Chairman’s Message

Clip vs. Coil Studies Must be Conducted Properly

Since our last newsletter communication with the AANS/CNS Section on Cerebrovascular Surgery membership, Issam Awad, MD, immediate past president of the CNS, hosted a courageous, innovative, and hugely successful meeting in San Diego. The section is indebted to Dr. Awad and the meeting planners for making exactly the right decision and providing such an important venue for the presentation of cerebrovascular science and controversy. The section’s executive council held a robust and spirited meeting in San Diego, and the substantive issues that were discussed are identified in the report by Phil Stieg, MD, in this newsletter. Nick Hopkins, MD, and Adnan Qureshi, MD, were invited to share with the executive council an updated version of the NATURE TRIAL of clip vs. coil.

At the time of this writing, the most important issue facing the section is to ensure that any funded trial studying the complex issue of clip vs. coil is conducted properly and targeted to specific clinical questions. Chris Loftus, MD, chaired a writing group to produce the types of outcome parameters that should be measured in any valid clinical trial of this type. This information has been communicated to each of the principal investigators of the three proposed clinical trials. The section’s leadership feels strongly that precise outcome parameters should be put in place to address not only clinical and neuropsychologic outcome, but also efficacy of treatment (morphology) and durability of treatment. We know that failure of clip occlusion occurs typically 7-10 years following the original craniotomy; therefore, it is important for the public health to have adequate angiographic follow-up that reveals whether coil patients, as well as clip patients, are at risk well beyond the end of the clinical trial. In this regard, the section has clearly articulated that a five-year follow-up angiogram is mandatory.

The fifth joint annual meeting of the AANS/CNS Section on Cerebrovascular Surgery and American Society of Interventional and Therapeutic Neuroradiology (ASITN) will be held Feb. 3-6, 2002, at the Hotel InterContinental in Addison (Dallas), Texas. As I hope you know, the addition of the section’s annual meeting has resulted in spectacular growth of section revenues, as well as the creation of major and important liaison with our colleagues from interventional neuroradiology. Robert Rosenwasser, MD, and Greg Thompson, MD, annual meeting chairmen, have worked with ASITN leadership to produce a truly outstanding scientific program. On Sunday, Feb. 3, a series of four special courses will be offered covering topics including vascular reconstruction, critical care management, thrombolysis and angioplasty, and endovascular management of aneurysms. On Monday and Tuesday, program offerings will include open paper presentations, poster presentations, and a broad menu of luncheon seminar offerings. In addition, scientific symposiums will include internationally renowned speakers covering topics including cerebral revascularization, controversies in the management of AVMs, considerations in ischemic and hemorrhagic stroke, aneurysmal subarachnoid hemorrhage, and the incidental and unruptured aneurysm controversy. Our meeting planners have also developed a number of outstanding social events during this meeting venue.

continued on page 8
Dear Colleagues:

The AANS/CNS Section on Cerebrovascular Surgery and the American Society of Interventional and Therapeutic Neuroradiology are excited to invite you to attend the fifth joint annual meeting, which will be held in Addison (Dallas), Texas, at the Hotel Inter-Continental Feb. 3-6, 2002. This year we've introduced a new session format in addition to the outstanding scientific program and fun social schedule.

The innovative and interactive scientific program is tailored for the neurosurgeon, endovascular/interventional neuroradiologist, neurologist, resident, nurse clinician, and physician assistant and is designed to apply directly to your practice.

Four special courses will take place one day prior to the meeting and will offer additional opportunities for CME credit and education. They are:

- Course 1—Extracranial and Intracranial Vascular Reconstruction: Surgical and Endovascular Options (full day)
- Course 2—Critical Care Management of Neurovascular Patients: Endovascular and Surgical Considerations (full day)
- Course 3—Technical and Pharmacologic Considerations in Thrombolysis and Intracranial Angioplasty (full day)
- Course 4—Technical and Clinical Considerations in the Endovascular Management of Intracranial Aneurysms (half day)

Five scientific symposiums and 20 luncheon seminars covering a variety of topics will be presented by experts in the field of neurosurgery and interventional neuroradiology.

The Scientific Program Committee carefully reviewed the evaluations and your comments from last year and found that the biggest request in the scientific symposiums was for more time for case presentations, as well as questions and answers. We have made changes to the format in an effort to enhance this very important aspect of the meeting.

There will be more than 175 oral and poster presentations presented at the meeting this year. In addition, more than 40 exhibitors are expected to display the latest advances in technology.

For more details on the fifth joint annual meeting, visit www.neurosurgery.org/cv/meetings, e-mail questions to meetings@neurosurgery.org, or call the AANS Meeting Services Department at (888) 566-AANS ext. 529. We look forward to seeing you in Dallas.

Sincerely,

Robert H. Rosenwasser, MD
Meeting Co-Chairman, 2002
AANS/CNS Section on Cerebrovascular Surgery

Randall T. Higashida, MD
Meeting Co-Chairman, 2002
American Society of Interventional and Therapeutic Neuroradiology

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2001 CNS Meeting: Reinventing Neurosurgery
By Murat Gunel, MD

The Congress of Neurological Surgeons witnessed its most colorful meeting in San Diego from Saturday, Sept. 29, to Thursday, Oct. 4, 2001. Similar to the general scientific sessions, the topics on cerebrovascular surgery were very diverse and thought provoking. Overall, the scientific presentations reflected changes in the daily practice of cerebrovascular surgery, with techniques mixed between open surgery and endovascular approaches.

