

## Q&A from 1.13.25 webinar with UC San Diego – Advances in Acoustic Neuroma Research and Treatment

Q: Please talk about advances in surgery to protect the facial nerve and to prevent CSF leaks, particularly in a translab surgery.

A: Protection of the facial nerve is absolutely dependent upon experience and surgical volume. Similarly with CSF leaks. We are continually striving to improve protection from CSF leaks.

Q: Can you comment on the Children's Tumor Foundation changing the NF classifications, specifically NF2-SWN and what research caused this change?

A: It is most likely due to the genetic overlap. The causative genes.

Follow-up Q: When was the LTZR1 mutation found? I have been gene tested for SMARCB1 and wondering if this was after my testing in 2012-2013.

Follow-up A: Not sure when it was, but I know it was relatively recently.

Follow-up Q: I also know from this testing that I am speratic (?).

Follow-up A: Genetics don't necessarily correlate with sporadic vs. NF2. Primarily based upon imaging.

Q: Could you please comment on aspirin therapy to prevent growth of schwannoma?

A: There is no experimental data to support the use of aspirin to limit growth.

Q: What is considered a fast growing tumor and is radiation recommended for fast growing tumors ?

A: any tumor growing faster than 2 mm per year. We and others believe rapidly growing tumors respond less well to radiation.

Q: how are NF2 gene mutations identified? And how common is this mutation in patients with unilateral Schwannomas?

A: The mutations are detected in either blood and tumor tissue by sequencing the DNA. Most sporadic or unilateral tumors have an NF2 mutation but in many a mutation cannot be identified either because of it being a different gene or in a regulatory element of the NF2 gene that is not sequenced.

Q: Is volume readily calculable? Is it more important than 2-dimensional measurements? Will AI be able to measure more accurately in the future?

A: Volume is calculable. Doesn't seem to provide advantage over greatest diameter. People, including us, are working on machine learning for the interpretation of mri scans

Q: Are there any most likely things/events that are causing the mutations?

A: Great question. The only known events are exposure to radiation.

Q: Does an AN with a cyst create more problems for either resection or for damage to the facial nerve?

A: If the cyst is within the tumor it is not likely to alter our success. If the cyst is against the facial nerve we will often leave just the cyst wall which carries very low risk to the nerve and to regrowth.

Q: How can you tell what type of AN tumor you have before surgery or radiation treatment?

A: The only way currently is MRI surveillance.

Q: Have there been any advances in treatment related to tinnitus in patients with vestibular schwannomas?

A: Unfortunately, there is no medical therapy yet. Hearing aids or cochlear implants, when possible, can help.

Q: What options are there for someone with a recurrent tumor?

A: That depends upon age, original approach, and size.

Q: If a patient has had prolonged elevated tgfb1, could this have contributed to the growth of the AN? If patient is able to reduce elevated tgfb1, could it impact the growth rate of the tumor?

A: Excellent question but the answer is unknown at this time.

Q: After how many years of stability/no growth to expect no future growth? Is it possible to say like 5, 10, 15 or some other number of years? Too many other variables to speak generally?

A: If tumors remain quiescent for many years the likelihood of growth likely declines but i think they should still be followed.

Q: How do I find out the surgical volume of a particular doctor or facility?

A: Ask them how many AN cases specifically that they do. If they are unclear you must take that as a warning.

Q: I think the future of this work and related clinical research could benefit from the open-source model, where the study design and results can be reviewed and analyzed by a lot more people.

A: totally agree

Q: In patients with high body mass index (e.g. 40-50+), how do you assess the level of risk for radiosurgery vs microsurgery? Is it true that a translab surgical approach is safer for a patient with higher BMI vs retrosigmoid approach?

A: We collaborate with internal medicine to assess health risks of surgery. High body mass alone but otherwise good health has not been a problem for us.

Q: Will this also include a breakdown of surgical volume by particular approach?

A: Absolutely. Including all 3 approaches to be a comprehensive center.

Q: Regarding surgical volume, how many is considered a large volume vs. adequate volume vs. low volume?

A: We looked at that. A minimum of 25 per year seems like a threshold but really it is more complex than that and includes training and technical skill.

Q: Does high volume and specialist skill apply to radiation therapies in the same way it does with surgical outcomes?

A: Yes, high volume and experience matters with radiation. Probably the differences are less than with surgery, but they are still there.

Q: can you talk about the treatment of the vestibular nerve during surgery? is it intentionally severed? Or this that simply a necessity due to the nature of the surgery? I was told my nerve was not severed, yet it is commonly cited that severing the nerve actually improves balance outcomes

A: In all but the smallest tumors, the vestibular nerve is severed when the tumor comes out. Of course, if you have an acoustic neuroma, it is not normal even before treatment. There is some data that having no nerve at all may be better than having partial function.

Q: Does surgery help with tinnitus?

A: about 33% of the time tinnitus improves.

Q: Are you currently using the MRI technique (to better see the facial nerve) that your fellow doctor developed when doing surgery to remove an AN?

A: We are not using this in patients, but we are interested in being involved with research

Q: Have you seen many patients as young as 26 years old with an AN, and would that alter their treatment?

A: yes. likely recommend surgery if treatment is needed.