



ANA/NJ Newsletter 20th Anniversary Edition, April 2015

October 26 may have marked the 2nd anniversary of hurricane ‘Sandy’, but by all accounts ANA/NJ’s Mini-Conference at Berkeley Heights was still a great success. There were fifty-one registrants and an unprecedented nine speakers. Suzanne Milani, the meetings coordinator for Summit Medical Group, had the rooms ready for us. A representative of Cochlear Americas, Kim Blanch, was present for demonstrations of the BAHA. One attendee drove all the way from Ithaca, NY, to be at the meeting. There were people from Maryland and Delaware. The box lunch was actually pretty good. And there were lots of good people to meet and share experiences.

Dave Belonger, our vice president for ANA/NJ, welcomed everyone, and began the meeting by saying some very kind words about the organization and the volunteers who keep it running. The positive audience response was appreciated. Dave then introduced Dr. James Liu (NJMS/Rutgers), moderator of the morning Doctors’ Panel for the topic “Diagnosis Acoustic Neuroma: What Next?” Dr. Liu explained that the panelists, himself included, would be looking (on screen) at MRI images of representative cases



of “The Good, the Bad, and the Ugly” among acoustic neuroma. The job for the panelists would be to discuss and decide upon best treatment(s) for each case. As shown in the photo on the right (from left to right) the three other panelists were Dr. Michael Sisti (NY-Presbyterian), Dr. Christopher Farrell (Thomas Jefferson Univ) and Dr. Philip Stieg (Weill Cornell).

The first MRI was said to be an example of the ‘Good’ -- a young male patient, age 38, who presented with a quite small tumor, mild hearing loss, vertigo, and some tinnitus. In brief, the panelists’ responses were: (1) Dr. Sisti – use Gamma Knife, low dose (11 Gy); (2) Dr. Stieg – a candidate for Wait-and-Scan; (3) Dr. Farrell – treat the tumor if hearing preservation is a main concern for the patient, but would like to learn more about the vertigo. Dr. Liu informed the panelists that this patient underwent retrosigmoid surgery (RS): the tumor “shelled out nicely,” he said. With regard to the RS surgery, Dr. Liu used slides to illustrate a new procedure for fat graft-assisted cranioplasty to avoid potential problems with postoperative CFS leaks and headaches.¹

¹ James Liu, Robert Jyung et al, “Reconstruction after Retrosigmoid Approaches . . .,” *Acta Neurochirurgica* (August 2014).

A second MRI, to represent the case of a 'Bad' acoustic neuroma, was of a 62-year old woman, moderate-sized tumor, hearing loss in the affected ear, plus ataxia (a walking problem). Briefly: (1) Dr. Farrell -- "take it out," but he would like to learn more about the ataxia; (2) Dr. Stieg -- the same, use either RS or translabyrinthine (TL) surgery, although prefer RS because of shorter operation time; (3) Dr. Sisti -- RS surgery recommended. Dr. Liu revealed that eventually the decision for this patient was RS surgery.

Finally, for the 'Ugly,' an MRI for the really giant tumor of a 40-year old woman was shown. Dr. Farrell took one look and declared it "a project." The panelists immediately ruled out any initial radiation treatment. Hearing was already lost, but saving facial nerves remained a challenge. It would have to be a partial removal by surgery, probably in two stages. How much tumor could be left behind? These were matters discussed at some length by the panelists.

The rapid flow of ideas among experienced neurosurgeons during these evaluations of MRIs was fascinating and instructive. Did you see the little tail of the small tumor reaching out toward the cochlea in that one MRI? It was instructive to have the panelists point this out for us and discuss its significance. As the old saying goes, "One sees only what one knows."

Following a good lunch, the afternoon began with a Keynote Address -- "Genomics, Personalized Medicine and Acoustic Neuroma," delivered by Dr. Matthias A. Karajannis, a dedicated researcher at NYU Langone Medical Center who combines genomic/molecular science with clinical trials in search of therapeutic drugs capable of helping control growth and hearing loss in acoustic neuromas, both familial (NF2) and sporadic. His talk was impressively scholarly with numerous charts, tables and references. He reported that clinical trials thus far with carefully selected existing drugs (e.g., lapatinib) have shown some success. Encouraging improvements in hearing, as well as cases of tumor shrinkage, have been recorded.² Other drug studies (e.g., everolimus) are underway. And combination drug therapies



may need to be tried. There may also be the need to develop and test a new generation of drugs designed for acoustic neuroma. For NF2 patients with bilateral tumors, as well as Wait-and-Watch patients with sporadic tumors seeking to avoid or delay treatment, a tumor suppressor oral medication will be very much worth all efforts.³

Genomic analysis in support of targeted therapies is a growing part of medicine today. The Rutgers Cancer Institute of NJ, for example, just received a \$10 million anonymous grant "to help its scientists discover targeted therapies for hard-to-treat cancers."⁴ Acoustic neuroma is not a cancer, but research in any one area of "precision [personalized] medicine" ultimately benefits all others.