Practical Courses

Practical courses, offered on Saturday and Sunday, ranged from the treatment of carotid disease to surgical endovascular treatment of anterior and posterior circulation aneurysms, and from microvascular reconstruction to critical care of neurovascular disease.

Scientific Sessions

On Monday, the general scientific session was a tour de force with one interesting presentation after another. It included presentations by Drs. Rhoton and Spetzler on surgical anatomy for approaches to challenging areas of the cerebrum. The first session on cerebrovascular surgery was held in the afternoon. The Galbraith Award was granted to John Abrahams, MD, for the paper, “Platinum and Biodegradable Microcoils for Localized Adenovirus Delivery in Vitro and in Vivo”; Robert Levy, MD, was the senior author. The open papers and oral posters included presentations ranging from basic to clinical sciences and covered all aspects of cerebrovascular surgery. Also on Monday was the special session for the Council of State Neurosurgical Societies. The Resident Award was given to Gordon Tang, MD, from Atlanta, for his paper, “Cost Effectiveness of Intraoperative Angiography during Aneurysm Surgery”; Daniel Barrow, MD, was senior author of this paper.

On Tuesday, the morning session included Endovascular Tools for the Neurosurgeon by Robert Rosenwasser, MD. The afternoon session featured interesting discussions by Hunt Batjer, MD, on catastrophic operative hemorrhage and by David Newell, MD, on bypass surgery.

The scientific session on Wednesday was devoted to the future of neurovascular surgery. Presentations included The Future of Endovascular Surgery Without Limits, by Neil Hopkins, MD; Carotid Stenting, by Marc Mayberg, MD; and Bypass Surgery, by Neil Martin, MD. Richard Winn, MD, discussed the treatment options for vasospasm. On Wednesday afternoon the second session focusing on cerebrovascular surgery took place. It included a variety of papers addressing all aspects of cerebrovascular surgery, including stroke therapy, genetics of aneurysms, management of pediatric aneurysms, and the use of temporary clips, along with a number of basic science papers.

When the meeting concluded on Thursday, these presentations raised more questions than answers and paved the way for the 52nd Annual Meeting of the Congress of Neurological Surgeons in Philadelphia.
Stents are used increasingly not only to treat diseases of the extracranial circulation, but also to treat intracranial diseases. Intracranial stents have been implanted for the treatment of a variety of disorders, such as atherosclerotic narrowing within the anterior and posterior circulation; the treatment of carotid, middle cerebral, vertebral and basilar artery dissections, and associated pseudoaneurysms; and the stent-supported coil embolization of aneurysms, just to name the broadest categories.

What are the limitations of stents. Stents small enough to be used in the intracranial circulation have been designed mainly for the coronary arteries. In the coronaries, twists and turns in blood vessels usually do not pose a big obstacle to placement. Therefore, coronary stents lack flexibility, as flexibility is not needed for most non-neurointerventional applications. In addition, the tip profile of the balloon-stent assembly is not as smooth as would be desirable for the intracranial circulation. The stent is mounted either by hand using a crimping tool or premounted by the manufacturer on angioplasty balloons. The stent is then deployed by rapid inflation of the balloon with an insufflator capable of supplying several atmospheres of pressure. These balloons are relatively non-compliant, which limits their use somewhat in curved segments within the cerebral circulation due to the straightening moment of the balloon stent assembly.

Not enough data have accumulated yet to make statements about the long-term outcome and patency rate of such stents. Especially in stroke and atherosclerotic disease, however, the addition of peri-procedural IIb/ IIIa glycoprotein antagonists—the most powerful antiplatelet agents available today—may help to maximize short- and long-term patency and restenosis rates. This has been well established for the coronaries but extrapolations from the heart to the brain have to be done with caution.

Stent technology continues to evolve. Covered stent grafts, such as the Jostent, recently have been approved by the FDA for use in coronary artery rupture. Such a device could be used in segments of the internal or external circulation where branch and/or perforator occlusions are not an issue or perhaps even desirable. Certain aneurysms that could be crossed by a covered stent would be effectively isolated from the circulation. Covered stents may also be useful placed across feeding pedicles of AVMs or DAVFs keeping in mind that any crossed branch or perforator will also be occluded. Open stents typically allow flow to pass through the stent gaps into branches and perforators.

Intracranial stents provide an exciting new tool in our armamentarium to treat cerebrovascular diseases in a less invasive way; further advances in this technology may provide new options of cerebral revascularization even for patients of advanced age and with significant comorbidity. The rigidity of current stent designs, which increases the difficulty and risk of stent placement beyond the turns in the cerebral circulation, limit the technology; it will not improve unless the manufacturers of such devices focus on the specific neurovascular applications with this concern in mind.

Figures
Cerebral angiogram (right ICA, posterior-anterior projection) of a 44-year-old male with a complete occlusion of the supraclinoid ICA distal to the P-comm (A) presumably secondary to dissection which extended into the right MCA. Initial attempts at revascularization with angioplasty alone failed. Revascularization was accomplished with placement of two AVE S660 (Medtronic, Inc.) stents in the right MCA and distal ICA (B). The unsubtracted view (C) shows the overlapping stents (arrows) in the right MCA. The patient made an excellent recovery.
What Would You Do? Results and Expert Opinions

By Malini Narayanan, MD, MS; Robert M. Friedlander, MD, MA

Results to the case presented in the Fall 2001 issue of Cerebrovascular News.

