



In This Issue...

3

Medical Neuro-Oncology Update:
Summary of the ASCO 2015 Annual
Scientific Meeting

4

Tumor Section Awards Update

6

Report from the Liaison to the Society
for NeuroOncology (SNO)

7

Highlights for the Upcoming CNS
2015 Meeting

8

Clinical Trial Highlight: NRG-
BN002: Phase I Study of Ipilimumab,
Nivolumab, and the Combination
in Patients With Newly Diagnosed
Glioblastoma

9

Report from the Alliance for Clinical
Trials in Oncology

11

International Committee Fall 2015

14

Skull Base Tumor Update

From the Chair



*Frederick G. Barker,
MD, FAANS
Chair, Section on Tumors*

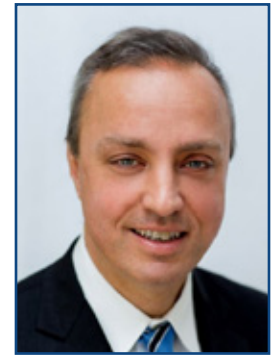
Fellow Members:
As all Tumor Section members know, Andy Parsa, MD, PhD, FAANS, the next chair of our section, died unexpectedly early in the morning of Monday, April 13. He would have started his term as chair in just three weeks.

When I heard the news later that morning, in the midst of a busy clinic, I stopped for quite a while to think about the many ways in which things would be changed without Andy. The weeks and months since that Monday have filled in the outlines of that picture.

Andy was one of his generation's leading tumor neurosurgeons. His fundamentally irreparable loss has left many gaps for us to try to fill. From the standpoint of the section, our bylaws gave no guidance as to the leadership succession in case of an officer vacancy due to death, resignation or disability. Past Chair Fred Lang, MD, FAANS, and I sought the advice of our Advisory Board and our parent organizations, formulated a plan which was ratified by the Executive Committee at AANS in May. Steve Kalkanis, MD, FAANS, who was elected to serve as Andy's successor as secretary-treasurer, has now started that term of service, which will be shortened to a year, during which I will continue to serve as Chair. At AANS 2016, Dr. Kalkanis will become chair for a two-year term. His secretary-treasurer will be chosen by election this fall. Going forward, our section bylaws will be modified by bylaws chair, Jason Heth, MD, FAANS, to prescribe an orderly leadership succession plan for any unexpected

vacancy in an officer position.

Andy had an amazing number of ongoing roles in tumor neurosurgery and in neurosurgery more broadly as well. At the section's 11th Satellite Meeting this spring in Washington, D.C., with virtually



Andy Parsa, MD, PhD

no notice, many section members stepped up in his absence. Manish Aghi, MD, PhD, FAANS, took over as presiding officer for the meeting; Jim Markert, MD, FAANS, gave a much appreciated talk on regulatory matters in surgical clinical trials; and Mike Vogelbaum, MD, PhD, FAANS, took over Andy's sunrise "meet-the-professor" session on becoming involved in clinical trials directed toward young neurosurgeons. Andy was the leader of our section's update course at AANS; Mitch Berger, MD, FAANS, assumed that role this spring. In 2016 this course will be split into a morning session on gliomas and metastases, led by Dr. Berger and Nader Sanai, MD, FAANS; a complementary afternoon course on extra-axial, pediatric and spine tumors will be led by Michael Link and Dr. Aghi. Andy was a member of the Editorial Board of the Journal of Neurosurgery; Randy Jensen, MD, PhD, FAANS, and myself have been chosen to serve in his stead. Andy was the PI of a multicenter, randomized phase II protocol of a heat shock protein vaccine for recurrent malignant glioma, run through the NCI-funded Alliance cancer cooperative group;

Alliance leadership has selected Ian Parney, MD, PhD, FAANS, and Orin Bloch, MD, to serve as co-PIs of this important ongoing trial. At the time of writing, his successor as Chair of Neurosurgery at Northwestern has not yet been named.

Although Andy had over 300 publications, a SPORC project, an active clinical practice and a major neurosurgical department, his most important professional roles – the ways in which he was most unique – are harder to list. He was a mentor to countless residents and medical students during his years on staff at Northwestern and University of California San Francisco, helping his trainees to become better clinicians, researchers and residents and acting as a tireless booster of their subsequent careers. In 2010 he won the Mentor of the Year award from UCSF School of Medicine. He was a wonderful host, and national meetings in San Francisco always included a pre-meeting party at his beautiful home overlooking the city from the slope of Mt. Sutro. Andy never tired of predicting how much more fun the section's receptions would be when he was chair, and I couldn't pretend it wasn't true.

Both inside and outside the profession Andy was a tenacious and valuable friend. I recognized this the moment I heard of his death: my first instinct was to wish I could call him and ask him for advice. At his memorial service in Chicago's Standard Club, of which Dr. Aghi and I and many other Section members attended, a large ballroom was full to overflowing with people who had come from across the country to remember Andy. Speaker after speaker took the podium to talk about friendships going back to residency, to medical school, to college, to high school; teammates from Yale soccer remembered his unique work ethic; friends from high school (he was captain of both track and soccer) remembered him as being like another member of their family. Jeff Bruce, MD, FAANS, gave a heartfelt talk about Andy as a resident at Columbia, a talk that Isabelle Germano, MD, FAANS, told me was among the most moving she had heard at the Northwestern memorial earlier that week. Isaac Yang, MD, FAANS, described the privilege of being trained by Andy. Northwestern colleagues spoke of his interactions with all at his new hospital, how impressive it was to see him handle the head of the hospital and the night security guard with the same respect and dignity. A close family member left the stage without speaking, his grief momentarily too deep for words.

Andy left a young family: his wife Charlotte Shum, MD, a hand surgeon at Northwestern, and three young children, twins Julia and Micheline and their younger brother Ismail. His family requested that memorial contributions be directed to an education fund for his children (Dr. Aghi can provide details). His closest professional family, of course, is us, his fellow tumor neurosurgeons. His main goal as section chair, as he told me many times in the last two years,



Photo Credit: Parsa Family

was to establish a financial foundation for the Section to fund its own research fellowship. Toward that end we have established an Honor-Your-Mentor fund in Andy's name at NREF (www.nref.org), which is open for contributions from section members in his honor and to which the section will be contributing. In my mind, I think his advice to us might be this: work harder, work faster and stay close to what is important in your work. And even more so, stay close to friends and family. I will miss him.

Frederick G. Barker II, MD, FAANS

Andrew Parsa giving opportunities

Parsa Children Education Fund
Paypal: parsachildren@gmail.com

Or, for mail or wire transfer options, contact Manish Aghi
Gifts are divided equally among the three children.

Andrew Parsa Fund (NREF)
Tumorsection.org – follow link to donation page
Or: www.nref.org > Honor Your Mentor > Andrew Parsa Fund

Credit card options including structured gifts.

Medical Neuro-Oncology Update: Summary of the ASCO 2015 Annual Scientific Meeting

Susan Chang, MD

The overall theme of the ASCO 2015 annual meeting was illumination and innovation: translating data into learning. The presentations focused on brain tumors were good examples of how new scientific discoveries are being incorporated into clinical care.

