

Skull Base Surgery
Webcast
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Introduction

Andrew Schorr:

Hello and welcome once again to another edition of Patient Power. I'm Andrew Schorr. And I am always inspired, as I say, time and time again by the people I meet, the patients, who, quite frankly, had they not gone to M. D. Anderson might not be alive today, and not only are they alive they often go back to a pretty full life. You're going to meet somebody like that in just a minute with one of the most serious, hard to get at cancers, if you will. And also you're going to meet two members of a very dedicated team related to skull base surgery and skull base cancer, and we're going to find out more about that in just a minute.

I want you to meet a man from Texas, Conroe, Texas, 62 years old, Gerald Ahrens, who found out back in 2004 that he had a health problem. Gerald, first of all, thank you so much for joining us.

Gerald:

Well, thank you for having me. I feel fortunate to be here.

Signs and Symptoms

Andrew Schorr:

Well, yes, sir. We're going to recap your story. So for more than two decades you've been a corporate pilot. And I have my private pilot's license, and I admire you, flying all those Learjets and all that and all around. Very cool job, and I'm sure the love of flying. So there you were flying around Thanksgiving time in 2004, and you were having trouble on those descents clearing your sinuses. I've had it on some airline flights, but I'd imagine you'd be really practiced at that. And then you also start getting an unexplained nosebleed that had to be concerning for you.

Gerald:

Yes, it was. I knew that something was abnormal. I needed to get it checked out.

Andrew Schorr:

And so you did. The very natural thing was you go to an ear, nose and throat specialist, and you had what often could happen and they do a CT scan, and then you go about your business and they say, well, we'll let you know what's going on.

You got a call from that doctor, and the doctor wanted to see you I know in her office but you got her to tell you over the phone. There was a mass inside your skull. That must have been terrifying.

Gerald:

Yes, that's not the kind of news you want to hear.

Andrew Schorr:

That's an understatement. You're on a trip, you're out of town, you fly back home, and then you have an MRI and they confirm that there's something in there that shouldn't be, although I guess the initial thought was it was not a malignancy?

Gerald:

That's correct. The first professional opinion I received was that it was probably just a benign growth in my sinus cavity that they would try to remove endoscopically, and so we proceeded with that, but that turned out not to be the case at all.

Andrew Schorr:

Right. It turned out to be something much more serious. And so you asked for a second opinion. That brings you to M. D. Anderson. What happened just before Christmas 2004 at M. D. Anderson?

Gerald's Experience at M. D. Anderson

Gerald:

Well, actually as I recall I went to M. D. on a Monday and I spent pretty much that whole week various days being tested. M. D. Anderson is very thorough, and even if you come there with some previous testing results they want to verify everything to make sure I guess they don't do a misdiagnosis. And so they suggested a treatment option for me of the surgery on December 20th followed up with radiation, you know, maybe six weeks later. And I really liked that option better than the previous option which I had been offered at the first hospital, and fortunately and lucky for me I think I have an excellent team down there between Dr. DeMonte and Dr. Hanna.

Andrew Schorr:

We're going to meet them in just a second. I think we should tell people how the story's worked out. So there you were a pilot. You're diagnosed with a very serious cancer deep in your skull. You have surgery for it and radiation where obviously it's complicated and we'll learn more about that where you want to hit the cancer with the radiation and not healthy tissue. How has it worked out, Gerald, and have you been able to return to your life of flying?

Gerald:

Pretty much. I feel back to doing pretty much all the activities that I did prior to cancer and my surgery and radiation. In fact I have been able to get an FAA first class flight physical back. I am back in the air flying, which I feel very fortunate. I didn't think I was going to have that opportunity in 2004. So any negative aftereffects from the surgery or radiation that I have are easy to live with, and I feel they've been a small price to pay for a second chance in life.

Andrew Schorr:

There you go. I guess the key question is, Gerald, do you think the multidisciplinary team related to skull base surgery at M. D. Anderson, do you think they saved your life?