The Case
You are seeing a woman in your office with bilateral incidental middle cerebral artery aneurysms. The one shown in the right photo is broad necked, bilobed and measures 4-5 mm. The one in the left photo is narrow necked and measures 3-4 mm. She is in good general health other than mild asthma.

The Results
The table below summarizes the responses to the “What Would You Do?” section from the Fall 2001 issue of Cerebrovascular News. In general, most respondents would treat both aneurysms for patients 40 years of age and younger, and most would either not treat or follow the aneurysms for patients in the 80-year age group. Opinions are more diverse for the 60-year age group. Expert opinions by Issam Awad, MD, David Piepgras, MD, and Phil Stieg, MD, follow the summary.

<table>
<thead>
<tr>
<th>Age</th>
<th>20-40</th>
<th>60</th>
<th>80</th>
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<tbody>
<tr>
<td>No treatment or follow-up needed</td>
<td></td>
<td>68</td>
<td></td>
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<tr>
<td>MRIs at set intervals</td>
<td>16</td>
<td>26</td>
<td></td>
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<tr>
<td>Treat right aneurism, but follow the left</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat both aneurysms</td>
<td>94</td>
<td>71</td>
<td>5</td>
</tr>
<tr>
<td>Treat the right aneurysm</td>
<td>100</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Clip</td>
<td>100</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Coil</td>
<td>8</td>
<td></td>
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<tr>
<td>Treat the left aneurysm</td>
<td>94</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Clip</td>
<td>76</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Coil</td>
<td>18</td>
<td>24</td>
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Figures represent percentages of responses.

Expert Opinions
There is no level I evidence to formulate a treatment standard or even guidelines in this case. Options of management include expectant follow-up with or without imaging or endovascular or surgical treatment of one or both lesions.

The annualized risk of rupture in aneurysms this size is small, and likely lower than the one percent per year figure we all have quoted for many years. But there are caveats—the patient cannot be reassured that these aneurysms are safe at any age, and the lifetime risk of rupture is surely not trivial in the younger patients. Factors predisposing to aneurysm growth and/or rupture are not fully known. The patient also cannot be reassured that following these lesions with MRA or other non-invasive or invasive means could anticipate or predict rupture, except that an enlarging aneurysm would be more dangerous. Also, if the patient has headaches or other non-specific symptoms, the impact on the quality of her life can be significant, in terms of life decisions (including pregnancy) and the medical response to any headache or non-specific symptom. With multiple aneurysms, it is not known if the natural history of these lesions is more akin to those associated with prior history of subarachnoid hemorrhage from another aneurysm, and hence more serious.

I would not recommend endovascular treatment of these lesions unless the patient clearly wanted therapy and wished to avoid surgery at any cost. I would inform her that it is likely that MCA aneurysms have lower success and higher complications with endosaccular coiling, and there is no evidence that this treatment alters the natural history of an unruptured aneurysm.

Treatment risk and lifetime risk of hemorrhage would not justify therapy in the 80-year-old patient, and we would encourage her to live her life without limitations. In the patients aged 20, 40 and 60—the option of surgery is considered based on the patient’s preference, but with decreasing benefit-risk ratio. I would offer her the option of microsurgical clipping in a staged approach (bilateral craniotomies at least six weeks apart) for both lesions, estimating a surgical morbidity per our experience under 5 percent for each intervention up till age 60. I would provide much information to the patient and let her decide if this risk is justified given her life priorities.

Those who elect expectant management would be followed with close attention to blood pressure control and smoking cessation. I would keep a close attention to any history of new headaches, and would favor imaging with MRA at baseline and yearly (except in the 80-year-old patient if she would not want invasive intervention in the future), although without guarantee that this would avoid serious sequelae.

There is no scientific information at the present time which precludes such individualized approach to decision making in this or other patients with unruptured intracranial aneurysms.

—Issam Awad, MD
Denver, Colo.
At the age of 20 to 40 years and probably 60 years as well, I would counsel for repair of the right MCA aneurysm owing to its bi-lobed appearance (whether this in fact carries increased risk for future SAH is uncertain, however it is a strong bias for most neurosurgeons). Thereafter I would probably recommend observation of the left MCA aneurysm with follow-up MRA every two years.

No treatment would be recommended for an 80-year-old patient, though if she is in excellent health, I may recommend a follow-up MRA in one-to-two years looking for change in aneurysm size or configuration.

—David G. Piepgras, MD
Rochester, Minn.

This is an interesting case of a woman with multiple intracranial aneurysms, presumably asymptomatic. However, given the fact that they are multiple, she is potentially at a higher risk for rupture depending on how you interpret the literature. In my practice, I would recommend therapy for any patient under 60. If she were over 80 we would observe. Regarding the type of therapy, we would approach the right lesion first as it is the more complex and has a broader neck. Given its anatomy, I would take a microsurgical approach. I think it would be difficult to achieve 100 percent occlusion of this aneurysm with coils. The lesion on the left is small but could be treated with either coils or surgical clipping because it has a narrow neck. This would be determined after the first operation. The patient will play a dominant role in selecting the approach for the left lesion since I believe it is amenable to either therapy.

—Philip E. Stieg, PhD, MD
New York, N.Y.

What Would You Do?

Described below is a challenging case that presents a therapeutic dilemma. We hope you respond with your opinion either by e-mail or fax. If you have cases you wish to contribute, please forward them to my attention. In the following issue results will be tabulated and expert opinions highlighted. I hope you participate in and enjoy this section.

