



THE CORE

SVIN Newsletter • Volume 2, Number 1 • February 2013

Inside this issue

President's Message..... 2

Editor's Corner..... 3

SVIN 5th Annual Meeting Recap...4-5, 7

SVIN 5th Annual Meeting
Abstract Review.....6-7

Trevo ProVue - Seeing is Believeing 8

Society News

1. The 5th SVIN Annual Meeting was held October 27-28, 2012 in Miami Beach, Florida. Congratulations to Dr. Linfante, Chair of the meeting, for coordinating an outstanding clinical and scientific program with national and internationally reknown speakers, including Dr. Ajay Wakhloo, Dr. Michel Piotin, Dr. Jeff Saver, Dr. Mark Chimowitz, Dr. Tudor Jovin, and Dr Asastasios Mpotsaris. More details of this year's meeting will be featured in The Core.
2. Several awards were honored at the 5th SVIN Annual Meeting. Congratulations are due to:
Dr. Ajay Wakhloo, for the Innovation Award.
Dr. Alex Berenstein, for the Pioneering Award.
Dr. Italo Linfante, for the Distinguished Service Award.
Dr. Tareq Kass-Hout, for the Best Abstract Award.
Dr. Jeffery Saver, for the Neurology Pioneer Award.
3. The 6th SVIN Annual Meeting for 2013 is planned for October 25-26, in Houston and will be led by Dr. Randy Edgell. For recommendations on suggested content or how to improve this meeting, please email: meetings@svin.org.

SAVE THE DATE – 6th Annual Meeting



October 25-27, 2013
Houston, Texas

More Information Coming Soon: www.svin.org

PRESIDENT'S MESSAGE



Dear SVIN Members,

Greetings and Best wishes for a fantastic 2013 to all of you!

A recent debate has started in our field regarding need for curbing or even stopping the training of fellows. The reasons for the debate are somewhat obvious and mainly based on the fear of potential oversupply of practitioners. Such an oversupply could lead to low patient and procedure volumes for currently practicing Neurointerventionalists - most of us could become "the low-volume operator". This has been a recurrent fear in interventional cardiology (Fye_circulation_2004; 109:813). Interestingly, this fear has never materialized.

Moratorium of fellowship training is highly unprecedented in any currently practiced medical subspecialty in the US. My personal contention is that while such a debate is healthy, a moratorium on fellowship training is highly pre-mature. Fellowship training of physicians is the bedrock of subspecialty healthcare delivery including Neuroendovascular care in the US and all around the world. It is also the engine for continued growth of a new sub-specialty. A continuous supply of fellowship-trained subspecialists allows for activities beyond performance of the routine clinical care, including: clinical and translational research to grow the specialty, organization of the specialty such as medical societies and examination boards, and supply of consultative expertise to the biomedical industry. In the US, the number of fellowship positions in ACGME accredited subspecialties are based on ACGME approval using patient volume at a given fellowship program and number of faculty as the essential criteria. This strategy seems to have worked fine for all these years and has avoided oversupply of practitioners in fields that widely adopt ACGME accreditation. One the reasons could be that the ratio of patients to practitioners is dynamic

over time. Patient volumes can increase over time based on increased access to subspecialists (increased number of comprehensive stroke centers for IACT) and increased awareness about the availability and early evidence of efficacy of therapies. This was seen with PCI for MI in cardiology with a 260% increase in volume between 1987 and 2000 (Fye_2004). Also, it is common to see the applications for fellowship positions go down if available jobs in the subspecialty are oversubscribed, leading to fellowship programs being closed down. However, a unilateral moratorium on training by current practitioners of a subspecialty has very little precedent. It runs the risk of being viewed as self-serving and survivalist move by the practitioners at the cost of benefit to the subspecialty, the future trainees and the patients that it serves.