² M.Karajannis et al, "Phase II Trial of Lapatinib in Adult and Pediatric Patients with Neurofibromatosis Type 2 and Progressive Vestibular Schwannomas," *Neuro Oncology*, vol.14(9) (Sept 2012).

³ For those not present at the conference, a good impression of the complexity of research in the field (and its unique vocabulary) can be had by looking at Dr. Karajannis' journal article dealing with 'Merlin', the tumor suppressor protein encoded by the NF2 gene. Go to www.pubmed.org and search for "Merlin: a Tumor Suppressor with Functions at the Cell Cortex and in the Nucleus," *EMBO Reports* (March 2012), free full text.

⁴ Newark *Star-Ledger* (October 9, 2014)

The afternoon Doctors' Panel, moderated excellently by Dr. Samuel Selesnick (Weill Cornell), was an examination of "Treatment Modalities & Hearing Preservation Outcomes" with focus on the various types of radiation treatment available to acoustic neuroma patients.



(From left to right: Drs. Selesnick, Farrell, Danish, Schwartz and Tsai)

Dr. Shabbar Danish (RWJ) reported first on single-session radiosurgery using the most recent model Gamma Knife called 'Perfexion'. Compared to the earlier Model C (1999), the Perfexion (2006) has cut treatment time from 80 to 30 min; setup takes 3 sec rather than 10 min; and there is automatic, time-saving patient repositioning. Low dosages of 12.5-13 Gy at the tumor margin have resulted in improved rates of hearing

preservation. Dr. Christopher Farrell (Thomas Jefferson Univ) pointed out how experiences with radiation treatment near the optic nerve have demonstrated the value of delivering radiation in a series of small doses or 'fractions' (radiotherapy) rather than in a single-session (radiosurgery). Along with the other panelists, he advocated dose 'fractionation' for patients most anxious to preserve useful hearing. At Jefferson, the dedicated NovalisTX linac (Varian) has been used for fractionation treatments of 5 weeks, 25 sessions. Dr. Louis Schwartz at Overlook Hospital prefers the CyberKnife linac (Accuray) for 5 daily sessions of 30 min each. Dr. Henry Tsai reported that Proton Beam treatments at the ProCure Center in Somerset are typically 25-30 sessions over 5 weeks.

The panelists agreed that small tumors do best for hearing preservation, and that tumor location away from the cochlea, as well as keeping any radiation dose to the cochlea as low as possible, are extremely important for hearing preservation. Also, as studies of Wait-and-Scan in Denmark have shown, acoustic neuroma patients who start with good hearing are the ones who end up with the best hearing.⁵

The panelists pretty much stayed away from citing and/or comparing long-term outcomes for the various types of radiation treatment. Actually, long-term data, like rates of serviceable hearing at 1, 3, 5, 7 and 10 years following treatment, is only just beginning to appear. Most reports by treating centers are for 3 or 5 years at most, and hearing rates are usually not well defined. Follow-up audiometry by patients is hard to get. And then, too, radiation technology/precision has been improving so rapidly: Gamma Knife is now in its 4th version since introduction in the US in 1987; Varian has just (2010) brought out a "next-generation," "super" linear accelerator named TrueBeam.⁶

Dr. Farrell did recommend attention to one study of long-term outcomes that reminds us that the effects of radiation take time to develop.⁷ In this study, median audiometric follow-up was 9.3 years for 44 radiosurgery patients treated by 12-13Gy, 1997-2002. The average rate of serviceable hearing following treatment was 80% after 1 year, 55% after 5 years, and 23% after 10. Important variables used to predict outcomes were tumor size and preoperative hearing capacity. The study advised "these data demonstrate the importance of long-term follow-up when reporting audiometric outcomes. . . ."

⁵ See ANA/NJ Newsletter, April 2011 & Sept 2014.

⁶ See www.variantruebeam.com/press.

⁷ B.Pollock et al, "Long-term Hearing Outcomes following Stereotactic Radiosurgery . . . ," *Journal of Neurosurgery*, vol.118 (March 2013). Mayo Clinic.