Robert M. Friedlander, MD, MA, editor, Cerebrovascular News
rfriedlander@rics.bwh.harvard.edu

Case contributor: Robert E. Harbaugh, MD, Department of Neurosurgery, Dartmouth School of Medicine.

You are consulted to see a man who presents with two episodes of transient left hemiparesis. He does not complain of headache or other symptoms. Past medical history is remarkable for hypertension that is well controlled with medications. He smokes two packs of cigarettes per day. Presently, he is neurologically normal. His MRI, including diffusion weighed images, is normal. The angiogram reveals evidence of a spontaneous right vertebral dissection, with a resultant stenosis at the vertebrobasilar junction, and an associated aneurysmal dilatation at the origin of the basilar artery. The left vertebrobasilar junction is normal. In addition, balloon test occlusion of the right vertebral did not result in any neurologic deficits.

What would you do if he were 20, 40, 60, or 80 years old?

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<th>Age</th>
<th>20</th>
<th>40</th>
<th>60</th>
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<tr>
<td>No follow-up needed</td>
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<tr>
<td>Follow symptoms</td>
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<tr>
<td>Imaging at set intervals</td>
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<td>Antiplatelet agents</td>
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<tr>
<td>Anticoagulation</td>
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<tr>
<td>Endovascular proximal occlusion</td>
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<tr>
<td>Angioplasty and stenting</td>
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<tr>
<td>Surgical open occlusion</td>
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<td>Surgical reconstruction</td>
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<tr>
<td>Bypass</td>
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e-mail to rfriedlander@rics.bwh.harvard.edu • fax to (617) 734-8342
Program for CV Section Meeting in Dallas

The fifth joint annual meeting of the CV Section and ASITN will be held from Feb. 3-6 in Dallas. The meeting is co-sponsored by the American Society of Interventional and Therapeutic Neuroradiology. The program follows. For up-to-the-minute information, go to www.neurosurgery.org/cv/meetings/index.html or call (847) 378-0500.

Sunday, February 3, 2002

Special Course I 8 AM–5 PM
Extracranial and Intracranial Vascular Reconstruction—Surgical and Endovascular Options
Co-directors: Robert E. Harbaugh, Jacques E. Dion

Special Course II 8 AM–5 PM
Critical Care Management of Neurovascular Patients—Endovascular and Surgical Considerations
Co-directors: Joshua B. Bederson, Thomas A. Tomsick

Opening Reception 6–8:30 PM
Enjoy a wonderful assortment of foods as you visit with old friends and new colleagues. The reception will be held at the Hotel Inter•Continental. All registered attendees will receive one complimentary ticket to the reception.

Monday, February 4, 2002

Welcome 7:45–8 AM
Robert H. Rosenwasser, Randall T. Higashida

Scientific Symposium I 8–10 AM
Cerebral Revascularization
Moderators: Christopher M. Loftus, Thomas A. Tomsick
Anatomic and Physiologic Imaging of Cerebral Ischemia, Richard E. Latchaw
Defining Candidates for Cerebral Revascularization, Howard Yonas
Surgical Option—Ischemic and Reconstructive, Neil A. Martin
Endovascular Options—Ischemic and Reconstructive, Randall T. Higashida
Rationale for a New Study to Define the Role of EC-IC Bypass
Current Status, Fernando G. Díaz
Case Presentations and Questions

Luncheon Seminars

Luncheon Seminar 01: Management of Cortical AVMs
Moderators: Philip E. Stieg, Peter Kim Nelson
Panelists: Christopher C. Getch, Robert H. Rosenwasser

Luncheon Seminar 02: The INR Suite as a Critical Care Area: Anesthesia Monitoring
Moderators: Tod B. Sloan, Wade Smith
Panelists: Rocco A. Armonda, Michael B. Horowitz, Lawrence R. Wachler

Luncheon Seminar 03: Management of Giant Intracranial Aneurysms
Moderators: Duke S. Samson, Michel E. Mawad
Panelists: Christopher S. Ogilvy, H. Hunt Batjer

Luncheon Seminar 04: Cavernous Malformations
Moderators: John C. Chaloupka, Bob S. Carter
Panelists: Gary K. Steinberg

Luncheon Seminar 05: Management of Anterior Circulation Aneurysms
Moderators: Robert A. Solomon, John Pile Spellman
Panelists: Phillip D. Purdy, B. Gregory Thompson, Jr., Gary M. Nesbit

Luncheon Seminar 06: Management of Acute Cerebral Ischemia
Moderators: Warren R. Selman, Daryl R. Gress
Panelists: Jeffery Sunshine, Robert W. Tarr, Robert L. Macdonald

Luncheon Seminar 07: Surgical and Endovascular Coding for Neurovascular Procedures and Critical Care
Moderators: Isam A. Awad, John J. Connors III
Panelists: John D. Barr, Paul Joseph Camanata, Paul Marshall

Luncheon Seminar 08: Intracerebral Hemorrhage
Moderators: Joseph M. Zabramski, Michael P. Marks
Panelists: S. Claiborne Johnston, Christopher C. Getch

Luncheon Seminar 09: Practical Considerations in Unruptured Intracranial Aneurysms
Panelists: Charles W. Kerber, Joseph A. Horton, Fredric B. Meyer

