**Kidney Cancer from Diagnosis to Treatment**

**SPEAKERS**

Narrator, Dr. Aly-Khan Lalani, Dr. Bill Evans

**Narrator** 00:00

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**Dr. Bill Evans** 00:20

a welcome to the cancer assistance show. I'm Dr. Bill Evans, the host of the cancer assistance program brought to you by the cancer Assistance Program here in Hamilton, Ontario. And the cancer assistance program. If you haven't heard the podcast before, provides a variety of free services to cancer patients in our region, including free rides to and from a cancer center. Free equipment loans, various types of equipment ranging from wheelchairs, to emulators, to the commode chairs, provide nutritional supports and continence supplies a variety of other things that are really helpful to cancer patients and their journey of cancer. And we do these podcasts. And we're appreciative of the fact that they're supported by the Hutton family, foundation and their donors. And we do them to help educate the public about various types of cancer. And today we're going to talk about kidney cancer or renal cell cancer as it's sometimes called. And we have a wonderful expert with us today. Dr. Ali Khan Lulla. Annie, welcome to the show. Thanks so much for having me. Pleasure to be here. And I'm always interested to know how people end up where they are in terms of being an oncologist number one, and then specializing in the neurological cancer as a kid, the kidney, the bladder, prostate, those cancers. So how did you find your way to that particular specialty?

**Dr. Aly-Khan Lalani** 01:36

You know, it's interesting, because as many of us do, we sometimes have visions of what we think training will be like I entered internal medicine, believe it or not, at the time thinking, I'm going to be a GI endoscopy just for the rest of my life. And, you know, it's

**Dr. Bill Evans** 01:51

a detour. Yeah,

**Dr. Aly-Khan Lalani** 01:52

I exactly. And you know, it's funny, I enjoyed that. And I thought that would be a lot of fun. And I remember taking call with an attending on the weekend, almost voluntarily and saying, Wow, do I want to be scoping at this hour years from now, and maybe I should broaden my horizons a bit. And discussing with family and friends. And I remember my dad saying, you know, some colleges space looks like there's a lot happening and lots of investments going on in there, you should think about that. And I rotated as chief resident internal medicine in the oncology clinics, I felt the connection with patients, but also the science that was embedding it really everything we do from an evidence based format was exciting. And after that, you know, the rest is history. I went into medical oncology. My first rotation in medical oncology was a Gu and it's obviously that classic story, you know, mix of mentors, the data and the tools, you get to work with the patients the diversity and and then after that, when for my completed oncology residency, went for a fellowship in Dana Farber in Boston. And very fortunately, back here in Hamilton and McMaster. treating patients

**Dr. Bill Evans** 02:59

are delighted you're here. And congratulations, the Canadian Association of Medical Oncology identified you this past year as a rising star in oncology. Yeah, but attributed and that's nice to hear. Yeah, it is.

**Dr. Aly-Khan Lalani** 03:12

I mean, you know, accept that with a lot of thanks. It takes a village for people to succeed. And certainly sponsorship, I think, not just mentorship from folks, but sponsorship from people to put your name up for these kinds of things. And there were people always advocating for me behind my back. And I appreciate that and certainly want to live up to that bill. Well, I

**Dr. Bill Evans** 03:29

think you're doing a great job. I looked at your CV, and you're currently an assistant professor, I think, but I'm sure you're going to go up the ranks very quickly, because you've already got a huge number of publications. So you're on the track. So we're going to talk about kidney cancer, or sometimes called renal cell cancer or Hyperdia. froma, not the commonest cancer in Canada, but still, there's 1000 or so cases and a significant number of deaths around I think 19 150, something in that ballpark in the last few years on an annual basis. And so it's it's not the most common, but it's an important one. And so we'd like to hear a little bit about how people present with it, and what are the risk factors that put someone at risk of developing a kidney cancer?