Notices

- We regret that for personal reasons Brad Zimmerman (Moorestown) has needed to resign his position on our Board of Directors. Many thanks, Brad, for your contributions while serving as a member of the board.
- Summit Medical Group Imaging in Berkeley Heights and Westfield has announced that ‘Silent Scan’ technology has been introduced to eliminate the loud, clanging noises patients have experienced during MRI scanning.
- Montclair State University currently offers the only clinical doctorate in audiology (AuD) in New Jersey. MSU’s new Center for Audiology and Speech-Language Pathology at 1515 Broad Street in Bloomfield provides reduced fees for its audiology services. The Center operates a ‘loner’ program of revamped standard hearing aids for qualified individuals. Donations of used hearing aids are welcomed. For information, phone 973-655-3934.
- Dr. Konstantina Stankovic is assistant professor of Otolology & Laryngology at Harvard Medical School and president of the American Auditory Society. She directs a basic science laboratory in molecular neurotology at the Mass. Eye & Ear Infirmary. ANers will be interested that recent NIH-funded research in Dr. Stankovic’s lab has suggested a potential therapeutic role for aspirin and other salicylates (NSAIDs) in inhibiting the growth of acoustic neuromas. (See “Aspirin Intake Correlates with Halted Growth of Sporadic Schwannoma in Vivo,” *Journal of Otology & Neurotology*, 35 (Feb 2014); “Nonsteroidal Anti-inflammatory Medications Are Cytostatic Against Human Vestibular Schwannomas,” *Translational Research* (Online, January 7, 2015).
- Dr. Joan Massagué has been named Director of the Sloan Kettering Institute, the ‘research arm of the Memorial Sloan Kettering Cancer Center.’ Dr. Massagué’s primary research interests involve the molecular processes by which proteins exert control on the growth and behavior of diverse cell types. (See *Center News*, Feb 2014).

A letter from Wilma ~

Dear ANA/NJ Members and Friends,

It’s been 20 years since the founding of ANA/NJ. Our mission from the beginning has been to “provide support and information to acoustic neuroma patients, their families and friends; and to increase public awareness of the symptoms of acoustic neuroma in order to assure accurate and timely diagnosis.”

We have done our job pretty well, I think. In those 20 years I have personally spoken to several hundred newly diagnosed or post treatment patients and have shared my experience, strength and hope with them. Most people come to us these days with a head filled with information, doctor’s names, hospital names, treatment options. The main reason they call, I think, is because they need to talk to someone who has been there, who has survived . . . and who understands

Thinking back brought me to a bad night in December 1992. My internist had just told me that there was a 2cm tumor growing on my cranial nerves and it was affecting my hearing and balance. There was also this constant buzzing in my right ear. I lived alone. My 4 children were grown and all out on their own. I was terrified. There was no internet. There was no one to talk to about my feelings, my fears, including my own local doctor, who had never seen another acoustic neuroma patient. He did some research and gave me the name of a neurosurgeon in Philadelphia who operated on brain tumors. My son accompanied me to the appointment, and after listening to what would happen if I didn't have surgery, we decided to go ahead with it. The surgery was scheduled for January 15, 1993, but was canceled by the doctor and rescheduled for February 2, 1993. My mother died unexpectedly on January 17, and I was able to be present for my family during the funeral and other arrangements.

The night before I was to report to the hospital, real panic set in. No one close to me could understand what I was feeling. I vaguely remembered an article I had read in the neurosurgeon's office, written by a woman in Chicago who was an acoustic neuroma 'survivor'. Although I had never before reached out to a stranger, I found that woman's name and called information to get her phone number. I called, told her that I was about to go in for surgery. She talked to me for over an hour, telling me her story, and answering my many questions. I have never again spoken to that woman, and have no idea who or where she is, but I will always be grateful to her.

Now, today, I'm the woman on the phone! I'm one of many, many acoustic neuroma survivors who are always available to share our own experiences with new people. So although ANA/NJ has done a good job over the past 20 years, as long as there are new acoustic neuroma patients, we will always be there to share our stories with them; to give them support; to let them know they are not alone.

Sincerely,

Wilma Ruskin, President of ANA/NJ
January 8, 2015

Long-Term Hearing Preservation: Middle Fossa Surgery

In his May 2013 Webinar recording for ANAUSA, entitled "Natural History and Surgery for Long-Term Hearing Preservation,"⁸ Dr. Rick Friedman (House Clinic, Los Angeles) presents the case for middle fossa microsurgery as a treatment choice for AN patients hoping for long-term preservation of useful hearing. He emphasizes that the approach provides surgeons with excellent exposure of critical nerves. For tumors less than 2.0cm (or even 2.5cm), he reports long-term hearing preservation rates of 60-80%. He makes clear, however, that 'Long-Term' in the title of his report means 10 years at most. Follow-up data for rates of hearing preservation beyond 10 years is simply not readily available at present.