The management of patients with brain metastases was highlighted in the scientific plenary session. On behalf of the Alliance cooperative group, Paul Brown, MD, presented the results of NCCTG NO574, a randomized trial of whole brain radiotherapy in addition to radiosurgery versus radiosurgery for patients with 1-3 brain mets. Although WBRT improved brain control, there was no improvement in overall survival. There was however worse QOL as well as a decline in cognitive function in the WBRT group. The recommendation was for initial treatment with radiosurgery alone and to monitor closely to preserve cognitive function and QOL.

The topic of brain metastases was also the focus of an education session that outlined the results of clinical trials that could be translated to practice. Presentations included the understanding of molecular biology of brain metastases and the implications for therapy, the role of radiation strategies and tailored approach of immunotherapy and targeted therapy.

Another education session reviewed the emerging topics in immunotherapy and cellular therapy and, in addition to a review of immunotherapy for childhood leukemia and solid tumor, Ian Pollack, MD, FAANS, summarized the exciting results of early trials in CNS tumors. These range from antigen targeting, adoptive immune transfer and anti-inhibitory approaches. Building on this presentation, a clinical science symposium highlighting these clinical trial efforts was also a major part of the CNS educational offerings at the annual meeting. The trials discussed included the use of vaccines targeting the epidermal growth factor receptor VIII and the heat shock protein peptides as well as a gene mediated cytotoxic immunotherapy approach. For these studies the next steps are to identify the patient populations who may best benefit from these strategies, e.g. patients who are able to undergo an extensive resection with minimal residual disease. These studies also highlighted the challenges in determining response to these

treatments and the recently formed immunotherapy response assessment in neuro-oncology (iRANO) group led by Hideho Okada, MD, PhD, and David Reardon, MD, are working on standardizing the criteria for immunotherapy clinical trials.

The updated results of a novel treatment strategy of alternating electric field therapy for newly diagnosed glioblastoma were also presented at the meeting. This treatment targets the microtubule and spindle apparatus critical for cell division and is FDA approved for patients with recurrent GBM. The trial results from the randomized trial in newly diagnosed GBM show an advantage in both the time to progression as well as overall survival and suggest an additional strategy for treatment. Several studies reported on the importance of the molecular and cytogenetic characterization of tumors for prognosis and the implications for treatment selection. Bevacizumab targets the abnormal blood vessels in the growing tumor and is FDA approved for recurrent GBM. Several papers evaluated the dose schedule and duration of administering this agent in conjunction with chemotherapy or targeted agents. There does not appear to be an advantage in terms of survival to continuing bevacizumab following progression, nor does it seem to matter if the dose intensity is decreased. It is still a challenge to determine who may benefit from treatment with this agent and studies are ongoing.

Although most of the presentations were focused on malignant glioma and metastatic disease, there was also an education session discussing rare tumors of the CNS and how studying these tumors of neurogenetic syndromes can inform on our practice. The three presentations included: Challenges in drug development in meningioma; Neurofibromatosis 2 as a model for integrating genetics and functional endpoints for multiple nervous system tumors and Research in ependymoma.

Overall the presentations highlight the importance of basic science and translational research to improve our understanding of the complexity of glioma as well as the multidisciplinary team of clinicians that are critical for testing new strategies in the clinic.

Tumor Section Awards Update

Manish K. Aghi, MD, PhD, FAANS

The Tumor Section Awards Committee continues to actively develop the most robust awards program for outstanding research of any of the AANS/CNS joint sections. We are thrilled to have launched the Brian D. Silber Award, given to the best abstract related to vertebral column or spinal cord tumors, in the amount of \$1000 at the annual AANS Annual Scientific Meeting (see winner listed below). The section would like to thank the family of Brian D. Silber, who passed away in 1996 at the age of 28 from a malignant spinal cord tumor, for their generous support of this award.



Claudio Tatsui receives the Brian D. Silber Award from past Tumor Section Chair Fred Lang

After recognizing 12 award winners at the 2015 American Association of Neurological Surgeons Annual Scientific Meeting, the section will be recognizing nine award winners and one named lectureship at the 2015 CNS Annual Meeting. Most of the awards are limited to Tumor Section members, providing an additional incentive for membership. The award winners for the AANS meeting were recognized at the Tumor Section Session Monday, May 4, 2015 from 2 to 5:30 pm. Support for the awards program encourages submission of the highest quality works in neuro-oncology.

Synthes Skull Base Award

The Synthes Skull Base Award is given to an attending neurosurgeon, resident or fellow in the Tumor Section who submits the best abstract related to skull base surgery. This award is given at the annual meetings of the AANS and CNS. Franco DeMonte, MD, FAANS, chair of the Skull Base Committee, was largely responsible for obtaining this award through a generous contribution from the Synthes Corporation. The winner at the 2015 AANS meeting was William Couldwell, MD, PhD, FAANS, of the University of Utah, for his presentation: "Outcomes after Surgical Treatment of Meningioma-associated Proptosis." The winner at the 2015 CNS meeting will be Hasan Zaidi, MD, of the Barrow Neurologic Institute, for the presentation entitled "Comparison of Extent of Tumor Resection and Endocrine Outcomes for Nonfunctioning Pituitary Adenomas of a Less Experienced Surgeon Using a Fully Endoscopic Transsphenoidal Surgery Technique to a Very Experienced Surgeon Using a Microscopic Transsphenoidal Technique." The award includes a \$1,000 honorarium.

Preuss Award

The Preuss Award, sponsored by the Preuss Foundation, is given at each of the AANS and CNS meetings to a young scientist investigating brain tumors, within 10 years of training, who has submitted the best basic science research paper. The winner at the 2015 AANS meeting was Wajid N. Al-Holou, MD, of the University of Michigan for his presentation entitled "Genetic Mechanisms of Recurrence in Glioblastoma Delineated by RNA Sequencing." The winner at the 2015 CNS meeting will be John S. Kuo, MD, PhD, of the University of Wisconsin for his presentation entitled "Human Ether-a-Go-Go-Related-1 Gene (hERG) K⁺ Channel as a Prognostic Marker and Therapeutic Target for Glioblastoma." This award has a \$1,000 honorarium.



Wajid N. Al-Holou receives the Preuss Award from Tumor Section Chair Fred Barker

National Brain Tumor Society Mahaley Award

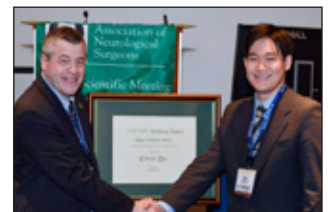
The NBTS Mahaley Award is given at each of the AANS and CNS meetings to a neurosurgery resident, fellow or attending physician who submits the best clinical study in neuro-oncology. The winner at the 2015 AANS meeting was Brian Nahed, MD, PhD, Massachusetts General Hospital, for his presentation "Circulating Tumor Cells in Glioblastoma Patients Demonstrate Mesenchymal Expression." The winner at the 2015 CNS meeting will be Achal Singh Achrol, MD, Stanford University, for the presentation "Quantitative Volumetric MR Perfusion Identifies a Distinct Vasculogenic Molecular Subtype of Human Glioblastoma Associated with Worse Clinical Outcomes." The award carries a \$1,000 honorarium.