Neurosurgery's Approach to Neurointerventional Training

There is another very problematic concurrent development occurring along with the call for fellowship moratorium; some of the very thought leaders advocating for stopping fellowship training in the Neurointerventional field are implementing in-folded training of Neurosurgery residents in Neurointervention. These contradictory steps can only be viewed as a disingenuous effort by Neurosurgery to ensure that only Neurosurgery residents get trained in the subspecialty in the future with no training opportunities for residents in Neurology and Radiology. SVIN, in accordance with its mission, is obligated to its membership to mount all its resources to oppose such political and

PRESIDENT'S MESSAGE (continued)

turf-protecting efforts by sister specialties in our field.

Counterproposals

To those who propose moratorium on training, here are my counterproposals:

1. Embrace ACGME accreditation widely,
2. Establish ABMS board certification
3. Consider increasing the fellowship training to three years to include a mandatory year of research in Neurointervention.

Embrace ACGME accreditation:

Fellowship training in Neurointervention, regardless of subspecialty can draw from the experience of supply and demand in Cardiology. In the 1990's there was a consensus that too many interventional cardiologists were being trained (Ullyot D. Work force issues in cardiology. J Am Coll Cardiol. 1995;25:278-279). However, once ACGME accreditation and board certification of interventional cardiology trainees took hold, the number of accredited training positions was limited and actually led to a shortage of supply of interventional cardiologists (Fye_2004). Our field can similarly avoid an "all or none" approach and use ACGME accreditation to have a finite number of high-level accredited training positions. The problem is not that there are too many training positions in Neurointervention in the US, but that we have not embraced ACGME accreditation.

Establish ABMS board certification in Neurointervention:

The reason programs have not widely embraced ACGME certification is that there is no incentive to do so in the absence of board certification. Therein is the need for the additional step of creating board certification for Neurointervention to complete the systematic

organization of standard training. SVIN is working closely with the representatives from SNIS and Neurosurgery to overcome the political hurdles in applying for American Board of Medical Subspecialties (ABMS) certification. I am pleased to share with you that this representative group seems to have made significant progress over the last few months towards this goal after years of discussion with little action. We have reason to be optimistic that board certification in our field could be a reality in the near future.

Add a Third Year of Research in fellowship training for board eligibility:

While this is initially a hard proposal to stomach, a third year of fellowship training focused on research would have the dual effect of solid training in scientific investigation for fellows as well as creation of a dedicated workforce for impactful research. As a collateral effect, it would also slow the rate of graduating fellows. Above all, we will have committed serious time and resources to increasing new knowledge in our field via research. Given the maturing of our field this would not be unusual as is seen in Ob-Gyn subspecialty fellowships and certainly closer to the four year interventional cardiology fellowships. This would also force "in-folded" training programs to add a higher bar for those who want to pursue the subspecialty of Neurointervention and not allow them to complete the training to be board eligible in the same duration as their residency.

In summary, while the perception that "too many fellows are being trained" currently in Neurointervention may not be misplaced, intermediate solutions to balance the needs of our specialty would be more sanguine rather than the drastic step of a moratorium on training fellows. SVIN is committed to participat-

President's Message continued on next page

**The Core
Newsletter Staff**

EDITOR'S CORNER



Thanh Nguyen
SVIN Newsletter Editor



Syed Hussain
SVIN Newsletter Associate Editor

The 5th Annual SVIN Meeting held on October 27-28 in Miami Beach, Florida, was the highlight of SVIN activities this year. We congratulate Dr. Italo Linfante for coordinating a thoughtful and dynamic program, including international and national reknown speakers: Drs. Ajay Wakhloo, Michel Piotin, Marc Chimowitz, Jeff Saver, David Liebeskind. We thank Dr. Sameer Sharma for providing a detailed summary of the meeting and abstract review for our newsletter, featured in The Core.

We thank our newsletter staff for their contributions in this current edition of The Core.

We hope to continue to recruit other SVIN members or interested readers at large to maintain an informative newsletter. This will require a coordinated team effort and we are looking forward to working with all of you. If you have any ideas or interest in writing articles, editorials, or commentary for future SVIN newsletter editions, this would be most welcome. In the interim, to everyone a Happy New Year.