Gerald:

Oh, I very definitely feel they saved my life. I don't think I had this cancer for a very long period of time because the symptoms came on I thought fairly rapidly, so I have to believe that it was probably growing rapidly and had they not been able to perform the surgery and the treatment which I received I probably wouldn't be here today.

Andrew Schorr:

Well, we're certainly glad you are. Now, I know listening to this are two of the doctors who played a key role in the team in helping you get back to the health you have. So let's meet them. You mentioned them.

One is Dr. Ehab Hanna. Dr. Hanna is professor of surgery and medical director for the head and neck multidisciplinary care center at M. D. Anderson. Dr. Hanna, welcome to you.

Dr. Hanna:

Thank you. I'm glad to be here.

The Importance of a Multidisciplinary Team

Andrew Schorr:

And let's also welcome a colleague of yours, Dr. Franco DeMonte. He's also professor of surgery and medical director of the brain and spine center at M. D. Anderson. Dr. DeMonte, welcome to you. I know for both of you gentlemen it must do your heart good to hear a story like Gerald's. Dr. DeMonte, that multidisciplinary team and your experience with people coming from around the world with some of these relatively rare cancers, it must make you feel great that you can bring that collective experience together to do what's right for each individual.

Dr. DeMonte:

Oh, I think that's so true. I feel sorry for people who don't have the backup that we do, because it can be overwhelming when you pick up (book) chapters and look at this problem and just the lists of the possible pathologies, possible tumor varieties in those locations, no one person has that fund of knowledge. We have all kinds of pathologists. We have 50 people in a room with us discussing patient care, and the wealth of that experience is tremendous, and I feel extremely fortunate to have that kind of backing here at M. D. Anderson.

Andrew Schorr:

Dr. Hanna, help us understand. When we talk about skull base cancers, this is a really tricky area to have a cancer. So it seems like you need a whole team to understand what are you dealing with, very sophisticated diagnostic techniques and surgical techniques, radiation as well, to try to do what's right for each individual patient.

Dr. Hanna:

Absolutely. And you know skull base surgery compared to other specialties in medicine and particularly surgical specialties is relatively new. And as you can imagine from just the term "skull base," it is precisely what it is. It's the base of the skull. It's where the brain sits on top, and all these structures that travel from the brain into the head and neck area pass through the skull base. And the area, as Dr. DeMonte described, has a variety of tumors simply because some of them come from below the skull base and travel upwards, heading towards the brain. Like in Mr. Ahrens' case, it was a sinus tumor heading up. Some of those are brain tumors heading down. That's a little less common. And then there are some unique types of tumors that come from within the base itself, from within the bony structure that makes the base of the skull.

And the interesting thing is until recently this area was considered inaccessible. When people had skull base tumors they were told that there's no cure, there's no way to remove it. And the reason for that is head and neck surgeons like myself would go as far up as they can and they'd stop at the skull base because it was uncharted territory for them. And then neurosurgeons would head down, and again once they passed their traditional area of training which is inside the skull they feel a bit unfamiliar and a bit uncomfortable. And it took literally the decisive collaboration between specialties to break down the barriers to say, you know, this is an area where we can see an opportunity that if we work together we would open up a whole frontier for a whole host of patients.

And I honestly don't think that skull base surgery could be possible without a team of surgeons from different specialties and different disciplines working together in concert during the surgery, before the surgery, after the surgery, which is precisely why I think our multidisciplinary team functions so well. We embrace that concept of team work, and I'm fortunate to have someone like Dr. DeMonte that I work with very closely.

Andrew Schorr:

That's neat. So Dr. DeMonte, you're a neurosurgeon, right?

Dr. DeMonte:

Yes.

Andrew Schorr:

And, Dr. Hanna, you're a head and neck surgeon. So that's an example of the team. And then there's a whole group, a multidisciplinary group of people that work with you. So on the front side we've got the diagnostic folks, what are you dealing with and the imaging you can do. You have a variety of different surgical approaches, and we'll talk more about that. And then there's all the follow-up in helping people get rehabilitated so they can go back to a full life. And I know you have ophthalmologists, you have audiologists, you have swallowing experts, nutritionists. It sounds like, Dr. DeMonte, you have quite a world-class team.