Brian Nahed receives the Mahaley Award from Tumor Section Chair Fred Barker

Integra Foundation Award

The Integra Foundation Award, sponsored by the Integra Foundation, is given at both the AANS and CNS meetings for the best research or clinical paper submitted investigating benign brain, spinal or peripheral nerve tumors. At the 2015 AANS meeting the winner was Charles Lee, BS, University of Rochester, for his presentation entitled "Surgeon Volume Impacts Cost of Care in Pituitary Surgery." The winner at the 2015 CNS meeting will be Jared M. Pisapia, MD, the University of Pennsylvania, for the



Charles Lee receives the Integra Foundation Award from Tumor Section Chair Fred Barker

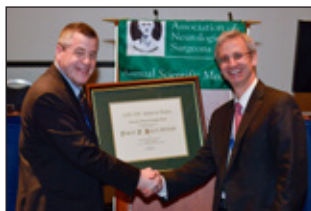
continued on page 5

presentation entitled “Imaging Patterns Predict Patient Survival and Molecular Subtype in Glioblastoma Using Machine Learning Techniques.” The award carries a monetary honorarium of \$1,000.

Springer Journal of Neuro-Oncology Award

The Journal of Neuro-Oncology Award is sponsored by Springer Publishers and is presented at both the annual AANS and CNS meetings to a highly-ranked abstract in either clinical or basic science as related to neuro-oncology. The winner at 2015 AANS meeting was Fred Lang, MD, FAANS, MD

Anderson Cancer Center, for his presentation, “Phase I Clinical Trial of Oncolytic Delta-24-RGD (DNX-2401) with Biological Endpoints: Implications for Viro-Immunotherapy.” The winner at the 2015 CNS meeting will be Pascal O. Zinn, MD, PhD, Baylor College of Medicine, for his presentation entitled “Diffusion MRI ADC Mapping of Glioblastoma Edema/Tumor Invasion and Associated Gene Signatures.” A \$500 award and a framed certificate are given to the winners.



Fred Lang receives the Journal of Neuro-Oncology Award from Tumor Section Chair Fred Barker

Stryker Neuro-Oncology Award

The Stryker Neuro-Oncology Award is given to a high-ranking brain tumor clinical or basic science abstract submitted by a resident or medical student. The award is presented at the CNS and AANS annual meetings, and the senior author of the paper must be a member of the AANS/CNS Section on Tumors. The winner at the 2015 AANS meeting was Darryl Lau, MD, University of California San Francisco (UCSF), for his presentation, “A prospective phase II clinical trial of 5-aminolevulinic acid to correlate intraoperative fluorescence intensity with histologic cellularity.” The winner at the 2015 CNS meeting will be Isaac Jonathan Pomeranic, BS, University of Virginia, for his presentation entitled “Early Versus Late Gamma Knife Radiosurgery Following Transphenoidal Resection for Nonfunctioning Pituitary Macroadenomas: A Matched Cohort Study.” A monetary component of \$1,000 is included with an award certificate.

Columbia Softball Charity Award

The “Columbia Softball Charity Award” is given to the best pediatric tumor abstract submitted by a resident or faculty member who is a member of the section on tumors at each AANS/CNS meeting. Current Section on Tumors chair Fred Barker, MD, FAANS; previous Section on Tumors chair Jeff Bruce, MD, FAANS;



Jamie Purzner receives the Columbia Softball Charity Award from Tumor Section Awards Chairperson Manish Aghi

and pediatric neurosurgeon Richard Anderson, MD, FAANS, Columbia University, were instrumental in putting together a plan to use a portion of the proceeds from the annual charity softball tournament to sponsor this award. The second award was given at the 2015 AANS meeting to Jamie Purzner, MD, Stanford University, for his presentation entitled “Epigenetic Determinants of Oncogenic Susceptibility in Medulloblastoma Precursor Cells.” The third award will be given at the 2015 CNS meeting to Kyle Halvorson, MD, Duke University, for his presentation entitled “A High-throughput in Vitro Drug Screen in a Genetically Engineered Mouse Model of Diffuse Intrinsic Pontine Glioma Identifies BMS-754807 as a Promising Therapeutic Agent.” The award carries an honorarium of \$1000.

Brainlab Neurosurgery Award

The Brainlab Neurosurgery Award is presented at the annual meetings of the AANS and CNS. This award is given to a neurosurgeon practicing in a nonacademic or international setting with the best abstract related to central nervous system tumors. Previous AANS/CNS Section on Tumors chairs Michael McDermott, MD, FAANS, and Ronald Warnick, MD, FAANS,

were instrumental in securing this award, given through the generosity of BrainLAB. At the 2015 AANS meeting, the award was given to Konstantinos N. Fountas, MD, PhD, IFAANS, University of Thessaly, University Hospital of Larissa, Greece, for his presentation entitled “Preoperative DTI, Intraoperative Visual Evoked Potentials, and Direct Cortical/Subcortical Stimulation for Visual Pathway Identification.” At the 2015 CNS meeting, the award will be given to Bogdana Suchorska, Klinikum Grosshadern, Munich, Germany, for the presentation “Complete Resection of Contrast Enhancing Tumor Volume as Associated with Improved Survival in Recurrent Glioblastoma – Results from the DIRECTOR Trial.” The award carries a \$1,000 honorarium.



Konstantinos N. Fountas receives the BrainLAB Neurosurgery Award from Tumor Section Chair Fred Barker

American Brain Tumor Association Young Investigator Award

Sponsored by the American Brain Tumor Association, the Young Investigator Award is given at the AANS and the CNS meetings to a young faculty member involved in neuro-oncology research who has demonstrated outstanding potential for future basic science research. The applicant must have been out of training for less than six years. At the 2015 AANS meeting, the award was given to Gelareh Zadeh, MD, University of Toronto, for her presentation entitled “Impact of GBM Microenvironment on Expression Profile of Bone Marrow Derived Progenitor Cells.” At the 2015 CNS meeting the winner will be Michael Feldman, NIH, for his presentation entitled “Somatostatin Receptor Expression on VHL-associated Hemangioblastomas Offers Novel Therapeutic Target.”

continued on page 6

A \$2,000 honorarium accompanied this award.

The AANS/CNS Section on Tumors would like to thank the award sponsors for helping to encourage submission of the highest quality work in neuro-oncology. Congratulations to the 2015 CNS Annual Meeting award winners.

Leksell Radiosurgery Award

This award, presented at each AANS meeting, starting in 2009, is for the best paper on stereotactic radiosurgery related to brain tumors. The award comes with a monetary component of \$2000. At the 2015 AANS meeting, the award was given to Deborah Marshall, BA, of University of California San Diego (UCSD), for her presentation, "Survival Patterns of Patients with Cerebral Metastases after Multiple Rounds of Stereotactic Radiosurgery (SRS)."



Deborah Marshall receives the Leksell Radiosurgery Award from Tumor Section Awards Chairperson Manish Aghi

There are two lectureships supported by the section:

Bittner Lecture

In addition to the Ronald Bittner Award, the Bittner Family Foundation sponsors an annual Bittner Lectureship awarded by the AANS at its annual meeting. The lectureship is awarded to an established investigator, and is presented during the main scientific program component of the annual AANS meeting. Selection of the Bittner Lecturer is made by the Senior Scientific Program Committee of each AANS Annual Meeting. At the 2015 AANS Annual Meeting, the Bittner Lecture was delivered by John Sampson, MD, PhD, FAANS, Duke University. The 2016 winner will be selected shortly before the 2016 AANS annual meeting.