President's Message continued from page 3

ing in this debate actively and protecting the growth of the subspecialty and interests of current and future and interventional Neurologists.

I invite you to send your thoughts on this critical issue to the SVIN listserv (under the "members only" section of the SVIN website at: <http://www.svin.org/user/for-members/colloquium/>

A healthy discussion among the SVIN membership will be crucial to informing SVINs actions on this issue.

Dileep Yavagal, MD
SVIN President

Editor's Corner

SVIN 5TH ANNUAL MEETING RECAP

Fifth Annual Meeting Recap

SAMEER SHARMA, MBBS



SVIN's 5th Annual Meeting was held in Miami Beach, Florida at the beautiful Fontainebleau Hotel on October 27-28, 2012, under the guidance of Dr. Italo Linfante. It started amidst "Sandy" warnings over the east coast. The conference reflected the growing importance and appeal of interventional neurology with a record number of abstracts submitted and the number of attendees present for the conference compared to prior conferences. The presence of top names in the field of neurology added to the aura of the conference.

The first day started with Dr. Jeff Saver from UCLA emphasizing the importance of the SWIFT trial in being the step that has raised the efficacy of intracranial revascularization towards the level of coronary revascularization. He graphically showed the dismal revascularization rates that we had before and the promise that Solitaire held in management of stroke. It was followed by mention of the upcoming SWIFT PRIME trial aimed at comparing traditional tPA vs tPA plus clot retraction with Solitaire device in management of acute ischemic stroke. He gave an open invitation to stroke neurologists participate in the trial.

After a welcome note by Dr. Linfante, the first session on aneurysms began with an excellent presentation by Dr. Ajay Wakhloo providing an example of application of bench research in clinical practice. He talked about the basic physics of flow dynamics behind the development of flow diversion devices. His talk outlined the basic principles behind management decisions about aneurysms and provided a succinct model

of clinical application of basic sciences. This was followed by a talk by Dr. Ricardo Hanel on the Pipeline device (Covidien) for management of intracranial aneurysms. He presented some of his own cases and reiterated the basic principles that were discussed in the previous talks. He mentioned the PUFs trial briefly and discussed common complications along with ways to prevent them. The last presentation of the session was given by Dr. Richard Klucznik, who presented a vast number of possible complications related to endovascular therapy, mostly using his own experience with the procedures he had performed during his career. The end of the session was marked by a panel discussion revolving mostly around delayed hemorrhage after flow diversion devices. Dr. Wakhloo was awarded the SVIN Innovation Award.



Dr. Italo Linfante

The second session, with AVM being the epicenter, was begun by Dr. Michel Piotin from France, who discussed the endovascular management of brain AVM. It was a comprehensive presentation of pathology, treatment options and choice of therapy that can be tailored to the pathology of AVMs. The next talk was given by Dr. Linfante who presented the basics of spinal AVM. The talk was more directed towards residents and fellows attending the conference and emphasized the fundamental concepts of spinal AVMs and their similarity and differences with regards to intracranial AVMs. The last talk of the session was given by Dr. Guilherme Dabus on cranio-cervical malformation which completed the triad to close the session on AV malformations. The topics for discussion in the third session

ANNUAL MEETING RECAP (continued)

were stenting, intracranial atherosclerosis and pharmacological agents. Notable speakers for the session were Dr. Marcus St. John, Dr. Marc Chimowitz and Dr. Alex Abou-Chebl. Dr. St. John started the session with his talk on recent advances in pharmacology for stroke prevention, and Dr. Chimowitz of SAMMPRIS followed with a discussion on the management of ICAD, with SAMMPRIS providing the background with regards to the management of intracranial atherosclerosis. The last talk of the session was by Dr. Abou-Chebl, who discussed the controversies surrounding carotid endarterectomy vs. carotid artery stenting for management of carotid artery stenosis. He discussed EVA-3S, ICSS, CREST and SPACE trials in his talk with emphasis on patient selection for CAS vs CEA.