Dr. DeMonte:

It's a wonderful group. Really we want to maximize the outcome, and to do an operation, shake somebody's hand and say see you later doesn't do that. It just doesn't meet needs. It doesn't meet rehabilitative needs. It doesn't meet psychosocial needs. It doesn't meet quality of life needs. I think the group we have can address specific problems that may arise in the postoperative recovery phase that allows patients to maximize their quality of life and their functionality and their outcome. I think it's a very important aspect that's not talked a lot about, but it's vital to the optimizing the outcome of treatment.

Andrew Schorr:

Yeah, I certainly believe that. Dr. Hanna, I've got a question for you.

Dr. Hanna:

Yes.

First Treatment Approach is Critical

Andrew Schorr:

So one of the things with any cancer I believe but, I think where these cancers are located at the base of the skull especially true, isn't it critical that when somebody has a diagnosis of a cancer like that, and first of all you want to get the most accurate diagnosis, not just where there's a cancer but all its properties. As you said there can be many different types. Has it spread to the brain, or not? Where did it come from? What are the cells exactly? Really the first approach in treating this cancer is critical. And unfortunately I'm sure you see at M. D. Anderson people who had initial treatment somewhere else and it's maybe sometimes difficult to play catch-up as a have a second line of treatment. Would you agree that that first approach is critical?

Dr. Hanna:

Absolutely. I couldn't agree more. The model for this is that your first shot is your best shot. And it couldn't be more true for these types of tumors. And you're absolutely right. The first, the very first thing we do is that if patients come in with a diagnosis before we go any further we want to revisit the diagnosis. We want to confirm that indeed this is the case, that this is the type of tumor we're dealing with. If they've had a biopsy elsewhere we bring that tissue here to be looked at by a special either head and neck pathologist or a neuropathologist that spend their career looking at these types of tumors as opposed to seeing one or two in their lifetime.

And I cannot stress to you how important this is. We have had examples where the diagnosis has changed, changed enough to affect the treatment recommendations. In fact we've had cancers that were diagnosed and we've found that they were not and tumors that were felt to be benign and we felt they were cancerous. And we've found cancers of one kind and we've changed them to a different kind based on our reading, moving their treatment from surgery to nonsurgery or vice versa. So I think you're absolutely right that you have to go and analyze specifically what you're dealing with.

And then the second phase is that once you've done that you have to come up with, of all the different options of treatment, surgery, radiation, chemotherapy and other treatments, since every tumor is different and every patient is different there is no sort of cookbook way of recommending the treatment. Like in Gerald's case one of the key goals for us in addition obviously to curing his tumor was to preserve his vision because he's a pilot and he enjoys flying. And I remember when I met with him that obviously he wants to live, that was a given, but that his quality of life was very important to him, and flying was one of those things that he really enjoyed tremendously.

So one of the critical options for us that Dr. DeMonte and I had to grapple with, what is the best treatment recommendation for Mr. Ahrens that would preserve his eye. I believe he was told before he came here that he would lose his eye. And we explored whether starting with chemotherapy would be a good idea to shrink the tumor, but we felt that in the unlikely event that the tumor grows instead of shrinks on chemotherapy our window of opportunity to save the eye might be lost. And in his particular case we proceeded with surgery first. In other cases with similar tumor we may have chosen to start with chemotherapy. So this is just an example of how the multidisciplinary team works. Because when we see patients with skull base tumors we not only get the surgeons involved we get the medical oncologists and the radiation oncologists, the diagnostic radiologists and the pathologists, and everybody else involved so that we come up with the best recommendation for each individual patient.

Andrew Schorr:

Well, thank you so much for taking us with that and relating it to Gerald's case.