Dr. Friedman recommends that tumors as small as 3mm are good candidates for middle fossa surgery. Wait-and-Watch would be a possible second choice, but he thinks it's best to treat tumors early while they are small. He cautions Wait-and-Watch patients that hearing loss can occur even though periodic checkup MRIs may show no tumor growth. Why such hearing loss occurs is not known exactly. He recommends that Wait-and-Watch patients should have their hearing tested regularly at intervals of 6 or 12 months.

⁸ Available at ANAUSA.org (Members Section). See also, at PubMed.org, the abstract for A.C.Wang et al, "Durability of Hearing Preservation after. . . the Middle Cranial Fossa Approach," *Jour Neurosurg*, vol 119 (July 2013). Univ of Michigan. Audiometric testing at 1, 3 and 5 years. At 5-year follow-up, Class A hearing was preserved in 13 of 20 patients (65%).

Dr. Friedman takes the position that both observation and radiation treatment patients should anticipate gradual deterioration in their hearing over time. Regarding the different types of radiation, he believes fractionation of the dose does no better than single-session treatment for long-term hearing preservation.

CRISPR Technology for Genome-Editing

Having a drug capable of moderating or stopping tumor growth and preventing hearing loss would of course be a great boon for acoustic neuroma patients. Another way to go might be gene therapy to fix the glitch in the NF2 gene that is a known cause of the disease. Instead of needing to take pills, patients would opt for genome-editing, whereby the offending mutation in the gene would be ‘snipped’ out and replaced by healthy DNA. As announced recently by neuroscientist Feng Zhang, PhD (M.I.T. Department of Biological Engineering): “Advances in genome-editing have opened the door for an entirely new and promising approach to treating disease by correcting causative errors directly in a patient’s genome.”⁹

Feng Zhang is one of the five co-founders of Editas Medicine, the new biotech company based in Cambridge, Massachusetts, that has introduced CRISPR, an innovative technology that allows scientists “to edit genomes with unprecedented speed and ease.”¹⁰ M.I.T. researchers have already reported on using the system to cure mice of a rare liver disorder by injecting CRISPR directly through their tails.¹¹ “[They] managed to insert the correct gene in about one of every 250 cells in the livers of mice. During the following month, the healthy liver cells thrived, eventually replacing a third of the bad cells, enough to rid the mice of the disease.”¹² Therapies for humans are still most likely years away, but are already being explored for HIV, Alzheimer’s disease, schizophrenia and depression.¹³

⁹ *The Burrill Report* (November 30, 2013).

¹⁰ See Margaret Knox, “The Gene Genie,” *Scientific American* (December 2014), pp.42-46.

¹¹ “Researchers Reverse a Liver Disorder in Mice by Correcting a Mutated Gene,” *Phys Org*, 30 (March 2014).

¹² Knox, “The Gene Genie,” p.46.

¹³ Knox, p.42; Matthew Herper, “Brain Boom,” *Forbes* (March 2, 2015), 76-83.

ANA/NJ Newsletter Articles ,2004-2014

(Online at [www. ananj.org/news](http://www.ananj.org/news))

Topic	Issue
ANA/NJ founding recalled	Oct 2013
ANAUSA Patient Surveys , 2008, 2012	Apr 2010, Mar 2014
BAHA (seminars, Dr Kwartler)	Jan 2005, May 2005, Sept 2009
BANA, British Acoustic Neuroma Assoc.	Mar 2012
Causes of AN	Mar 2014
Cell phones and AN	Sept 2005
CyberKnife (Dr Schwartz, Overlook Hospital)	Sept 2008
CyberKnife (Dr Lipani)	June 2013
Chronic Fatigue Syndrome	Sept 2008
Cochlear Implants	Sept 2004, Jan 2007
Diagnosis, Early & Delayed	Jan 2007, Sept 2012
Decision Making (Dr Ubel, IMDF)	June 2013
DNA (Dr Collins, <i>The Language of Life</i>)	Mar 2014, Sept 2014
Facial Reanimation Surgery (Dr Winters)	June 2004
Fatigue	June 2004, Jan 2005
Gamma Knife History	Oct 2011
Gamma Knife (Post-treatment regrowths)	Sept 2008, Oct 2010
Genomics & Personalized Medicine	Sept 2014
Hearing Devices for SSD	Mar 2013
Headaches	Apr 2006
Incidence of AN	Jan 2007
Incidental ANs	Mar 2012
Integrative Medicine (Morristown, MSKCC)	Oct 2010
Medical Tourism for AN	Oct 2011
Memory	Sept 2007, Apr 2008, Apr 2010
Mini-Conference, 2008	Apr 2009
Mini-Conference, 2010	Apr 2011
Mini-Conference, 2012	Mar 2013
NIH, National Institutes of Health	Apr 2011
Neuroplasticity and Rehab (Dr Doidge)	Sept 2009
Proton Beam Therapy	Sept 2009, Oct 2013
PubMed (National Library of Medicine)	Sept 2007
Regrowth of AN	Sept 2008, Oct 2010
Sizes & Symptoms of AN	Sept 2005, Jan 2006, Sept 2012
Tinnitus Research (Drs Salvi, Langguth, Tucci)	Sept 2012, Oct 2013
Tinnitus Treatments (Neuromonics)	Apr 2009
Wait-and-Watch (Quality of Life)	Sept 2004
Wait-and-Watch (Dr Selesnick)	Apr 2011, Oct 2011
Wait-and-Watch (Hearing Preservation)	Sept 2014