This was followed by a session on ICAD abstracts and the “Stump the experts – Extra-intracranial stenting” session. The latter involved various fellows and vascular neurologists presenting difficult cases that they encountered and discussing them with the panel of experts. The last session of the day included talks pertaining to pediatric intervention, which made us realize the dearth of research in stroke and neurointervention in the pediatric population group. Dr. Darren Orbach started with basics of pediatric angiography and outlined problems unique to intervention in pediatric population. The session ended with Dr. Osama Zaidat talking about ischemic stroke in the pediatric population and focused on lack of meaningful data in this sub-group. He also mentioned the importance of the upcoming multinational IPSS (International Pediatric Stroke Study) study.

The day ended with a symposium on “New frontiers in acute stroke intervention”, which focused on two topics- collaterals and stem cells. Dr. David Liebeskind talked about collaterals and went on to spark a healthy debate when he embarked upon the subject of personalization of treatment for stroke vs. standard guideline based

therapy, while speaking for the former itself. He talked about the role of collateral assessment in personalization of therapy. There were two more talks in the symposium, both being on stem cells, first one entitled “Stem cell basics” presented by Dr. Sean I. Savitz and the second one entitled “Stem cell in Ischemia” presented by Dr. Dileep Yavagal. Both Dr. Savitz and Dr. Yavagal talked about recent research with stem cells in stroke and how it could be a paradigm changing advancement in the field of neurology.

The day ended with plans being made for the night’s Halloween party and talks about “Sandy” changing travel plans for the next day. When Dr. Alex Abou-Chebl missed his flight the next day, it was a blessing in disguise for the conference. With his enthusiastic questioning and discussion after almost every presentation, he made the conference come alive.

The last day started with Dr. Asastasio Mpotaris from Germany, presenting a talk on a new device being introduced by Penumbra and the THERAPY trial. The 3D penumbra device has been designed for clot retrieval versus Solitaire which is primarily a retrievable stent by design. He talked about his experience with the device and the importance of “made to retrieve” devices in the management of acute ischemic stroke.

The first half of the session on ischemia lectures was highlighted by a debate on MRI vs. CT scans for visualization of penumbra in management of acute ischemic stroke. Dr. Albert Yoo from the Massachusetts General Hospital spoke in favor of MRI while, Dr. Raul Nogueira from Emory talked in favor of CT scan. The debate saw enthusiastic involvement of most notable attendees present at the conference and with Dr. Saver chairing the session, it was a delight to watch them discuss the topic. While, the argument in favor of MRI being that it’s the best imaging technique for Penumbra, the other

Annual Meeting Recap continued on page 7

Fifth Annual Meeting Recap

SVIN 5TH ANNUAL MEETING ABSTRACT REVIEW

SAMEER SHARMA, MBBS



The 5th SVIN Annual Meeting continued to show the rising trend in number of abstracts submitted from prior meetings with a record number of 82 abstracts being submitted for the meeting. Of those, 42 were accepted for poster presentations and 12 were accepted for oral presentation. The abstracts involved almost all aspects of current and future trends in endovascular neurology. The abstract committee was headed by Dr. Robin Novakovic. Some of the abstracts are reviewed below.

Dr. Selvan's abstract on neuromodulation using endovascular approach with electric current showed a potential to expand the scope of intervention neurology beyond the realms of vascular pathology into a wide variety of neurological diseases. The abstract showed how an electric current with specific properties can be used to alter the properties of neural tissues without any effect on vasculature that bears the electric probe. The authors demonstrated that in theory the minimum electric field required to overcome tissue impedance and alter neural activity is well beyond that required to electrocoagulate or damage vasculature. They also provided empiric evidence in terms of prior use of similar concept in ablation of renal sympathetic nerve for management of hypertension. The authors also provide example of technical characteristics for the electrical pulse that might be used.