Luncheon Seminar 10: Management Options in Occlusive Cervical Carotid Disease
Moderators: Robert E. Harbaugh, Donald W. Larson
Panelists: Ronald P. Benitez, Avery J. Evans

Scientific Symposium II 2:30–4 PM
Current Controversies in the Management of Arteriovenous Malformations
Moderators: Duke S. Samson, Charles W. Kerber
Pathophysiology of Cerebral and Spinal Ateriovenous Malformations, Philip E. Stieg
Current Status of Endovascular Management—New Embolic Agents, Alex (Alejandro) Berenstein

continued on page 7
Surgical Management of Cerebral AVMs, H. Hunt Batjer
Strategies for the Management of Spinal AVMs, Robert Willinsky
Radiosurgical Innovations in the Management of Cerebral Arteriovenous Malformations, David W. Andrews
Outcomes of Various Endovascular, Surgical, and Radiosurgical Management of Arteriovenous Malformations, Robert E. Harbaugh

Case Presentations and Questions

Panelists: William O. Bank, E. Sander Connolly Jr., Tod B. Sloan
Moderators: Robert H. Rosenwasser, Joseph A. Horton

Luncheon Seminar 16: Intraoperative Adjuncts to Neurovascular Procedures

Moderators: John Deveikis, Charles M. Stricker
Panelists: Robert H. Rosenwasser, Joseph A. Horton, Tod B. Sloan

Future Directions in the Neurovascular ICU,

Presented by B. Gregory Thompson, Jr.

Case Presentations and Questions

Panelists: Paul Marshall, John D. Barr

Scientific Symposium III 8–10 AM
Considerations in Ischemic and Hemorrhagic Stroke
Moderators: Warren R. Selman, John J. Connors III
Biology and Molecular Basis of Arteriosclerosis, Adel M. Malek
Ischemic Stroke—Medical Therapy, Thomas Brott
Ischemic Stroke and Thrombolysis: Limitations, Warren R. Selman
Hemicraniectomy: Current Status, Christopher S. Ogilvy
Management of Hemorrhagic Stroke, Joseph M. Zabramski
Future Treatment of Ischemic and Hemorrhagic Stroke: Where Are We Going? L. N. Hopkins III

Case Presentations and Questions

Beverage Break and Poster Viewing 10–10:30 AM

Oral Presentations 10:30–NOON

Luncheon Seminars NOON–2 PM

(Advanced registration is required for all Luncheon Seminars.)

Luncheon Seminar 11: Management of the Poor Grade Aneurysm Patient
Moderators: Jacques J. Morcos, Charles A. Jungreis
Panelists: B. Gregory Thompson Jr., John Pile Spellman

Luncheon Seminar 12: Management of Dural AVMs
Moderators: Daniel L. Barrow, Gary M. Nebitt
Panelists: Philip M. Meyers, Joel D. MacDonald, Pierre Gobin

Luncheon Seminar 13: Spinal Neurointerventional Procedures: Indications and Techniques
Moderators: In Sup Choi, Mary E. Jensen
Panelists: John M. Mathis, Robert A. Mericle

Luncheon Seminar 14: Management of Deep and Brainstem AVMs
Moderators: Peter A. Rasmussen, Robert Willinsky
Panelists: H. Hunt Batjer, Michael P. Marks

Luncheon Seminar 15: Cerebral Revascularization
Moderators: Michael T. Lawton, Christopher F. Dowd
Panelists: Christopher M. Loftus, Brian L. Berger

Luncheon Seminar 16: Intraoperative Adjuncts to Neurovascular Procedures
Moderators: Robert H. Rosenwasser, Joseph A. Horton
Panelists: William O. Bank, E. Sander Connolly Jr., Tod B. Sloan

Luncheon Seminar 17: Management of Paraclinoid Lesions
Moderators: Joshua B. Bederson, Charles M. Stricker
Panelists: John Deveikis, Thomas A. Kopitsnik Jr.

Luncheon Seminar 18: Management of Posterior Circulation Aneurysms
Moderators: Arthur L. Day, Alex (Alejandro) Berenstein
Panelists: Allan J. Fox, Neil A. Martin

Luncheon Seminar 19: Management of Intercranial Occlusive Disease: Surgical and Endovascular Options
Moderators: Lee R. Guterman, Randall T. Higashida
Panelists: Donald W. Larsen, Adel M. Malek

Luncheon Seminar 20: Surgical and Endovascular Coding for Neurovascular Procedures and Critical Care
Moderators: Isam A. Awad, John J. Connors III
Panelists: Paul Marshall, John D. Barr

Presidential Address 2–2:30 PM
H. Hunt Batjer

Scientific Symposium IV 2:30–4 PM
Aneurysmal Subarachnoid Hemorrhage 2002
Moderators: H. Hunt Batjer, Charles M. Stricker
Endovascular Advances in the Management of Aneurysmal SAH, Jacques Moret
Surgical Advances in the Management of SAH, Duke S. Samson
Intraoperative Adjuncts and Advances, Christopher M. Loftus, Vasoplasm: Are We Winning the Battle? Robert H. Rosenwasser
Future Directions in the Neurovascular ICU, Daryl R. Gress
Case Presentations and Questions

Mullan Neuroendovascular Surgery Fellowship 4–4:15 PM
presented by H. Hunt Batjer

Poster Award—Clinical Neuroendovascular 4:15–4:30 PM
presented by B. Gregory Thompson, Jr.