The Abhijit Guha Award

The Abhijit Guha Award and Lecture are jointly sponsored by the Section on Tumors and the Society for Neuro-Oncology (SNO) and are given annually alternating between the SNO and Tumor Section meetings. The 2014 award was given at the SNO meeting in November 2014 to Ken Aldape, MD, and the 2015 award will be given at the CNS meeting to John Sampson, MD, PHD, FAANS.

Report from the Liaison to the Society for NeuroOncology (SNO)

Michael A. Vogelbaum MD, PhD, FAANS

The 2015 SNO Annual Meeting will be held in San Antonio, with the Education Day on November 19 followed by the Scientific Meeting from November 20-22, 2015. AANS/CNS Section on Tumors Executive Committee member Galareh Zadeh, MD, PhD, FAANS, is the co-chair of the Scientific Meeting and she and her team have planned a multidisciplinary program that will have many sessions of interest to neurosurgeons. The confirmed keynote speakers include Carl June, U. of Penn., who will discuss recent advances in immunotherapy, Ben Allison, MD Anderson, who will discuss advances in immunobiology, and Don Berry, MD Anderson, who will discuss the novel iSPY clinical trial design.

There also will be a half day dedicated to brain metastases, with a sponsored Elekta symposium. Education Day will focus on Immunobiology and Immunotherapy.

Finally, SNO and the Society for CNS Interstitial Delivery of Therapeutics (SCIDOT) will hold a joint meeting focused on the Delivery of Therapeutics to the CNS just prior to the SNO Annual Meeting in San Antonio. This meeting, which will be held November 18 -19, will be similar in timing and format to the

very successful Drug Discovery meeting held immediately prior to the 2014 SNO Annual Meeting. The program committee is being chaired by Galareh Zadeh, MD; and Michael Vogelbaum, MD, PhD, FAANS; and includes John Sampson, MD, PhD, FAANS; Russ Lonser, MD, FAANS; Manfred Westphal, MD, PhD, IFAANS; Zvi Ram, MD, IFAANS; Waldemar Debinski, MD, PhD; Krys Bankiewicz, MD, PhD; and Raghav Raghavan. The agenda includes invited speakers, oral abstracts and a poster session. Sessions are focused on BBB physiology and methods by which it can be bypassed, surgically delivered therapeutics, methods for delivering therapeutics directly into the brain, novel drug formulations and modeling of the brain interstitium. The Keynote Address will be given by Ed Oldfield, MD, FAANS.

Registration information for both the SNO Annual Scientific Meeting and the SNO-SCIDOT Joint Meeting on Delivery of Therapeutics to the CNS are available on the SNO website: <http://www.soc-neuro-onc.org/>

Highlights for the Upcoming CNS 2015 Meeting

Michael Lim, MD, FAANS

Exciting new technologies and scientific advances in Neuro-Oncology are already guiding patient care and influencing the direction of future research.

The CNS 2015 Scientific Program will focus on new knowledge about imaging, surgical techniques, biomarkers and immunotherapy in the setting of tumors. This year's award-winning topics will feature scientific advances such as the identification of novel VHL targets, new biomarkers for glioblastomas, unique high-throughput drug screening for pontine gliomas and the concept of integrating imaging findings with genetics for glioblastomas. The clinical award-winning abstracts will include topics such as creating functional connectomes for tumors and will discuss the element of experience in surgery and radiosurgery for the resection of pituitary tumors.

Approaches to the continuing dilemma of optimal management of recurrent glioblastoma will be the focus of the plenary session. We have all encountered complex clinical decisions in the management of patients with recurrent glioblastoma such

as deciphering between treatment effect versus recurrent tumor on imaging, or choosing to recommend repeat surgery versus bevacizumab therapy. It is clear that practice patterns can vary widely even within the same city. We have assembled a list of distinguished speakers to interactively discuss the diagnostic and management issues in patients with recurrent glioblastoma. David Reardon, MD, a neuro-oncologist who specializes in gliomas, will examine the indications for repeat chemotherapy and/or bevacizumab. He will also discuss the challenges of distinguishing treatment effect from recurrent tumor on imaging patients post treatment. Lawrence Kleinberg, MD, a radiation oncologist, will give us insight into the role of repeat radiation for patients with recurrent tumor. Henry Brem, MD, FAANS, an expert in local delivery of chemotherapy, will discuss his experience with the Carmustine Wafers in recurrent gliomas. Jeffrey Weinberg, MD, FAANS, who specializes in gliomas, will talk about the indications for repeat resection in gliomas. Gene Barnett, MD, MBA, FAANS, who specializes in laser ablative therapies, will review the experience of ablative therapies in gliomas.

We look forward to seeing you at the CNS 2015 Annual Meeting in New Orleans!

Tumor Section Membership Committee

Randy Jensen, MD, PhD

Membership in the American Association of Neurological Surgeons (AANS)/Congress of Neurological Surgeons (CNS) Section on Tumors currently includes over 2000 members. Our Section has a very large resident and fellow contingency that continues to grow significantly. This is in large part due to the Section waiving membership dues for residents and fellow members. We have reached out to international resident members and let them know that membership in the AANS can also include Tumor Section membership if they are interested. They can join with no annual dues like North American residents. We continue to give reduced membership dues for members living in developing countries (defined on the AANS website). Since deciding to allow for medical student membership in the tumor Section we have added a number of medical students to our ranks. As has been our tradition, we will continue to collaborate with the Young Neurosurgeons Committee to host receptions at each of the national meetings of the AANS and CNS. We expect each of these events to bring new opportunities for collaboration, education and social interaction with residents, fellows, younger neurosurgeons, and our many colleagues from around the world with interest in neurosurgical oncology.

2015 AANS Section on Tumor Recap

Clark Chen, MD, PhD, FAANS

The 2015 AANS scientific session focused on re-defining surgical neuro-oncology through genomics. The first speaker, Cameron Brennan, MD, FAANS, Memorial Sloan Kettering Cancer Center reviewed the genomic subtypes of low and high grade glioma as they relate to the current histologic classification scheme. The ensuing presentation by Anoop Patel, MD, Massachusetts General Hospital, discussed the complexity of the glioblastoma eco-system using single-cell genomics. The presentation by Clark Chen, MD, PhD, FAANS, University of California, San Diego, focused on using genomics to identify recurrent fusion proteins in glioblastoma and unique nature of these proteins as potential therapeutic targets. Gavin Dunn, MD, PhD, Washington University, presented the rationale for identifying novel antigens through genomic analysis as an immunotherapy strategy. The final speaker, Andrew Sloan, MD, FAANS, University Hospitals, Cleveland, spoke on the opportunities and need for neurosurgery engagement in shaping genomic-based clinical trial design and participation.