Dr. Sattar's abstract on CTA in acute stroke protocol shows the possibility of using CTA rather than non-contrast CT scan and how

it can affect the door-to-needle time for tPA and management decisions for management of acute ischemic stroke. The abstract showed that in their subgroup of patients door-to-needle time wasn't affected by the mode of initial radiological investigation employed even though time required to complete CTA versus non-contrast CT was more. The implications include making a better informed and a more personalized decision regarding the intervention that needs to be employed in a patient with acute ischemic stroke.

Dr. Aleu's abstract on reperfusion channels during mechanical thrombectomy with retrievable stents focuses on the phenomenon of establishment of reperfusion channels before actual clot retraction takes place with "stentrievors", particularly the Trevo retrievable stent in the example presented. The authors studied the frequency with which a reperfusion channel was established, the effect it had on outcome, any relation to stroke etiology or thrombolytic used. The study did not show any association between any of the above but the authors did emphasize upon the small sample size and need for a larger study to arrive at any conclusion.

Dr. Ortega-Gutierrez's abstract studied the outcome after intra-arterial therapy for management of acute ischemic stroke in a population aged over 80 years. With no prior study addressing this issue, the study intends to shed some light on the implications of employing intra-arterial therapy in populations older than 80 years of age. The authors used data from the Specialized Program of Translational Research in Acute Stroke (SPOTRIAS) group of stroke centers and they defined intra-arterial therapy (IAT) as receiving any endovascular therapy;

Abstract Reviews

SVIN 5TH ANNUAL MEETING ABSTRACT REVIEW(continued)

IAT was further divided into bridging therapy (BT) when the patient received both IAT and IV tPA, and endovascular therapy alone (ETA). The results did not show any increase in the risk of in-hospital mortality among those over age 80 compared to intravenous thrombolysis alone although there was a higher risk of in-hospital mortality compared to younger counterparts regardless of treatment modality.

Dr. Mokin's abstract presented their experience with the latest FDA approved Solitaire device for management of acute ischemic stroke. They retrospectively collected data from 10 stroke centers in USA and analyzed 107 consecutive patients in whom Solitaire device was used for mechanical thrombectomy. The patients had a mean NIHSS of 17, intravenous thrombolysis was administered in 37% of cases and

other endovascular techniques were utilized in conjunction with the Solitaire FR in 55% of the cases. The authors reported an 88% rate of successful recanalization. This is in comparison to historical rates of 60% and 24% with the MERCI device in TREVO2 and SWIFT trials respectively, and 82% with PENUMBRA suction device in the PENUMBRA trial although a direct comparison has not been studied and is warranted. Symptomatic intracranial hemorrhage occurred in 15% with in-hospital mortality of 24%. 32 (36%) patients had favorable functional outcome out of the 89 for which outpatient data was available. Treatment of patients with Solitaire FR device outside the SWIFT trial inclusion criteria and intervention protocol was associated with outcomes similar to those patients who were treated according to the trial design as per the authors.

Annual Meeting Recap continued from page 5

school of thought emphasized about the potential ease of acquiring CT and potential delays if MRI was chosen as the imaging technique of choice. The second half of the session included Dr. Khatri speaking about various models of a stroke center that would suit the needs of different population settings in the USA, Dr. Arani Bose talking about the history and future of intervention neurology as a field, and Dr. Tudor Jovin talking about future of acute stroke intervention.

This was followed by a session of Ischemia abstracts and "Ischemia-stump the expert" session. The latter went well with the attendees similar to its "intracranial stenting" counterpart the day before.

The last session saw various investigators discussing recent major clinical trials in the field

of endovascular neurology. When Dr. Pooja Khatri of IMS III came on the podium, everyone hoped to get a glimpse into the reasons behind the premature closing of the trial, but none was revealed. However, she did mention that the results would be revealed in the upcoming International Stroke Conference in February 2013. This was followed by presentations on MR RESCUE and SWIFT trials by Dr Saver. Then Dr Rishi Gupta talked about TREVO 1-2 trials on behalf of Dr Nogueira showcasing the efficacy of a new stentriever.

