The Future Of Cancer Treatment: Using Immunotherapy For Advanced Prostate Cancer Transcript

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Introduction and Guest Welcome

Hello, everyone. Welcome once again to the Prostate Cancer Summit. I'm your host, doctor Geo Espinosa. It is my pleasure to introduce to you Doctor Jason Williams, who is director of interventional oncology at the Williams Cancer Institute.

Co-Founder of Synchro Immune and the author of the book The Immune Immune Therapy Revolution. Doctor Williams, thanks so much for joining us on the summit.

I thank you that you appreciate being here. Good to talk with you. You know, we were talking prior to recording. We got to know a little bit about each other's work, got to know a little bit about yours.

And I'm like, wow, I'm happy. I'm happy. Doctor Williams is around. Immunotherapies is hot right now and all cancer is like, okay, everywhere you turn you're hearing about immunotherapies.

I remember ten, 15 years ago we heard about, Skype use cell T or Provenge for prostate cancer. Right. That was it was hot. Particularly for advanced prostate cancer, which I was saying.

Well, why not early or why, why, why, why already when was so late? So would you give us, like, right before we started recording, you gave me some insights that I don't know that I knew that.

Can you give us some brief insights on immunotherapy for cancer, how it works and what are the things that may suppress this immunotherapy therapeutic effect from happening.

Like you were mentioning Tylenol a acetaminophen. So take us back. Give us a little overview because I think that's a good start.

How Immunotherapy Works in Cancer

Yeah I think I think the one one thing what led me in this was that, you know, being an individual radiologist was mainly focused in the area of ablation.

So you're sticking a needle in a tumor, freezing it, heating it, you know, trying to kill it. And obviously for prostate cancer, prior ablation of the prostate is, you know, you know, obviously, certain therapies use and we, we're seeing when we're treating patients, I do obviously a wide range beyond prostate, but we were treating patients and we would see that if we did ablation.

And depending on how we did the ablation and depending situation, sometimes their cancer would shrink in the areas we didn't treat. Right. So, you know, we treat, a liver and the patient has a disease, a long and a lung lesions shrink.

And well before giving it any other therapy. And this is back in like 2002, 2003. So then I knew that there was an immune response and decided that, gosh, how can we make this happen more?

So we started looking the idea that if we do this, could we inject drugs into the ablation site to stimulate that response more? And, we started playing around with it, doing various things, and it wasn't really till about 2014 when they first started getting their approval of like the PD1 inhibitors had Keytruda, not vivo.

And just prior you had the approval of Ctla four inhibitor Yervoy, you know, so the idea behind these

immunotherapies that have been different than, than treatments in the past is that, you know, that there are sort of a disguise, that cancer has a disguise that keeps the immune system.

We're seeing it. And these drugs block or remove that, and the immune system can then see it and attack it. And that was a a different concept. Everybody else is like, you know, you need to throw gasoline on it.

But like fuel it. But it wouldn't work because, you know, the immune system wasn't seeing it. And so that's why that concept kind of changed in these drugs came out.

And, you know, initially for melanoma, and clearly very successful. But then now we know, of course, you can work at many, many cancer types. You know, immunotherapy can apply to, to lots of cancers and, and, and of course with, with with prostate as well.

And that was a thing that we started seeing with prostate particularly is that, you know, we could do ablation, we could inject immunotherapies and we could get the immune system to see and attack the cancer.

It would take the cancer, the prostate. It would attack metastatic lesions that that ultimately led us to develop a specific formulation of immunotherapy that was more effective for for prostate cancer, which is, of course, is our sinker immune sinc t drug that we have clinical trials on.

But but yeah, you know, the concept is that you go and you do this ablation. You kill like just a small amount and you don't try to go kill the whole thing.

Actually, if you if you oblate too much, you may cause the immune system to not want to attack it become suppressive. And if you damage a lot of normal tissue.

So for example doing this big prior ablation is not not as useful. Right. You want. So let's let's pause there. I mean you say that's that's a very important point that I'm not sure that many practitioners either know or are practicing the goal for in medical and in the standard medical approach is get rid of cancer or cancer as much as you can, period in the story by any means necessary.

Whatever the energy, you know, whether it's a cryo, whether it's heat, whether it's, you know, lasers, get rid of and you're suggesting, wait, maybe we shouldn't get rid of all the cancers.

Maybe. And because and likely because that has, that it diminishes the immune response to to the cancer. Is that what you're saying? That's right. Yeah.

And, you know, I think I think the more definitive papers it shows us, which we were, we were involved as, advisor, paper published a couple of years ago at a Case Western Reserve, under Alex Halong, who's who's an MD, PhD, and, that what we showed at this study was that if you ablated the entire tumor, you didn't get an immune stimulation if you blade part of the tumor, oddly enough, the tumor that is you leave behind begins producing something called sting stimulator interferon genes, which is immune like stimulation.

