis ≥70%. Coverage is limited to procedures performed using FDA-approved carotid artery stenting systems and FDA-approved or cleared embolic protection devices;
- Patients who are at high risk for CEA and have symptomatic carotid artery stenosis between 50% and 70%, in accordance with the Category B IDE clinical trials regulation (42 CFR 405.201), as a routine cost under the clinical trials policy (Medicare NCD Manual 310.1), or in accordance with the NCD on CAS post-approval studies (Medicare NCD Manual 20.7B);
- Patients who are at high risk for CEA and have asymptomatic carotid artery stenosis ≥80%, in accordance with the Category B IDE clinical trials regulation (42 CFR 405.201), as a routine cost under the clinical trials policy (Medicare NCD Manual 310.1), or in accordance with the NCD on CAS post- approval studies (Medicare NCD Manual 20.7B).

CMS has concluded their update by encouraging expeditious publication of ongoing trials studying the efficacy of CAS procedures. The Carotid Revascularization and Stenting Trial is underway with expected completion date of 2011. This study compares CAS and CEA in patients with symptomatic stenosis of 50% or greater (by angiography) or asymptomatic carotid artery stenosis of 60% or greater (by angiography; higher degrees of stenosis will be required of non-angiographic methods of stenosis are used).

CLINICAL MANAGEMENT QUESTION: Would You Treat This Aneurysm?



Right vertebral artery angiogram in right anterior oblique positions and anterior-posterior position. Arrow denotes aneurysm which measures 2-3 mm at dome.

62 year old woman with incidentally discovered 12 mm right posterior communicating artery aneurysm, s/p embolization with additional 2-3 mm right intradural vertebral artery aneurysm. The patient is in good health, with no major co-morbidities.

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