**Dr. Aly-Khan Lalani** 04:13

Yeah, you know, you're right. It's at top, maybe 1015. Cancer, slightly more predominant in men than women and a median age of diagnosis somewhere in the 60 to 65 range. And how are people caught? The classic teaching is if there's so called hematuria, or blood passing in the urine that often, you know, requires a referral to a urologist for investigations. To be honest with where the kidneys are located, it can actually get quite large before it's caught. And so sometimes, it is not until pain happens in the side or the flanks of someone's body. And then there's also a significant portion that or believe it or not caught on routine imaging. And

**Dr. Bill Evans** 04:50

I read that and I was actually surprised by that, that a fairly substantial number of people are out fun just because we're being investigated so often for other things with CT scans, MRIs, Eye scans and

**Dr. Aly-Khan Lalani** 05:00

so on. You're absolutely right. We have a lot of advancements in other parts of medicine and that's catching sometimes, wow, that's a kidney mass I was looking for uarctic aneurysm, let's say, and I found a kidney mass, or we have a lot of folks who are have the privilege to have executive checkups. And it's caught their rather asymptomatically. And so that is really the diversity of how it's caught beyond the classic symptoms that might present, but there is that group that is caught incidentally. Now,

**Dr. Bill Evans** 05:28

we assume as physicians, everybody knows where the kidneys are and what they do, but maybe we should take a step back and just remind people who may not be medically oriented to where the kidneys are in their hands where the kidney pain would be if they had that. So. So it's a great

**Dr. Aly-Khan Lalani** 05:42

point, it's obviously we have, we have two of them. And it's a classic kind of kidney being appearance. If you think about visualizing what it looks like it sits what we call a retro perineum, so kind of behind the flanks of our bodies, where we might feel it if there's pain. And these two kidneys are connected to tubes called ureters, which will help drain urine made by the kidney into the bladder, and then, you know, through the contraction of the bladder pushed out but, you know, kidney has other important functions with how it metabolizes certain drugs, how it regulates our so called homeostasis or water levels and salt levels in our body and then help create factors like a restore point and to help with hemoglobin. So it's quite obviously a vital organ. And I'm sure we'll talk about it. But sometimes patients have had it removed or it's not functioning, or it's been donated in a transplant setting and people can function with with one kidney. Obviously, in some settings, this needs to be followed, but it's kind of the unique part of the kidney, the other one tries to compensate. So

**Dr. Bill Evans** 06:41

you mentioned that it was more common in men than women are particular risk factors that are associated with the development of kidney cancer.

**Dr. Aly-Khan Lalani** 06:49

Yeah, as with many cancers, you know, age is one that is, you know, hard to beat, and it can't control it can control that. I think, certainly, it's one cancer that I think smoking has been associated, I would say high blood pressure and you know, history of perhaps some kidney disease, but certainly high blood pressure appears to be associated. Interestingly, there's something called the obesity paradox, for lack of a better word where there might be patients on the higher BMI range, as imperfect as that body mass index is, but lightly more incidence of kidney cancer, and yet these patients might respond, we actually published data in JAMA on this that might respond better to immune therapy, which I'm sure we'll talk about. So there's, these are the kind of patient factors that go into it. Sometimes patients depending on where they work, what regions they live in, very factory driven regions might have some association with certain dyes or substances they might have been exposed to in a job again, these are much more common, less common, and things like mesothelioma and asbestosis. But, you know, these are the kind of diversity of inputs that might come into a cause for the kidney cancer.

**Dr. Bill Evans** 07:54

The obesity one I find interesting, because there's some complex metabolic things that are afraid are over my head. But people are starting to dissect the part to understand why why it might be driving kidney cancer. And I guess we'll learn more about that in future times. So if you present it either asymptomatically wants assume a symptomatically somebody presents, what determines whether that individual, you know gets worked up and has an operation or not? Or do sometimes you just let the time pass and follow them along? What's the usual thing to do here? Yeah,

**Dr. Aly-Khan Lalani** 08:28

in general, and again, with the caveat that as a medical oncologist, I tend to see people who have gone through this pathway, but at a population level, like for the society, wherever we live, in general, patients who have been found to have a mass on their kidney would be referred to a urologist. These are physicians who are trained in kind of disorders of that track we talked about and then urologic oncologists might be folks who would be trained for cancer in those areas. And so my colleagues in urologic oncology would generally follow up with the patient to image them. Sometimes depending on where their cancer is located. If there's a concern, it might be in the inner curvature or the renal pelvis of the of the kidney, there might be a need to look inside the bladder, but this is part of standard neurologic assessment, either imaging or through visualizing that whole track through cystoscopy, about trying to understand where things are at in general, if it's been caught to be a typical appearing kidney cancer, folks would generally have a biopsy to confirm is this actually a cancer or more slow growing, Peri benign process almost, and based on that, then there's, you know, follow up plans for surveillance watching patients with a small lesion, there might be options for surgery, there might be options for radiation or things like cryoablation, again all these options to treat a localized kidney cancer will be done generally after a biopsy. And you're right there are some patients where it's instantly caught not causing too much trouble balancing the egg gift of time you have to deal with in that moment versus watching if someone is sick from other issues in their lives. These are all things that often happened with the neurologist in conversation. So if

**Dr. Bill Evans** 10:09

they're older or frail, you might be inclined to watch particularly as a small lesion.