And that boost the immune response.

Partial Ablation and Immune Activation

And that's only seen when you partially abate the tumors. And so that that was kind of the trick that you go and you, you partially oblate these and and then of course if you add the immunotherapy agents, you can you can boost it more.

And so that's that we're seeing. But it's a different concept than the idea. Like oh you got to go destroy everything. Get a margin. Because you do that you're going to get a lot of healing growth factors.

You're going to get a surge of BGF. You're going to get a surge of, you know, various other like fibroblast growth

factors and things like that, which will actually promote cancer growth.

So and then of course, you also don't get an immune response with that. So the vet Jeff. So so let's you said a lot and I understand much of what you said, but I want to kind of bring it down a little bit for our audience who are mostly laypeople.

So the vegetable, these vessels that are that are new growth vessels that they're trying to inhibit, actually, when you're trying to treat any cancer, because cancer cells tend to older, they tend to grow their own blood vessels.

So much of the therapies that are around are to inhibit that process from happening. That's the VHF approach that you were talking about. So you're saying in the healing process, during the healing process, there's all sorts of things that are occurring, including VEGF production, not not, deletion and fibroblasts.

These are things that actually promote or can promote cancer cells. So you're saying potentially that's counterproductive, that's fighting the whole tumor.

That's good. Wouldn't that be a hard sell? So hey patient. Yeah. Hey, Mr., Jones, look, we got this great approach. You have this cancer here. We can treat it all with this ablation, but it actually is not a good idea to treat it.

Are we going to leave a little cancer inside your body? I mean, that's a hard sell, isn't it? That is. Yeah. So that's why I think we've had to demonstrate this on the patients who are metastatic.

You know, we're not we're not treating the early prostate cancers that you could technically eliminate all the, you know, visible disease. But treating the metastatic cases where they don't have an option.

Right? I mean, so if we blamed part of the tumor in the prostate, but they have bone lesions stuff, it doesn't matter that cancer elsewhere. And we're showing that, yeah, we can do that.

We can abate part of the lesion in the prostate. And yet we get the response completely in the prostate and completely in the bones at the same time. And so shows that it works.

And and hopefully this will then drive future therapy where, you know, I think in the future a patient with prostate cancer, you would go in and and you would do this right from the start.

I mean, you go do small trial ISIS inject immunotherapy. You wouldn't you wouldn't go do these aggressive, cases because of being more aggressive actually leads to, I think, greater metastatic potential in the future.

You want to stimulate the immune system to attack it. Tell us a little bit. So you said prior ly so you've mentioned the word several times. So yeah, many patients would say, well, oh no, doctor William said cryotherapy.

No no no no there's a difference. So yeah. So so you know you got you got like full outcry ablation. And you know there there could be a situation where people are actually freezing the entire prostate or, or you could obviously do focal, you know, cryo ablation freezing lesion.

Whereas cryo lysis means that, you know, you have the tumor. You're just you're putting the needle in there and you're just freezing a small spot. You know, you may be freezing, 10% of the tumor just just to get a little killing.

So that you're getting those dead pieces that the immune system can see. And that's it's kind of gives you that, that initial stimulus of the immune response.

Excellent. It does that include also. So you do the cryo lysis and then another injection of maybe T which we can dive right into if you'd like. That's right. Yeah.

So and with a with zinc T you know, it's a small vocal fry lysis basically you're placing, you know, a relatively small gauge. You know, these are like 17 gauge needle into the lesion.

You're doing basically like a one minute freeze. Looks like the size of P, right? I mean, it's like really, really small. And then and then you're injecting into that same site the multi combination immunotherapy.

And so the zinc T has immunotherapy that activates like the innate immune response you know, toll like receptors. Also has a part that kind of bridges over into, you know, the innate to the effector.

Particularly the agent called Cd40. And so, you know, it's got but it's a, it's a multi combination immunotherapy and is what, you know, we really found very effective in prostate cancer.

I mean we looked at other agents I mean like just doing like Yervoy our vivo. You can get some responses I mean that works. But this was a next level.

And and then of course we work with the FDA on on the the design.

Zinc T Therapy and Trial Results

I mean as far as like what combinations would be acceptable to the FDA. And so that's, that's how that drug got developed. Tell us a little bit about your study, with safety as a trial as it relates to metastatic resistant prostate cancer.

Yeah. So we did we did initial study with 15 patients. And so, you know, 87% objective response rate, greater than 50% complete responses in these patients, patients were treated once a month.

Is that published? Jason. It is. So it was published and presented at the American Association of Cancer Research. You can find it on the on the synchrony website.