Clinical Trial Highlight: NRG-BN002: Phase I Study of Ipilimumab, Nivolumab, and the Combination in Patients With Newly Diagnosed Glioblastoma

Daniel Cahill, MD, PhD, FAANS, and Michael Vogelbaum, MD, PhD, FAANS

The NRG Oncology cooperative group is one of two National Cancer Institute (NCI)-funded cancer clinical cooperative groups with a special focus on clinical trials for brain cancers. As a historical reminder, in 2014 the three legacy groups including the National Surgical Adjuvant Breast and Bowel Project (NSABP), the Radiation Therapy Oncology Group (RTOG) and the Gynecologic Oncology Group (GOG) successfully unified into the newly-combined group now known as “NRG Oncology.”

Here, we highlight a much-anticipated study for glioblastoma patients, NRG-BN002, which has particular relevance for neurosurgeons. This NRG Oncology trial will enroll newly-diagnosed glioblastoma patients and aims to determine the maximum safe dose of single-agent treatment with ipilimumab, nivolumab and the combination when given with temozolomide during maintenance treatment. Many neurosurgeons are familiar with the striking clinical results being reported with these agents in melanoma, a neoplastic lesion arising from the neural crest. This trial will explore the use of these agents in patients with glioblastoma.

Importantly for neurosurgeons, the protocol eligibility requires that “the tumor must be unifocal, confined to the supratentorial compartment and have undergone a gross total or near gross total resection. This will increase the likelihood that the patient will not require corticosteroids or develop pseudoprogression.” In addition, patients must have completed chemoradiation within

standards of care, i.e. initiating radiotherapy within 35 days after surgery, and then receiving a total of 60Gy with concomitant temozolomide 75mg/m². Furthermore, patients must not be on a corticosteroid dose greater than physiologic replacement (defined as 30mg of cortisone per day or its equivalent). With these stringent eligibility criteria identifying a better-performing subset of glioblastoma patients, the trial cohort is predicted, at baseline, to have a substantially better expected outcome when compared to the overall population of patients diagnosed with glioblastoma.

After trial entry, the patient will be assigned to one of three groups after completing standard chemoradiation: maintenance temozolomide plus single-agent 3mg/kg ipilimumab, maintenance temozolomide plus single-agent 3mg/kg nivolumab, or maintenance temozolomide plus combination ipilimumab and nivolumab.

Neurosurgeon, Andrew Sloan, MD, FAANS, Case Western Reserve, is serving as the Medical Oncology co-chair of this study. The other co-chair (and overall principal investigator) is Mark R. Gilbert, MD, at the NCI. Neurosurgeons are key contributors for patient enrollment in this trial, through the identification of glioblastoma patients who are surgically respectable and therefore can meet enrollment criteria.

Report from the Alliance for Clinical Trials in Oncology

Brad Elder, MD, FAANS

The American Association of Neurological Surgeons (AANS)/Congress of Neurological Surgeons (CNS) Tumor Section has implemented a collaboration with the Alliance for Clinical Trials in Oncology to facilitate cooperative efforts among neurosurgeons, neuro-oncologists and radiation oncologists at the national level in an effort to more efficiently support neuro-oncology clinical trials. Each issue of the Tumor Section Newsletter will highlight a clinical trial that is being sponsored by the Alliance or presented at one of the semi-annual meetings which may be of interest to neurosurgeons. Additional information regarding the Alliance is available on the website allianceforclinicaltrialsinoncology.org.

Past report highlights:

- A Phase II Randomized Trial Comparing the Efficacy of Heat Shock Protein-Peptide Complex-96 (HSPPC-96) (NSC #725085, ALLIANCE IND # 15380) Vaccine Given With Bevacizumab Versus Bevacizumab Alone in the Treatment of Surgically Resectable Recurrent Glioblastoma Multiforme (GBM).
 - PI: Andrew T. Parsa, MD, PhD, FAANS; Northwestern University Medical Center
- Clinical Trial: A Phase III Trial of Post-Surgical Stereotactic Radiosurgery (SRS) Compared With Whole Brain Radiotherapy (WBRT) for Resected Metastatic Brain Disease NCT01372774 (Alliance ID: N017C)
 - PI: Paul D. Brown, MD; MD Anderson Cancer Center
- Phase III Intergroup Study of Temozolomide Alone Versus Radiotherapy With Concomitant and Adjuvant Temozolomide Versus Radiotherapy With Adjuvant PCV Chemotherapy in Patients With 1p/19q Co-deleted Anaplastic Glioma
 - PI: Kurt Jaeckle, MD; Mayo Clinic
- Phase I/Comparative Randomized Phase II Trial of TRC105 Plus Bevacizumab Versus Bevacizumab in Bevacizumab-Naïve Patients With Recurrent Glioblastoma Multiforme
 - PI: Evanthia Galanis, MD; Mayo Clinic

The clinical trial highlighted in this report involves patients with recurrent glioblastoma and is entitled:

- A phase II/III randomized trial of veliparib or placebo in combination with adjuvant temozolomide in newly diagnosed glioblastoma with MGMT promotor hypermethylation

This clinical trial will enroll patients with newly diagnosed glioblastoma. Tumor MGMT promoter hypermethylation will be determined by central testing and is part of the eligibility criteria. Patients are excluded if tumor MGMT promoter is unmethylated. Eligible patients are randomized to one of two treatment arms:

- Arm 1: Patients receive temozolomide on days one through five and veliparib on days one through seven. This treatment repeats every 28 days for 6 courses.
- Arm 2: Patients receive temozolomide on days one through five and placebo on days one through seven. This treatment repeats every 28 days for 6 courses.

Primary objectives:

- Determine whether veliparib (ABT-888) in combination with temozolomide extends survival in patients with MGMT promoter hypermethylation

Secondary objectives:

- Compare six month progression free survival between Arms 1 and 2

This trial is open at 200 centers in the United States and Canada. The PI is Jann Sarkaria, MD, at Mayo Clinic. Further information regarding this clinical trial can be obtained from allianceforclinicaltrialsinoncology.org or clinicaltrials.gov. A list of ongoing trials sponsored by the Alliance, current as of July 2015, is attached.

The next Neuro-Oncology Committee meeting is Saturday, November 7, 2015 in Chicago, Ill. For details regarding the meeting, please contact myself or Ian Parney, MD, PhD, FAANS.

J. Bradley Elder, MD, FAANS

Liaison to Alliance for Clinical Trials in Oncology

Neuro-Oncology

LEGEND

Study Status: **P** = Pre-Activated **A** = Active **S** = Suspended

CTSU Section: **P** = Pending **X** = Not on menu **A** = Alliance **C** = CALGB **N** = NCCTG **Z** = ACOSOG

OPEN Registration System: **Y** = Available **P** = Pending **X** = Not in system

Protocol Number	Study Title	Study Status	Phase	CTSU Section	OPEN
Alliance A071101	A phase II randomized trial comparing the efficacy of heat shock protein--peptide complex- 96 (HSPPC-96) (NSC #725085, Alliance IND# 15380) vaccine given with bevacizumab versus bevacizumab alone in the treatment of surgically resectable recurrent glioblastoma multiforme (GBM)	A	II	A	Y
Alliance A071102	A phase II/III randomized trial of veliparib or placebo in combination with adjuvant temozolomide in newly diagnosed glioblastoma with MGMT promoter hypermethylation	A	II/III	A	Y
NCCTG N0577	Phase III intergroup study of temozolomide alone versus radiotherapy with concomitant and adjuvant temozolomide for patients with 1p/19q codeleted anaplastic glioma	A	III	N	Y
NCCTG N107C	A phase III trial of post-surgical stereotactic radiosurgery compared with whole brain radiotherapy (WBRT for resected metastatic brain disease)	A	III	N	Y
NCCTG N1174	Phase I/comparative randomized phase II trial of TRC105 plus bevacizumab versus bevacizumab in bevacizumab-naive patients with recurrent glioblastoma multiforme	A	I/II	X	Y

Last Updated: 07/06/2015

INTERNATIONAL COMMITTEE FALL 2015

Isabelle M. Germano, MD, FAANS

The International Committee was involved in numerous projects over the past six months as summarized below by our International Members. In addition, it is worth highlighting immediately past and upcoming meetings of high interest to our membership.