We're going to take a brief break, and when we come back we're going to discuss some of the latest treatments that you have available, these tools you have with your expertise and the art of medicine of course that you can bring to bear today to people with skull base tumors at M. D. Anderson.

I'm Andrew Schorr. Stay tuned for more Patient Power brought to you by M. D. Anderson Cancer Center.

Steps in Developing a Treatment Plan

Andrew Schorr:

Welcome back to Patient Power as we continue our discussion of the latest approaches for skull base tumors and skull base surgery and allied treatments that come together with two leading experts from M. D. Anderson, Dr. Ehab Hanna and Dr. Franco DeMonte, and also a patient who says these gentlemen and the whole team saved his life, and that's Gerald Ahrens, a pilot from Conroe, Texas.

Dr. DeMonte, help us understand. You as a neurosurgeon and your colleagues in head and neck surgery and the other team members, what's available to you as you learn more about somebody's tumor within their skull? What are some of the different things that come into play? What's the state of the art now, if you will?

Dr. DeMonte:

As Dr. Hanna mentioned in the earlier segment, it starts when the patient walks through the door in obtaining the highest quality diagnostic imaging. Because that does two things for us. It sometimes gives us clues to the nature of the tumor, but it also gives us detailed anatomic information which is going to be really critical in constructing the appropriate approach to the tumor. Sometimes these approaches require the movement of the orbit out of the way temporarily. Sometimes it requires movement of the posterior part of the skull or ear area out of the way in order to get to these tumors. So that has to be planned very carefully initially.

And that imaging that's done is able to be imported into the operating room during the time of the patient's surgery such that the planning that we have gone through prior to surgery is imported, is able to be transferred to the real time situation of the operation and allows us three dimensional visualization of both our planning and its application at the time of the operation.

Andrew Schorr:

I've talked to some of your colleagues there, and I was trying to visualize this in my head. So first you have sort of a GPS of where you are and what you're doing, but as you excise tumor things are also moving around, so you kind of need that real time imaging because your road map is changing, right?

Dr. DeMonte:

That's very, very important in the brain, which is a more viscoelastic, more of a moveable tissue. A benefit we have in the base of skull is that most of these tumors are locked into the bony skull base, so that bone is a fixed anatomic point. So we don't have the same problems that occur in the brain where as you remove tumor the brain and the tumor moves. So I think with skull base surgery we have the luxury of not necessarily requiring real time intraoperative imaging for most of these tumors. Some do require that, and fortunately we do have the technology to do real time intraoperative MRI imaging, and we definitely utilize that technology in those cases where it is necessary.

Improvements in Technology

Andrew Schorr:

Let me ask Dr. Hanna. Dr. Hanna, you use endoscopy a lot, where maybe you won't have to do an open surgery but you can go through a scope. Are there some new improvements in that?

Dr. Hanna:

Oh, absolutely. Endoscopy has been around for a while for treatment of nasal problems and sinus problems, and just in the last five years or so we've sort of pushed the envelope a little bit and explored the use of endoscopy in the area of the skull base. The improvements there, as Dr. DeMonte mentioned, is image guidance, and that pretty much applies to endoscopy as well. I think the technology of instrumentation and laser technology and the optics associated with endoscopy make the application in the skull base more and more becoming a reality.

The key to endoscopy really and to minimally invasive techniques is patient and tumor selection. Minimally invasive surgery is not for everybody, and it's not for every tumor, but choosing the right tumor you can achieve in the right hands results that are quite satisfactory with less of the complications or side effects or morbidity associated with the bigger approaches. When we see someone here in our clinic, Dr. DeMonte and I will go critically over all the factors, the tumor type, the tumor location, tumor stage, and we go back and forth and debate about whether endoscopy or open approaches are best, and they're both available and we choose again the best approach based on that.