You'll see the stuff on online there. And then of course, there's like, I think, next year we'll, we'll, we're going to, present the updated stuff on Asco.

So, you know, as, as it kind of the study evolves and, and now, you know, the, the studies, we started the initial study in Mexico. Now, now the studies moved also into the United States.

And so it's actually a I think it's starting, you know, next month. And so then, then we'll get bigger, broader, I mean, it's going to get us gets a lot more data now.

So you, you want to we want to see I mean, the initial results are pretty compelling. And now we want to see as we get big multicenter study, get this in the hands of lots of different doctors.

You know, can we keep duplicating that same the same results? We're you. So let me try to understand this. Well, let me ask you a question. These 15 men with advanced or metastatic prostate cancer, did they have their prostate intact?

Yeah. So in this in this case these patients still had prostate. And so, they had not had surgically removed they had metastatic disease but still had their prostate.

However, as the trial's expanding, that will get into where we'll treat patients who've had prostatectomy means and, and we will be targeting bone lesions as well into obviously other soft tissue lesions.

I mean, lymph nodes in the pelvis are possible or, or bone lesions. You know, obviously it's rare that you have a patient with like, lesions, like in the liver or somewhere else like that.

Right. But it does occasionally happen. But generally, you know, your soft tissue lesions are ones in the pelvis like lymph nodes. And then and then of course like bone.

And we can target those. And so that will. Be how does that work systemically. So let's say they have the. So

maybe you can clarify actually because maybe I have it confused.

They have their prostate intact. You do cryo lysis their prostate lesion. Along with that comes the immune response to some sort of proprietary, blend that you have there.

How does that have a systemic benefit to it? Yeah. Bone and you know, rib, metastatic to the rib and it's, there's a decent a decent distance from the prostate to the red.

Yeah. How does that work. Yeah. And it's the same you same concept. Just like, you know, when you get a vaccine. I mean, obviously, you know, you get the shot in the arm, but your whole body is protected. Right.

And so, you know, the concept is that you're you're generating that immune response in the tumor. And what better place to generate an immune response where you got tumor, right?

I mean, like that's part of the problem with some of the immunotherapies is that when you're just giving it all around the body, it's finding in the sites there's not cancer and the immune system gets confused.

Where is this you're putting most of the drug right there where the tumor is is starting that immune response there in the tumor. And then you get this, you know, distant episcopal effect, as they call it, where, you know, the immune system will attack the tumor there.

But then can distant disease, It sounds like to me like they need to have their prostate intact for this to have benefit, even though they have metastatic disease.

Of course, you have some patients who have prostatectomy. They get their prostate removed and they're still, metastatic disease all over, you know, in many anywhere in their body.

How do you think that would pan out? So where are you doing this type, the cryo Liszt's. And where are you getting this tumor from? Which one will you address? And the tissue is different.

It's more denser and bone that it is. And so how would you do that. Yeah. Yeah. Of course. You know I think it's, it's obviously it's nice that the patient still has their prostate and has lesion to target the prostate.

And sometimes you have a situation where the patient's on hormone hormonal therapy in their prostate. Now we don't see any lesion. Right. We look we look at MRI and but but there's are bone metastasis.

And so and in the case of those patients we might need to want to target the bone lesion. Now we can target bone lesions. Right. We can stick a needle in the bone.

It's a little harder in the in the concept of injecting drugs into that. You know, it's kind of almost like trying to inject, you know, into concrete, right?

It's like, does it does it cold as well, but it does still stay kind of in that area and get into sort of the, the, the equipment. A lot of the work is actually in the training nodes.

So, so you still get that, that pieces, you get the antigens and then and then you get the drug and then it goes into the the training nodes. And so I think the dynamics are a little bit different.

It's interesting. We did a lot of like you know, study of the drug, like looking at the concentration in the blood. So you inject in the tumor, how much goes in the blood?

Metastatic Disease, Bone Lesions, and Future Treatment

And it is interesting that in the cases the the responses were better, some of the drug was still getting in the blood. Right. So it's like not all staying just in the tumor, but some was measurable in the blood as well.

In cases where the drug was not measurable in the blood, their responses were less so. So that was an interesting, interesting concept. But but yeah, it's it's all these are all all targetable.

I mean, you could you can do it even if the patient just has bone lesions as well. Wow. Yeah. This could be, this could be, you know, revolutionary in the field of advanced prostate cancer.

Where do you see the future prostate cancer treatment going? Yeah, I think I think prostate and actually almost any cancer. I think where we should be is that you identify a patient and say, okay, they have lesion looks suspicious, but we're not going to go in there and start Bob seeing and disturb it or anything like that.