The 14th International Updates in Neuro-Oncology meeting took place in Cortona, Italy, on July 1-4, 2015. This well-attended meeting, under the leadership of Francesco di Meco, MD, IFAANS, addressed many multi-disciplinary brain tumors topics including meningiomas and breakthrough treatments.

The International Gliomas and Brain Metastases Course of the Argentine Association of Neurosurgery and SAC Section of Neuro-oncology took place in Buenos Aires, Argentina, on August 6, 2015, led by Alejandra Rabadan, MD, PhD, IFAANS. This multi-disciplinary, well-attended meeting provided an in-depth review and update on primary and metastatic brain tumors.

The WFNS 15th Interim meeting took place in Rome on September 8-12, 2015. The meeting, featured numerous scientific sessions on brain tumors, had faculty and delegates from 95 countries and all continents. Unprecedented, under the leadership of Francesco Tomasello, MD, IFAANS, with the contribution of Alberto Delitala, MD, President of the Italian Society of Neurosurgery, the Scientific Committee was able to secure 150 educational grants that will permitted young neurosurgeons from Africa, Asia, South America and Eastern Europe to attend the meeting.

The first Neurosurgery Latin-American Residents' Bootcamp will take place in Santa Cruz, Bolivia, on Oct. 12-13, 2015. Roberta Glick, MD, FAANS(L), organized this program with the help and support of Richard Moser, MD, both of Solidarity Bridge, a multidisciplinary medical mission group, and the cooperation and support of FEINS, CNS, SNS, including Richard Byrne, MD, FAANS, and Robert Dempsey, MD, FAANS. Dr. Glick and the course faculty donate their time and travel expenses to decrease the expenses of this activity and to maximize funds allocation to training purposes. You can learn more about Neurosurgical efforts in Bolivia on the Solidarity Bridge website: www.solidaritybridge.org.

The first **Society of Neuro-Oncology Latin America (SNOLA)** will take place March 24-26, 2016 in Sao Paulo, Brazil. Under the leadership of Marcos Maldaun, MD, Latin American and over 15 international faculty will review and present on current therapeutic advances and challenges in neuro-oncology. The main focus of the meeting is to further promote and accelerate international scientific debate and exchange to benefit brain tumor patients in Latin America and world-wide in a multidisciplinary approach. The best International paper presented by a non-Latin American mid-career physician will receive the SNOLA International Award. To register and for more information visit: www.snola.org.

Japan

Fumio Yamaguchi, MD, PhD, reports on the 15th Annual Meeting of the Japan Society of Intraoperative Imaging, June 20, 2015, in Kawasaki, Japan, where the main theme was "Power of Intraoperative Imaging; Cooperation of Digital and Analogue." Many presentations focused on topics of interest to young and senior brain tumor surgeons, including photodynamic diagnosis, glassless 3D imaging, image transmitting and storage methods, intraoperative mapping and intraoperative MRI. The 74th Annual Meeting of the Japan Neurosurgical Society will be held Oct. 14-16, 2015, in Sapporo, Japan. The main theme of the meeting is "Data for Discovery" and a symposium will be organized on "the true data acquisition and how we can return its profit to the society."

Upcoming meetings:

- The 20th Annual Meeting of the Japanese Congress for Brain Tumor Surgery, Sep. 25-26, 2015, in Nagoya, Japan. <http://bts2015.umin.ne.jp/>
- The 74th Annual Meeting of the Japan Neurosurgical Society, Oct. 14-16, 2015, in Sapporo, Japan. <http://jns2015.jp/>
- The 33rd Annual Meeting of the Japan Society for Neuro-Oncology, Dec. 6-8, 2015, in Kyoto, Japan. <http://jso33.umin.jp/>
- The 25th Conference on Neurosurgical Techniques and Tools (CNTT 2016), Mar. 25-26, 2016, in Niigata, Japan. <http://www.cntt-net.jp/act.html>
- The 36th Annual Meeting of the Japanese Congress of Neurological Surgeons, May 20-22, 2016, in Osaka, Japan. <http://www.jcns2016.jp/>
- The 25th Annual Meeting of the Japanese Society of Stereotactic Radiosurgery, May 27, 2016, in Kyoto, Japan.
- The 34th Annual Meeting of the Japan Society of Brain Tumor Pathology, May 27-28, 2016, in Tokyo, Japan.
- The 7th International Congress of the World Federation of Skull Base Societies, Jun. 14-17, 2016, in Osaka, Japan. <http://www2.convention.co.jp/skullbase2016/>
- The 16th Annual Meeting of the Japan Society of Intraoperative Imaging, Jul. 9, 2016, in Matsuyama, Japan.

EUROPE

Switzerland

Dominik Cordier, MD, reports that the Swiss Glioma Network, a central national database for data collection of glioma patients, is now open and usable for multi-center and interdisciplinary studies of participating Helvetic organizations. Within this organization, a molecular genetic predictors of outcome in grade II/III glioma is being developed. An additional multi-disciplinary project is underway: the peptide receptor radionuclide therapy (PRRT) for progressive or recurrent meningiomas without promising

surgical, conventional radiotherapeutical or radiosurgical treatment options, a joint project of Neurosurgery and Nuclear Medicine, at the University Hospital in Basel. Finally, of note, currently three neurosurgeons practicing in Basel, Bern and St. Gallen completed abroad fellowships (with H. Duffau, MD, Montpellier, France, and M. Berger, MD, FAANS, San Francisco) to increase theoretical background and practical abilities in the technique of awake craniotomy under cortical/subcortical electrostimulation with concomitant neuropsychological monitoring.

Recent Past Meetings:

- Joint Meeting with the National Society of Neuroradiology Lucerne/Switzerland, Sept. 10-11, 2015.
- 7th Swiss Neuro-Oncology Meeting (Joint meeting with the Swiss Glioma Network and the Society of Austrian Neuro-oncology), Sept. 18-19, 2015.

Turkey

Uğur Türe, MD, IFAANS, reports that the 29th Annual Scientific Congress of the Turkish Neurosurgical Society in Antalya, Turkey, on April 17-21, 2015, in conjunction with the CNS had more than 1,300 participants. Contributions of Nathan Selden, MD, PhD, FAANS; Kim Burchiel, MD, FAANS; Steven Kalkanis, MD, FAANS; Mustafa Baskaya, MD, FAANS; and Aclan Dogan, MD, FAANS increased the success of the congress. The 6th Istanbul Microneurosurgery Course, held in Istanbul, June 10-19, 2015 was an important event in passing the philosophy of M. Yaşargil, MD to the young generations who participated to this course from 20 different countries. After four days of hands-on basic microsurgery workshop, three days of fiber dissection workshop followed by live surgery demonstrations render this course unique.