As far as new advances in endoscopy I think the whole area of surgical robotics is going to lend itself well to endoscopic surgery in the skull base area. Right now tumor removal with endoscopic techniques is not difficult. What is difficult using endoscopy is the reconstruction, the repair, particularly of the brain covering, the tissue we call the dura. And we, Dr. DeMonte and I, have explored the ways to repair the dura using endoscopic techniques with the help of the robot. The robotic arms are such that we can get into very tight spaces and do the kinds of

movements that a human hand could do without actually inserting obviously the hand in that, space because that would require an open approach. So that's the advance and the advantage of using robotics in endoscopic surgery is just to push the envelope even further by allowing us deeper resections with safe reconstruction.

Andrew Schorr:

Okay. I just want to underscore that for our listeners. So what you're talking about, you and Dr. DeMonte working together, is to really pave new ground in this sort of surgery, and that's the kind of thing that I hear from hearing today from you and from your colleagues at M. D. Anderson. So for people listening around the world, this is what is really offered at M. D. Anderson and I think gives you the confidence that you really are getting state of the art procedures. And in the case of this use of the endoscope, that's allowing people to have a much quicker recovery, maybe avoid an open procedure, and that's certainly sounds good.

You have this team approach, but there are other members of the team. Gerald, you needed radiation, and radiation in the skull, that's not a trivial thing, not that radiation is at all. But you want to hit the cancer. I know you told me on the phone previously that you felt they were very careful to have targeted radiation.

Targeted Radiation

Gerald:

That's correct. I was very confident when I went into radiation knowing that they had fully briefed me on exactly what they were trying to do and the care they were taking to target the radiation where it needed to be and protect the sensitive areas such as my eye which they didn't feel needed to be radiated in the process, and I think it's fairly sophisticated. They put a mask over you that actually shadows certain areas, as I understand it, to keep the radiation from going where it shouldn't go. And so far I've been pleased with the result.

Andrew Schorr:

Right. And in the years since you've had that treatment there's yet even more. Dr. DeMonte, I know that M. D. Anderson has one of the only proton therapy centers, and so that's yet another tool for very targeted radiation within the skull. Am I right?

Dr. DeMonte:

Exactly right. It allows extremely tight discrimination of radiation margins. It reduces radiation scatter that is seen with other treatment modalities, and it is particularly effective for quite a large group of uniquely skull-based tumors. So it was wonderful having this come online about a year and a half ago.

Andrew Schorr:

Dr. DeMonte, we were hearing Dr. Hanna talk about the advantage of bringing you and your group, neurosurgery, together with head and neck surgery and all these allied healthcare professionals working together. It sounds like you two gentlemen in particular but with the team have really been paving some new ground, and it sounds like you can really say it's making a difference.

Dr. DeMonte:

I certainly like to think so. It's been a long time coming. This is not a team that arose spontaneously. It took years to get it to its current state. I was particularly fortunate to help in Dr. Hanna's recruitment back in 2004, I think it was, the year that Mr. Ahrens had his operation. He was the final touch to the team, and so we are now fully intact and functional. It took a long time getting that way, but we're very happy to be where we're at.

Hope for the Future

Andrew Schorr:

Dr. Hanna, so for people who are given this diagnosis, it's terrifying. There's a tumor and you're trying to figure out what it is. Has it spread to the brain? Where did it come from? Will you ever recover? It's terrifying to people, and these are not common cancers so people don't often have a frame of references. As you look at what you all were able to do as a multidisciplinary team now, what hope can you offer people?

Dr. Hanna:

Well, this is exactly what it's about, is hope. And I think that patients want to know the truth. First of all they want to know what they have, how serious it is, and what can be done about it. And one of the things that M. D. Anderson carries as a mission is we just don't give up. I mean we don't give false hope to people, but on the other hand we make it our passion and our mission to pursue every avenue that will bring at least a ray of hope for any patient. So I think that what patients are looking for is an accurate assessment, is a clear plan of action, a realistic assessment, certainly not underplaying or minimizing the condition but at the same time being courageous enough to say, you know, this is something that we can evaluate all the available options. Candid discussion is usually carried on with the patient and the family.