Gifts & Donations to ANA/NJ

(January 1, 2014 – December 31 ,2014)

The Executive Board of ANA/NJ gratefully acknowledges those who have contributed to ANA/NJ in support of its mission to provide information, encouragement and support to acoustic neuroma patients and their families.

Benefactors

Myrna Cummings
Samuel H. Selesnick, MD*
Brad & Theresa Zimmerman*

Supporters

Dick Barker
Sue Barnett
Pamela Betterton*
Priscilla Boles
Kathleen Cecere*
Andy & Jeane Gregg
Joan Grossman*
Kristin Ingersoll*
Dave Lavender*
Mr. & Mrs. Michael Petillo*
Wilma Ruskin*
Harry E. Springfield, Jr.*

Associates

Arlene Barra*
Mildred Capuro*
Donna Carides*
Doug Carlson
Catherine Garrison
Diane Hendricksen*
Bruno Mazzona*
Pat Mercready
Nicole Mirsky*
Judith Sackstein*
Joyce Silverman
Helen Vaccaro*
Joan Young*

*Matching Gift

2014 Conference Donations

Ran Abed
Dick Barker
Don Basile
Tom Blecher
Gabrielle Hecht
Clare Hofmann
David Isralowitz, MD
Pat Mercready

Matching Gifts

Israel Heilweil
(Exxon Mobil Foundation)

Elizabeth Snyder
(Dr. Reddy's Laboratories, Inc.)

Memorial Donations

In Memory of:

Carolle Ann Donofrio
Given by Arlene Barra

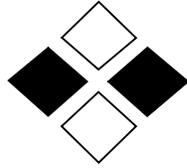
Corinne Leshnower
Given by Phyllis Schreiber

John Hofmann
Given by Clare H. Hofmann

United Way Donation

Mary Ann Gengo

In 2014, we received a Matching Gift Challenge Grant of \$1,000. Thanks to the generosity of our members and friends, a total of \$1,195 was raised, in addition to the \$1,000 grant.



20th Anniversary Meeting!

“Living with Acoustic Neuroma: A Peer Panel Discussion”

Let's Talk About Pre/post Treatment and Quality of Life Issues

Sunday, April 26, 2015 1-4 pm

**University Medical Center of Princeton at Plainsboro
One Plainsboro Road
Plainsboro, NJ 08536
609/853-7000**

Please bring your questions, concerns and ideas for conversation following the panel presentations.

Directions to the Medical Center of Princeton at Plainsboro

The University Medical Center of Princeton at Plainsboro is located right off the northbound side of Route 1, between Plainsboro Road and Scudders Mill Road. (Ruby Tuesday and Courtyard Princeton will be seen on the southbound side of Route 1, across the road from the hospital complex.)

Going **north on Route 1**, make a right onto Plainsboro Rd, and then take the jughandle at the traffic signal to make a left onto Punia Boulevard. On Punia Blvd, keep to right until the sign for Parking Lot V2. Turn left just past the sign and park in Lot V2. Enter directly into the Education Center, the low brick building ahead. Follow the ANA/NJ meeting signs for classrooms 1-3.

Going **south on Route 1** to Scudders Mill Road, take the overpass over Route 1 onto Scudders Mill Road. Bear right onto Campus Road. Turn right off Campus Road at the traffic signal onto Hospital Drive; and then left onto Punia Boulevard. Take Punia Blvd to the sign for Parking Lot V2. Turn right and park in Lot V2. Enter directly into the Education Center, the low brick building ahead. Follow the ANA/NJ meeting signs for classrooms 1-3.