Beverage Break and Poster Viewing 4–4:30 PM

Oral Presentations 4:30–6 PM

Wednesday, February 6, 2002

Lussenhop Lecture 8–8:30 AM
Charles W. Kerber

Scientific Symposium V 8:30–10 AM
The Incident and Unruptured Aneurysm
Moderators: Joshua B. Bederson, Michel E. Mawad
Implications for Therapeutic Intervention, David George Pietrus
Surgical Considerations, Isam A. Awad
Endovascular Considerations: Hemodynamic Considerations, Ajay K. Wakhloo
A Comparison of Surgical and Endovascular Therapy for Unruptured Aneurysms, S. Claiborne Johnston

Case Presentations and Questions

Beverage Break and Poster Viewing 10–10:30 AM

Oral Presentations 10:30–NOON

Poster Award—Basic Science
Presented by B. Gregory Thompson

Closing Remarks NOON–12:15 PM
Great Success of RUNN Course

By Rudolph J. Schrot, MD

Woods Hole, Mass., a tiny, otherwise unassuming Cape Cod village, is haunted by the ghosts of Nobel laureates. It is home to the famous Marine Biological Laboratory (MBL), the Woods Hole Oceanographic Institution, the National Marine Fisheries Service, the Woods Hole Research Center, and the Sea Education Association. Woods Hole is also home to the annual Review and Update in Neuroscience for Neurosurgeons (RUNN), celebrating its 20th annual session at the MBL Oct. 20-27. Sixty-four neurosurgery residents lived in Woods Hole for one week. Trainees from throughout North America traded their familiar hospital or laboratory surroundings for the lecture hall, their comfortable accommodations for a college-style dormitory, and their bustling urban confines for a quaint New England fishing village. These 2001 RUNN course participants feasted on a smorgasbord of topics that ran the gamut of neuroscience. In a score or more 90-minute lectures, top neuroscientists passionately shared their investigative fields: angiogenesis, apoptosis, signaling pathways and cell fate, cortical plasticity, convection delivery, evidence-based medicine, glial barriers and scarring, the history of science, hypothermia, memory, model neural systems, molecular biology of pituitary adenomas, microprocessor design, molecular genetics, neuroregeneration, neurotransplantation, repetitive patterned exercise therapy, stem cells, synapse formation, and viral infections of the CNS. Attendees especially enjoyed practical aspects of the course, such as the lecture “Project Design and Grantsmanship” by Michael Walker, MD, recently retired director of the NIH NINDS Division of Stroke, Trauma, and Neurodegenerative Disorders. Freed from mundane distractions, participants reflected not only on the course material presented, but also on their own career development.

Even amid the grueling lecture schedule, attendees found a free afternoon for excursion to Martha’s Vineyard or Boston. And thanks to an ingenious cadre of neurosurgery residents, the PowerPoint projector and P.A. system by day became a full screen movie theater with booming sound by night.

Issam Awad, MD, Ogsbury-Kindt professor and chairman of neurosurgery at the University of Colorado, orchestrates the course together with his wife, Cathy, and a team of co-directors. Setting a pace of informality and congeniality, Dr. Awad explained the philosophy of the course: “It is not a board review...the real objective is to help you explore your own research involvement.” The RUNN Course is administered under the auspices of the Society of Neurological Surgeons. For further information, go to www.societyns.org.

Chairman’s Message (continued from front page)

As was identified in the section’s strategic plan, the relationship with ASITN has been extremely beneficial for both groups. We envision that this relationship will grow even stronger over coming years. Clearly, the joint meeting with ASITN has been an enormous success. In addition to an annual meeting, there are many other areas of interface between the two societies where close connection and communication will be beneficial to our profession, our societies, and ultimately our patients. In addition to these key relationships, the section desires increased communication and involvement with cerebrovascular and critical care anesthesiologists. Their participation, which has been recruited for the Dallas meeting, will add an important dimension to the science presented ranging from critical care issues to ischemic neuronal salvage. Finally, the section’s leadership is establishing important new relationships with our colleagues in cerebrovascular neurology. We are natural allies and in many centers work as an integrated team. The clinical expertise as well as scientific investment from our neurology colleagues should also greatly enrich our annual meeting.

A final issue to be mentioned at this time is that the section is working toward the development of uniform reporting standards. This complex issue if properly addressed could potentially enhance the material, which is presented in our scientific meetings and scientific journals.

Finally, as chairman, I would offer my own personal words of encouragement to each of my cerebrovascular colleagues as we recover from the savage attacks on civilized society. Recovery will continue and we will prevail. While most of us are past the age where we could actively participate with our fighting men and women overseas, we can have a very significant impact here at home. Each of us has leadership roles within our practices, institutions and communities. We must use those pulpits to project an aura of confidence and calm. We have much more influence in this capacity than any of us could imagine. Equally importantly, we must not be distracted from our core values and primary mission: caring for the sick. If we focus on the patients under our charge and continue to seek creative solutions to our complex problems, we will be fighting back in a very effective way. Keep the faith.
Endovascular Hypothermia for Cerebrovascular Disease

By J. Mocco, MD, Robert J. Dempsey, MD, E. Sander Connolly, Jr., MD

The cerebroprotective effects of hypothermia are well known, but several translational hurdles remain. These include the ability: to rapidly deliver strictly controlled hypothermia in the setting of stroke or head trauma; to selectively cool the brain to temperatures low enough to perform complex cerebrovascular reconstructive procedures without cardiac arrest and bypass; and to reliably to control fever in the neurologically injured patient. Unfortunately, conventional methods for cooling patients are labor intensive, imprecise, and often lack the power to effect the necessary change in temperature. Three recently published trials utilizing conventional cooling methods reported difficulties with strict temperature control, additional effort by nursing support, and a high incidence of complications associated with hypothermia.1,2,3 In each of these instances, traditional methodologies focusing on lowering body surface temperature were employed.