When we go in we're going to maybe we're going to biopsy. We're going to treat at the same time. So so you have a patient, they have the lesion say let's go in there.

We're going to freeze a little bit. We're going to sample it. We're going to maybe the pathologist looks at it right then and tells us the cancer or not we inject immunotherapy.

So basically we make a diagnosis a treatment all all in one. But without really disturbing because I think a lot of these cases and you know, we know this particularly like in breast cancers where you go you biopsy and then what you wait weeks and weeks and then, okay, now we're going to that delay.

You wouldn't there disturb that tumor. And as much as I mean done thousands of biopsies in, you know, my career, as much as we want to think that it doesn't cause damage, it probably does.

I mean, inflames the tumor and the tumor starts to behave differently. And I think we have to keep that in consideration. And so I think that if we target these without messing with the tumor as much, but trying to go ahead and start treating right off the bat, I think is a way to go.

All right, Doctor Williams, I have to I do have to ask you the $1 trillion question that I probably get asked every day just by what your description.

You're just on your description on when you biopsy a tumor causing that little, inflammation and stress around the tumor, is it possible that a biopsy and.

Yeah, you can either say, hey, you know, there's evidence or there is no evidence, but I really think, you know, your opinion matters here. You're an expert.

Is it possible that it can cause spread of disease? I think it's almost definite. Yeah. I mean, I think I think the evidence is there, and I think we see it, you know, and I think you see these cases.

And I could tell you that I saw it just even in my practice of, like, let's say, to be a patient who had imaging and had a tumor is missed. And you see another patient, they had imaging and their tumors picked up early.

That patient biopsy treated aggressive. And next thing know that patients did in like a short period of time. The other person was never touched. And here they are. They're still living years later.

And you keep seeing follow up imaging and their their tumors like growing very slowly. And it was the, the intervention of of us messing with it that seemed to accelerate the process.

And I think that, you know, when you biopsy these tumors, you know, you're creating that trauma, you're creating this healing growth factors. There was a study years back done out of, John Wayne cancer and Orange County, where they showed when they were doing the biopsies, they were measuring circulating tumor cells.

And in early stage cancer, there was no circulating tumor cells. When they did the biopsy, they were detecting up to like 11 circulating tumor cells, which could be associated with advanced disease.

So so we were pushing them around. Now, you know, hopefully a lot of them don't land and grow. But you know, you're still messing with that. And so you're taking a risk.

Now there's things that I'm sorry. Go ahead and go through. You were done wasn't say the things you could do to try to minimize it. I mean, I think injecting, you know, inserts into the site and things like that may, may help.

But I think that's why in the future we really need to be cautious and like, you know, you both you treat, you go ahead. You don't you don't just biopsy and leave it alone.

You need to go ahead and trying to to get the immune system to attack it. So you're not, you know, leaving the patient uncovered as any.

Biopsy Risks and Closing Remarks

And the reason why that's important likely is because biopsies don't they're not going away anytime soon now. And for many cancers, particularly prostate cancer is the gold standard.

You can have imaging that says, yeah, there's cancer without a biopsy. No one will. You won't be diagnosed. Right? Yeah. Nobody nobody to treat you. Well.

You can't you know, I've, I've run in several patients. They've come to me only get stuff done and never had a biopsy. But everything it shows that they have cancer, but they were like they can't get anything done.

But without the biopsy. I mean, it's like it's it's very difficult. Yeah. Wow. Doctor Jason Williams, thank you. Thank you so much. I really appreciate your time, your knowledge, expertise, dedication, and cancer and, and cancer treatments.

How can people find more on you and or your work? Sure. Yeah. So, so my my practice is Williams Cancer Institute, and they you can see Williams Cancer institute.com and then our our biotech which is developing the drugs has the clinical trials for zinc t is synchro immune so synchro immune.com and and there they can find information on clinical trials I mean obviously you know I encourage patients who who might fit with that clinical trials a great option.

You know there's a those are funded for the patients. And so you know we want to try to get more and more patients on the trials. Well, hopefully this summit will get more patients on those that fit the criteria.

Inclusion criteria with, can get on trial. All right. Thank you so much. I really appreciate your time and effort here. And it just expert expertise in this area.

So thanks again Jason for being on. I thank you. Thank you I appreciate it. Thank you everyone for watching. Once again the prostate cancer summit again another advanced prostate cancer.

We're literally covering the full spectrum here early stage vocal therapies. And what happens when you have, you know, when the cat is out of the box right there with the tumor outside of the, the prostate.

Well, we we have multiple, possible solutions, if not just more clarity as to okay, there's other options out there is hope. Hope to, you know, that the end is not near.

So thanks for watching. Continue to watch. We have more to come. This is doctor Geo Espinosa signing off. Talk to you next time.