Upcoming Meeting

- The 8th Multidisciplinary Neuro-oncology Symposium, organized by the Society of Neuro-oncology, will be held in Istanbul Nov. 6-7, 2015. Historically these symposia were very educational with their scientific programs focused on neuro-oncology. This year, with the contributions of national and international world-renowned experts, we expect the congress to raise the bar and become a remarkable scientific event.

CENTRAL AMERICA

Jose Edgardo Valerio-Pascua, MD, FAANS, reports a successful past six months in Neurosurgery Oncology in the Central American region. In January of 2014, efforts were made to structure a group of young neurosurgeons in the field of neuro-oncology in Central America and Jamaica. They will participate in the CLAN (Congress of Latino-Americans Neurosurgeons) 2016 in Cancun, Mexico, and in the upcoming 2015 CNS Meeting, in New Orleans. An initiative of academic development in Mexico, Honduras, El Salvador, Costa Rica, Panama, Jamaica and the Dominican Republic was also developed. Within the chapter of Neurosurgery Oncology from the FLANC president, Gabriel Vargas, MD, IFAANS, vice president, Dr. Valerio-Pascua created

an interactive symposium using Internet technology for video conference between Colombia, Brazil and the U.S. This academic collaboration facilitates the continued academic efforts to grow this field in Latin America. Finally, Dr. Valerio-Pascua opened the first training program for Neurosurgery Oncology and MISS in Spanish with focus on Latino American Neurosurgeons at the Miami Neuroscience Center. The first Neurosurgeon trained, Ricardo Bermudez, MD, from Panama, after spending nine months learning a variety of high-tech procedures, returned to Panama to increase the network of young Latino American neurosurgeons.

Recent Past Meetings

- May 2015: National Congress of Neurosurgery in Peru and Ecuador
- March 2015: 4th International Brain Tumor and Spine surgery Symposium with cadaver lab at the Cleveland Clinic, Florida, in conjunction with the SLANC Society of Latino American Neurosurgeons in the U.S. This meeting had over 60 neurosurgeons from Latino America, six presidents of neurosurgery societies from Latino America (Mexico, Brazil, Honduras, Ecuador, Venezuela and Costa Rica) and two ex-presidents of the Federation of Latino America, Dr. Marcos Masini and Dr. Edgardo Spagnoulo. Drs. Gene Barnett, Macos Rotta, and Alencastro were honored guests at the meeting.

SOUTH AMERICA

Argentina

Alejandra Rabadan, MD, IFAANS, reports on two upcoming projects of the the Neuro-Oncology Section of the Argentinian Society of Cancerology (SAC). First, an updated guideline on management of brain metastases will soon be published in the Journal and on the web page of the Society. Second, SAC is currently undertaking a national survey on the accessibility of resources for brain tumor treatment. Additionally, there is a commitment to support SNOLA (Latin American NeuroOncological Society) and its activities in the region. Finally, the Neuro-Oncology Section at the Brazilian Academy Meeting, June 1-5, 2015, was highly informative with the participation of guest speakers from different countries.

Upcoming Meetings

- The international course on “Gliomas and Brain Metastases” organized by the Argentine Association of Neurosurgery and the SAC, Section of Neurooncology will be held in Buenos Aires on August 6-7, 2015. Guest speakers are Raymond Sawaya, MD, FAANS, and Isabelle Germano, MD, FAANS.
- The 4th Brain Tumor Awareness Day will be held in Buenos Aires on October 27, 2015, in the Argentine Medical Association Building.

AUSTRALIA

Charlie Teo, MD, IFAANS, reports that the neuro-oncology scene in Australia continues to be very active. The leading NGO for brain cancer research, the Cure Brain Cancer Foundation (CBCF), is taking a leading role globally with funding of an adaptive

continued on page 13

trial and over 40 dedicated labs across the world. In 2014-15, Cure Brain Cancer invested over \$2.65 million in research and committed an additional \$8.91 million. The funded projects included collaborators in over 40 institutions across six Australian states and five countries. The CBCF is committed to a patient-centric approach to achieve its mission of increasing five-year survival to 50 percent by 2023. This year they are supporting a range of projects including biomarker development, pediatric research, immunotherapy projects and innovative clinical trial design. CBCF has supported five clinical trials using therapeutics including checkpoint inhibitors, novel antibody-drug conjugates, a significant personalized pediatric initiative and a global adaptive program.

Adult neuro-oncology in Western Australia continues to be centralized to Sir Charles Gairdner Hospital, which serves a majority of our population of two million. In treatment trials, Anna Novak and her team have recruited more participants to the CATNON trial, which is closing imminently. A BMS trial of nivolumab versus bevacizumab as second line treatment for progressive GBM was open for a short period but recruited extremely rapidly, worldwide. WA is participating in the AGOG-

Epidemiology study, recruiting participants with any glioma for epidemiological information and germline DNA. They are continuing investigator-initiated randomized clinical trial of a career support and education intervention versus usual care for career people with newly-diagnosed, high grade glioma. They are close to completing recruitment for a clinical trial evaluating an exercise intervention for people with high grade glioma undergoing combined chemoradiotherapy and continue to recruit to a study of FET-PET imaging in newly diagnosed high grade glioma. Current active laboratory research includes translational pathology/sequencing projects in high grade glioma and a study of pluripotency genes in glioblastoma and gliosarcoma. The Kerrie McDonald's lab at the Lowy Cancer Center in Sydney continues to produce impressive work into the development of xenopatients and cell lines in the quest to personalize the treatment of patients with GBM.

Young Neurosurgeons Committee Update

The AANS Young Neurosurgeon's Committee held a forum to discuss the relevance and necessity of fellowship training for neuro-oncology and skull base surgery at the 83rd AANS Annual Scientific Meeting in Washington, D.C., in May 2015. This session was highlighted by the discussions of John G. Golfinos, MD, FAANS, (Chairman and Professor of Neurosurgery from New York University), Isabelle M. Germano, MD, FAANS, (Professor of Neurosurgery from Mount Sinai Hospital), Christopher J. Farrell, MD, (Assistant Professor of Neurosurgery from Thomas Jefferson University), and Jennifer Moliterno Gunel, MD, (Assistant Professor of Neurosurgery from Yale University). This group discussed whether fellowship training was needed to pursue a career in neuro-oncology and/or skull base surgery. While it was generally accepted that a fellowship was not always necessary for every individual, the advantages of fellowship training include further skill advancement, resume building, more exposure to different approaches, networking and practice development. These facets may make the candidate more attractive when pursuing an attending position. Fellowship training may, however, become a necessity depending on the resident training program and possibly as resident work restrictions prevent adequate exposure to these fields. If one is considering pursuing a fellowship, the number of positions available is relatively small and, therefore, the resident needs to contemplate pursuing the fellowship early in his or her training.