I remember with Mr. Ahrens, we talked about the seriousness of the condition, and obviously we talked about the potential for loss of vision in that eye either from the surgery or the radiation. We also talked that there ways to prevent that from happening and that we will do everything we can to do that.

And then team up with the patient. I think to work in isolation is to really lose a great resource, which is the patient. The patient needs to direct his or her own care in a way that they feel very comfortable with. Because once that happens

they really become a champion of the whole process. They are engaged. They understand what's happening, and that in and of itself gives them hope. There is nothing more terrifying than having the diagnosis of cancer and then also on top of it have no control over the process whatsoever, that you feel that you are not part of the decision-making team, that you are just moved from one place to the other and things are going too rapid for you to understand why and when and where it's going. And I think when you talk about hope I think that understanding what is at stake, what are we going to do about it and having a clear time line of what to expect gives patients hope but also a great deal of comfort and satisfaction in the whole care cycle.

Andrew Schorr:

Well, thank you for that statement. I want to underscore one other thing, because I'm just bowled over as I interview really world-renowned physicians such as yourselves from M. D. Anderson. It's not like we're the doctors and you're not and you don't have a say in it. It's just the opposite, as you said, Dr. Hanna. It's inclusive. You're all in it together.

Gerald, so here you are with your two doctors, leaders in the team that as you said at the outset saved your life. I know you've probably thanked them individually, but publicly is there anything you'd like to say to them?

Gerald:

Well, I feel like I owe my second chance on life to them. And down at M. D., there I have total respect and admiration for Dr. DeMonte and Dr. Hanna as being very competent and skilled in what they do. But I had a good experience at M. D. overall at all the different clinics and other doctors that I was able to see in preparation for all this and still ongoing monitoring.

One thing about M. D. Anderson, when you first go there it's kind of overwhelming. You have a lot on your mind. There's a large fear factor, and you have to kind of be patient and learn the system and how they operate there, and all you have to do is go ask someone and they're always willing to help and direct you. But sometime you have to wait much longer than maybe what you're used to in your normal family physician's office. But once you get into the office and you're face to face, you feel like you're the only patient that they have. And they're going to sit there and continue to answer your questions as long as you have questions to ask them. And I really appreciated that aspect of the whole process there at M. D. Anderson.

Andrew Schorr:

Well, Gerald, that is so well said. And I have to say as a leukemia patient from M. D. Anderson I felt exactly the same way. So for folks who are listening and they're at a distance, should you come to M. D. Anderson? Yes, it can be daunting because you have a lot on your mind, but I would say for everybody I've interviewed, and there have been many who've been touched by M. D. Anderson, that is pretty much the universal experience.

Gerald, as we wrap up I can only say that I know, and your doctors join me I'm sure, we're delighted you are flying again, and I think it's a huge deal that the FAA gave you flying status again, and I just wish you the joy of flying and a long life.

Gerald:

Well, thank you very much. I hope I can do it for many years to come.

Andrew Schorr:

Right. And you've got that new granddaughter. Is it Ariana?

Gerald:

That is correct. Yeah, she's one of my pride and joys right now, and I'm glad I'm here to watch her grow.

Andrew Schorr:

Okay. Well, you're going to dance at her wedding, okay, grandpa?

Gerald:

I hope so.

Andrew Schorr:

I hope so. Dr. Franco DeMonte, thank you so much for your dedication to people with these very serious and what have been really hard to get at cancers and the innovation that you've been doing. Thank you so much for what you do with your team.

Dr. DeMonte:

Thank you for your time tonight, too.

Andrew Schorr:

And Dr. Ehab Hanna, thank you with the head and neck surgery group and the dynamic duo you've got going there and then all the team that work with you. We wish you all the best as you develop new procedures and continue to give people hope.

Dr. Hanna:

Thank you very much.

Andrew Schorr:

Well, this has been another edition of Patient Power. You've been listening to Patient Power sponsored by M. D. Anderson Cancer Center. I'm Andrew Schorr. Thanks for joining us.



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