By contrast, endovascular cooling utilizes convection-enhanced heat transfer to effect temperature change on the body’s blood volume. It is less variable and has a more rapid response rate.4,5 Its automatic feedback mechanisms minimize the effort required from support staff. In addition, some complications associated with hypothermia may be avoided with core cooling since the hypothalamus may sense that the body is warmer than it is.6,7 The hypothalamus determines its set point by processing equally signals from skin, deep abdominal and thoracic tissue, spine, non-hypothalamic portions of the brain, as well as the hypothalamus itself. Therefore the body may react less abnormally with core cooling vs. surface cooling.

For all these reasons endovascular cooling may provide an exciting and encouraging alternative to conventional methods. Currently three separate companies have developed powerful new tools for the management of patient temperature. Alsius Corporation, Radiant Medical, and INNERCOOL Therapies are three companies leading scientifically guided efforts to safely and successfully control patient temperatures via an intravascular approach. To this end they have each separately designed an intravascular cooling catheter which utilizes turbulent flow to optimize heat transfer, thereby maximizing patient temperature regulation.

Two recent studies have been completed using this technology. One utilized intravascular cooling to treat fever in a neurological ICU setting and reported a 50 percent reduction in the time the treatment cohort was febrile vs. traditionally managed controls.4 There were no significant complications. The lack of complications may be due to a treatment goal of preventing hyperthermia rather than creating hypothermia. The second study treated six massive hemispheric stroke patients with prolonged core hypothermia.5 Improved temperature control was demonstrated. Unfortunately, the patient cohort still suffered from the most significant sequela of hypothermia: hypotension requiring catecholamine support (100 percent), thrombocytopenia (33 percent), severe bradycardia (50 percent), arrhythmia (50 percent), and pneumonia (100 percent).

These studies demonstrate an improved ability to regulate temperature, but establishing safety and efficacy requires further investigation. Three studies hoping to do so are currently underway in humans, one for the intraoperative cooling of aneurysm patients and two for the treatment of ischemic stroke.

Lastly, in an effort to avoid the more dangerous systemic complications which have long plagued cooling trials, there has been substantial interest in the use of intravascular technology for selective brain cooling. While still in the early stages of development, it is not hard to imagine the tremendous potential benefit of such a technology. The brain could then be cooled as necessary, while the immunocompromising, electrolyte disturbing, arrhythmogenic and pulmonary abnormality-inducing effects of hypothermia are minimized.

Continuing efforts to rigorously investigate the mechanisms of protection, optimal indications, and limits of therapy for endovascular temperature regulation may soon bring this exciting technology into the mainstream of neurosurgical care.


Bayer Research Grants Offered

Description: Two $25,000 grants are available for original research in cerebral ischemia, cerebral protection, neuronal recovery or outcomes.

Eligibility: Limited to physicians in the U.S. and Canadian institutions who have completed formal neurosurgical training and have been in academic staff positions for no longer than four years by the time of fellowship activation (July of each year).

Sponsor: AANS/CNS Section on Cerebrovascular Surgery and Bayer Corporation, Pharmaceutical Division.

Deadline: May 1, 2002

Contact: Bayer Fellowship Coordinator
Bruce Leeb & Company
Phone (201) 703-6100
Fax (201) 703-6101
E-mail: info@blc1.com
I. Biographical Material

Name: ______________________________________________________________________________________________

Home Address: _______________________________________________________________________________________

Office Address: _______________________________________________________________________________________  

Business Phone: ______________________________________________ Fax: ________________________  

E-mail Address: _______________________________________________________________________________________

II. Category of Membership Requested

❏ Active  ❏ Candidate  ❏ International  ❏ Adjunct/Corresponding

III. Formal Neurosurgical Training

Name/location of training program: _______________________________________________________________________

Date of completion or expected date of completion: _____________________________________________ ______ / ______

Date of American Board of Neurological Surgery certification: ____________________________________ ______ / ______

Date of fellowship in Royal College of Surgeons (Neurosurgery) of Canada: __________________________ ______ / ______

Are you a member of:

American Association of Neurological Surgeons?  ❏ Yes  ❏ No  

Congress of Neurological Surgeons?  ❏ Yes  ❏ No

IV. References

Please provide letters of reference from two members of the AANS/CNS Section on Cerebrovascular Surgery highlighting your activity/involvement in cerebrovascular surgery. Indicate below (name and address) from those whom these references will be received: *International applicants should contact the AANS for further instructions at info@aans.org.

1) __________________________________________________________________________________________________

2) __________________________________________________________________________________________________

V. Curriculum Vitae

Please enclose a current Curriculum Vitae with your completed application. Describe your current interest and activities in cerebrovascular surgery (unless clearly evident in your Curriculum Vitae).

___________________________________________________________________________________________

___________________________________________________________________________________________

___________________________________________________________________________________________

VI. Membership Fee(s)

Please enclose a check in the amount of $50 made payable to the AANS/CNS Section on Cerebrovascular Surgery. If you are applying for International membership and you are not a member of the AANS or CNS, please submit a separate check in the amount of $35 made payable to the CNS.