Washington Committee Update

Andrew Sloan, MD, FAANS

There are no issues being discussed at the WC that specifically address issues related to neuro-oncology or the Tumor Section. However, several areas under discussion are relevant to all neurosurgeons, including those who specialize in treating brain tumors. These include:

- Continued progress in repealing the Sustainable Growth Rate (SGR)
- Ongoing efforts to repeal the Affordable care act (ACA), in spite of the recent U.S. Supreme Court decision supporting Federal Subsidies for state exchanges
- Two newly-released public databases (Consumer's Checkbook and Propublica) allow consumers to check the "quality of care" provided by neurosurgeons. At this point the databases cover primarily spinal fusion for benign conditions; procedures for brain and spine tumors are not covered. However, numerous errors and the limitation of these databases have been discovered and there is significant concern about the methodology and metrics used. The WC has communicated to these organizations, CMS and the press about these concerns. In addition, the Quality Improvement working group has been restructured into the Neurosurgery Quality Council.
- The "Saving Lives Saving Costs Act," introduced by representatives Barr and Barrasso, which provides physicians with certain medical liability protections if they follow certain specialty society guidelines, was endorsed by the WC.

Skull Base Tumor Update

The past six months have continued to be busy regarding skull base tumors. Interestingly, there has been a noticeable trend in the practical course training of skull base surgical techniques over the past several years. Whereas once, it was common to have several cadaver-based practical courses at the annual meetings for the American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS), more recently these courses have become the proprietary of individual institutions. This has resulted in an explosion of courses teaching endoscopic and open skull base procedures to trainees and practitioners alike.

Most notably, the AANS sponsored their annual skull base dissection course for senior residents at the Medical Education and Research Institute in Memphis under the direction of Jon Robertson, MD, FAANS, from March 19-22, 2015. More recently, the North American Skull Base Society (NASBS) held their annual summer practical course at the Louisiana State University (LSU) health sciences center in New Orleans, from July 9-12, 2015. Additionally, there were courses the past few months at Mayo Clinic (Rochester, Minn.), Vanderbilt (Nashville, Tenn.), University of Miami (Miami), University of Colorado (Denver), St. Louis University (St. Louis), University of Buffalo (Buffalo, N.Y.), IRCAD (Strasbourg, France) and St. Vincent Hospital (Little Rock, Ark.).

There are upcoming courses with space available at the University of Pittsburgh (Nov. 18-21, 2015), Weill Cornell in New York City (Dec. 17, 2015), Rotterdam, Netherlands (Sept. 2, 2015) and Arezzo, Italy (Oct. 7, 2015). These courses not only provide a great opportunity to learn more about open and endoscopic skull base techniques, but are a wonderful opportunity to meet and spend time with the leaders in skull base surgery.

During the CNS meeting in New Orleans there were excellent 3D-anatomy presentations on Saturday, Sept. 26, 2015, led by Juan Carlos Fernandez Miranda. There were courses on both Saturday and Sunday pertaining to endoscopic and keyhole

cranial surgery, and courses regarding open aneurysm surgery and reconstructive skull base techniques. Important presentations included Stryker Neuro Oncology Award: Early vs. Late Gamma Knife Radiosurgery, following the Transsphenoidal Resection for nonfunctioning Pituitary Macroadenomas: A Matched Cohort Study and the Synthesis Skull Base Surgery Award comparing microscopic vs. endoscopic resection of pituitary tumors. This year's meeting was once again an outstanding scientific and social gathering.

The most notable project currently underway by the AANS/CNS Section on Tumors is the development of practice guidelines for vestibular schwannomas, led by Jeffrey Olson, MD, FAANS. There is arguably not a more controversial topic in all of tumor treatment over the past more than 100 years! Key questions have been formulated and literature review of over 2,000 abstracts pertaining to vestibular schwannomas published since 1990 are under review.

There are several major upcoming meetings next year regarding skull base tumors. The 26th Annual North American Skull Base Society Meeting will take place Feb. 12-14, 2016 in Scottsdale, Arizona, at the Fairmont Scottsdale Princess resort. The abstract submission site is open. The pre-meeting practical course takes place Feb. 10-11, 2016, and will be held at Mayo Clinic Scottsdale, Arizona. The 12th Congress of the European Skull Base Society is planned for May 26-28, 2016, in Berlin, Germany. Finally, the 7th International Congress of World Federation of Skull Base Societies is scheduled for June 14-17, 2016 in Osaka, Japan.

Sincerely,
Michael J. Link, MD, FAANS
Rochester, Minnesota.

AANS/CNS Section on Tumors Executive Committee

Chair: Fred Barker

Secretary-Treasurer: Steve Kalkanis

Past-Chair: Fred Lang

Advisory Board

Gene Barnett
Jeff Bruce
Ennio Chiocca
Roberta Glick
Jim Markert
Michael McDermott
Joseph Piepmeier
Mark Rosenblum
Raymond Sawaya
Ronald Warnick

COMMITTEES

Awards: Manish Aghi

Bylaws: Jason Heth

Clinical Trials: Ian Parney

Alliance: Brad Elder

RTOG: Daniel Cahill

Community Collaborative Initiative:

Aaron Cohen-Gadol

Development: William T. Curry Jr. (Co-chair)

Allen Waziri (Co-chair)

Orin Bloch

Chris Farrell

Daniel Prevedello

Michael Lim

Nader Sanai

Isaac Yang

Education (Continuing): Mark Linskey

Education (Meetings): Jonas Sheehan

Guidelines:

Jeff Olson (Chair)

Timothy Ryken

History: Anthony L. D'Ambrosio

IT/Website: Chris McPherson

Jeff Weinberg

International: Isabelle Germano (Chair)

Ricardo J. Komotar (Co-Chair)

Dominik Cordier (Switzerland)

Francesco DiMeco (Italy)

Hossam El Huseiny (Egypt)

M. Sam Eljamel (Scotland)

Nitin Mukerji (England)

Alejandra Teresa Rabadan (Argentina)

Zvi Ram (EANS)

Charles Teo (Australia)

Ugur Ture (Turkey)

Jose Valerio-Pascua (Central America)

Yonggang Wang (China)

Manfred Westphal (Germany)

Fumio Yamaguchi (Japan)

Journal of Neuro-Oncology: Linda M. Liau

Matrix: Ennio A. Chiocca (Chair)

Medical Neuro-Oncology: Susan Chang

Membership: Randy Jensen

NeuroPoint Alliance:

Mark E. Linskey (Chair)

James Bradley Elder

Newsletter: Jennifer Moliterno Gunel

Nominating: Fred Lang

Pediatrics: Richard Anderson

Programs:

Jennifer Moliterno Gunel (AANS '14)

John Kuo (CNS '14)

Clark Chen (AANS '15)

Michael Sughrue (AANS '15)

Michael Lim (CNS '15)

Gavin Dunn (Satellite '15)

Orin Bloch (Satellite '15)

Matt Tate (AANS '16)

Gelareh Zadeh (AANS '16)

Radiosurgery: Jason P. Sheehan

Research: Costas G. Hadjipanayis, MD, PhD,
FAANS

SANS: Sarah Jost Fouke (Chair)

Viviane Tabar

Skull Base: Michael Link

SNO: Michael Vogelbaum

Spine: Laurence D. Rhines

Washington: Andrew E. Sloan (Chair)

Brian Nahed

Young Neurosurgeons: Kaisorn Chaichana

Ian Dunn