The conference ended on a high note with Dr. Italo Linfante announcing AANs' approval of The Young Investigator Award for SVIN and talks about a new dedicated journal. Dr. Tudor Jovin was announced the next president of SVIN, and the next meeting of SVIN would be presided by Dr. Randall Edgell.

Abstract Reviews

TREVO PROVUE – SEEING IS BELIEVING!

MOHAMED TELEB, MD



The latest stent retriever device is the Trevo ProVue from **Concentric Medical (Mountain View, Ca)**. It was released on November 8, 2012. It shares many of the same dimensions as the previous Trevo. The biggest breakthrough is the ability to see the entire device under fluoroscopy; hence the name ProVue. The ProVue's only indicated

The Trevo is similar to the Solitaire but differs slightly in some respects. The anchor of the Solitaire was originally designed to be detachable and we unfortunately have seen this with our use of it once. On the flip side, the fact that the Solitaire doesn't come with its own microcatheter allows the interventionalist more options. Overall the literature shows similar recanalization rates. Does seeing the stent allow for better placement and better recanalization rates? Only time will tell.

Compatibility:

Preferred Microcatheters: The TrevoProVue Device comes with its own microcatheter, (Trevo Pro 18) as part of the package. Its outer diameter is 2.4 F distally and 2.7 F proximally with an inner diameter of 0.021 in (1.6F, 0.50mm). The effective length is 150 cm.

Balloon Guide Catheters & DAC Catheters: Either 8 or 9 F balloon guide catheters are compatible with inner dimension of 0.078 or 0.085 in. DAC sizes are 0.044 or 0.057 in.

Use:

The use of Trevo ProVue is similar to other stent retrievers. The device is delivered over a microwire. Stent and Microcatheter are delivered distal to the clot. The stent is deployed by withdrawal of the microcatheter. The stent needs to embed for several minutes in order to integrate with clot. The stent & clot are withdrawn after the balloon is inflated. Aspiration is applied as the microsystem is withdrawn from the body.

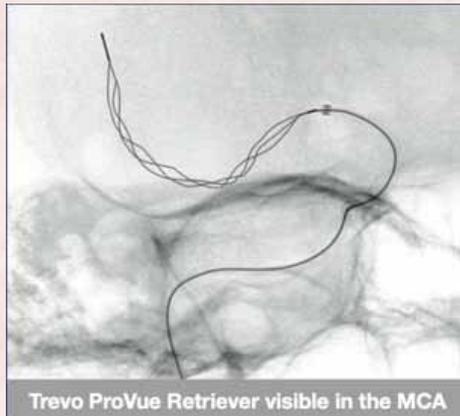


Figure: from Trevo ProVue Brochure.

use is clot retrieval. It is not indicated for stent assisted coiling or intracranial stenting, or to be deployed permanently. Since the design is similar to the previous generation, the brochure uses the recent Lancet Publication for Trevo2 with the original Trevo for pooled analysis rates ranging from 83.9% to 95% \geq TICI 2a depending on location. It then goes on to cite a 94.7% recanalization rate for 39 patients treated with ProVue.

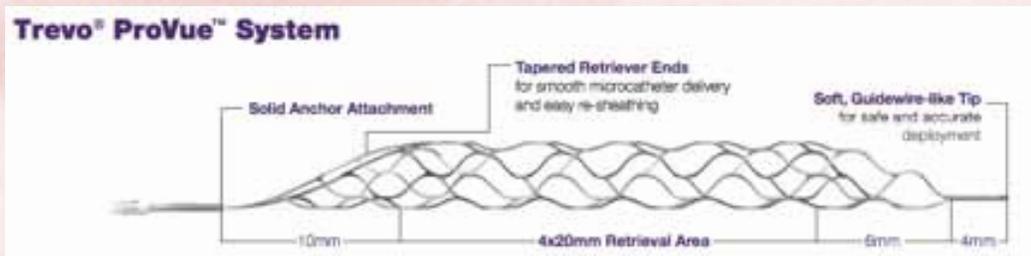


Figure: from Trevo ProVue Brochure.