Once your required materials are received, your application will be reviewed by the Membership Committee and forwarded to the Executive Committee for consideration and approval before final voting/approval by members of the Section.

Signature of Applicant: ___________________________________________________  Date: ________________________
Notes From the Editor

By Robert Friedlander, MD, MA

As we proceed forward following the spectacular CNS meeting in San Diego, we are left with the challenge of continuing to organize ourselves as a subspecialty focusing to improve the outcome of our patients. “Reinventing Neurosurgery” was the motto of the CNS meeting. This meeting brought up how many times our specialty has reinvented itself and illustrated that with every turn, we clearly end up in a higher dimension. We learn from the past and aim to improve our performance and outcomes.

As we advance our subspecialty, we need to take great care that we focus our new imaging, technologic and technical powers to the improved outcome of our patients. I am particularly concerned with the planning and execution of clinical trials comparing open microsurgical and endovascular approaches. It is of utmost importance that the trials take into serious critical consideration short-term as well as long-term measures of clinical success and failure. One of the most critical issues is determining the adequate length of follow-up. The appropriate length for follow-up is not a straightforward matter, but a most critical one in nature. Should it be 1, 5, 10, or 20 years? I am not sure what the correct answer should be, but given the dynamic nature of vascular anomalies, less than a 10-year follow-up severely lacks scientific merit. An unbiased measure of outcome needs to be clearly defined. Results must include both clinical and imaging outcome in order to demonstrate appropriate safety and efficacy.

Another important mission of the AANS/CNS Section on Cerebrovascular Surgery is promoting the advancement of the basic sciences. Regrettably, this year we lost sponsorship for the Pharmacia/Upjohn Award, the only resident research fellowship award focusing on cerebrovascular disease. Due to the critical nature of this award, the section’s executive council has committed to continue funding this grant through internal sources until we can find another sponsor. This task was assigned to Marc Mayberg, MD.

Unfortunately, Pharmacia/Upjohn can no longer subsidize the issue of the membership with full attendance at this meeting.

Letters to the Editor

One of the main purposes of Cerebrovascular News is to promote communication among section members. Your insights, questions, and comments increase the section’s value for everyone. Please send your input to Robert M. Friedlander, MD, MA, editor, Cerebrovascular News, at rfriedlander@rics.bwh.harvard.edu, or by fax to (617) 734-8342.

Notes From The Secretary

By Philip E. Stieg, PhD, MD

The meeting of the Executive Council of the AANS/CNS Section on Cerebrovascular Surgery during the Congress of Neurological Surgeons again demonstrated the vitality and the growth of the section. Under the leadership of H. Hunt Batjer, MD, the section continues to be involved in addressing pertinent issues regarding the practice of cerebrovascular and endovascular surgery. Several important topics regarding the future of the section were discussed, including our long-term relationship with the ASITN and the section’s involvement in a study regarding the efficacy of endovascular coiling vs. surgical clipping of intracranial aneurysms. Although no specific decisions were made, committee structures were implemented to oversee the discussions pertaining to these two topics. Extensive discussion took place regarding the proposed trials. The major issues regarding these trials include entrance criteria, clear objectives and adequate follow-up to determine the efficacy of the therapy, as well as differentiaton patient outcomes. Close oversight on the part of the executive council was strongly recommended.

The section continues to grow rapidly in membership and remains financially sound. While the annual meeting in Hawaii was expensive, scientifically it was extremely successful. During these times of financial constraint, the leadership will continue to look at ways to minimize the cost of holding meetings. We are working closely with the financial advisers from our parent organizations.

Plans for the annual meeting in Dallas, Texas, in Feb. 2002 are well underway. The leading chairman is Robert Rosenwasser, MD. Again, the meeting promises to be extremely successful with more than 100 oral papers accepted, and more than 90 posters.

Representatives from the Washington Committee, including James Bean, MD, John Wilson, MD, and John Hassenbach, MD, as well as Katie Orrico, JD, reviewed reimbursement issues regarding endovascular codes. The executive council continued its dialogue with the Washington Committee and strategized mechanisms for addressing these coding issues. Once final decisions have been achieved, the Washington Committee will make a report. In addition, Dr. Rosenwasser led discussion of guidelines for the use of Guglielmi detachable coils, and the resulting comments by Joshua Bederson, MD, were reviewed. Also, continued dialogue with the ASITN will take place.

Unfortunately, Pharmacia/Upjohn can no longer subsidize the research grant which is used to support a resident doing basic research in cerebrovascular disease. It was the decision of the executive council to continue funding this grant through internal sources until we can find another sponsor. This task was assigned to Marc Mayberg, MD.

Finally, there are some issues regarding the FDA’s guidelines on single use policy for devices such as intracranial aneurysm clips. A committee including Robert Harbaugh, MD, and Gregory Thompson, MD, will coordinate our response to the FDA through Katie Orrico, director of the AANS/CNS office in Washington, D.C.

The Executive Council plans to meet at the section’s annual conference in Dallas, Texas. Again, we look forward to the support of the membership with full attendance at this meeting.
AANS/CNS Section on Cerebrovascular Surgery announces the
Resident Research Awards in Cerebrovascular Disease*

- Funding Available July 1, 2002
- Up to $15,000 Support of Specific Research Proposal
- Residents in North American Training Programs
- Research Related to Cerebrovascular Disease

Application Deadline: March 1, 2002

For application forms, contact:
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