**Dr. Aly-Khan Lalani** 10:14

Absolutely. You'll learn a lot over time when you follow imaging, you know, patients often ask, Well, what what's the chance it's going to grow? Or how fast will it grow? And, and oftentimes, you'll learn that in retrospect, after you've done a few follow up imaging to look back and say, well, that hasn't changed much in a few years. And believe it or not, that information is very helpful for physicians to say, in the last year or so this has not changed much versus the pace of change now warrants one of those other treatments I talked about. And so even when those cases are brought to tumor board, the complex ones, then you know, all of this very much helps us so that there's that benefit of time, sometimes patients and physicians need to have in catching small renal masses.

**Dr. Bill Evans** 10:51

Now I know you're not a surgeon or urological surgeon, urologist that I have to ask you some surgical type questions because I'll do my best. So typically the tumors are operated on but if they're larger size was symptomatic. And the the surgery extent, I guess, varies partly by the location and size of the tumor, what they could do and I think surgeons particularly want to try and conserve as much kidney function as possible. part because we need our hint hasten, partly because there's a small risk of a primary on the opposite side. These are sometimes bilateral or two sided malignancies. So can you talk a little bit about that decision making process and

**Dr. Aly-Khan Lalani** 11:34

Yeah, and again, with the caveat that I only play urologist on TV, I joke with them, but you know, it's important to make sure as with all these kinds of surgeries, best oncologic principles you know, deal with the cancer to try and reduce that chance of recurrence as best as possible. And sometimes a partial surgery or a partial nephrectomy, were only part of the kidneys removed is an option. And many times where it's located will help guide that the extent of its size and how worrisome things may be and sometimes how fit the person is in the expectation of the other kidney compensating may all be inputs there. But you know, as we mentioned, if a decision is made for a so called a radical nephrectomy, there is some discussion advanced to say the risks of the other kidney compensating or not and, and so these are very highly specialized conversations, especially when you layer can something else be done if it's not surgery, which again, is the first consideration, vocal radiation or SPR, T cryoablation. These are all, you know, complex conversations. And luckily, we all work together with the right folks to help make that decision. We'll

**Dr. Bill Evans** 12:38

have to explain some of those things like sbrt. And so on a minute. Sure. And when we get there, but interesting to me, as a would be SURGEON Long time ago that how much surgery has changed because it used to be a big open operation and huge incisions in the flight. I'm amazed at that done now by laparoscopic surgery and so much less invasive and easier to recover from. So that that's important from a blood loss point of view and lower morbidity and so on. And then the interesting thing is how

13:12

that looking at the pathology and I guess other factors like the size of the tumor, now we're into entered an age of adjuvant treatment to postoperatively. So adjuvant is adding to the initial surgical management. That's really a sea change in the approach to kidney cancers

**Dr. Aly-Khan Lalani** 13:32

I would say so that's probably one of the most important recent advances we had an if I if I can just step back this concept of doing a surgery to deal with a proven kidney cancer. There have been many trials over many decades to understand how can we reduce the chance of it coming back for our patients and so many medications at the time, oral pill therapies are targeted therapies that were used to treat a spread cancer in Stage Four setting are studied after surgery and and you know, we really have to thank all the patients who and their families who invested time into these trials, it ended up playing out that oral pills did not significantly really reduce the chance of cancer coming back one trial. The s track trial with a treatment called sunitinib, which is again very well used in this stage for setting had delayed the cancer coming back did not improve lifespan and because of the side effects was not felt to be useful in the adjuvant setting. So as we entered into really 2021 22 There was really no standard treatment after surgery and and really fast forward to now what's available for patients is IV immune therapy. So immunotherapy which again, has been proven to be helpful for lifespan for patients in a spread setting has been now studied, as you mentioned after surgery and what we've now found is that one year of adjuvant treatment with immunotherapy in this case Pember lism AB has been shown to improve the lifespan of a patient and also reduce the chance of coming cancer coming back. So for many decades of not having options to this option is exciting. But also, as I'm sure we'll talk about requires change management for, for a context that didn't have these options for patients. And so we have to talk about it with our patients and help them understand the risks and benefits of this. But it's a wonderful conversation to have at this point, right in a curative intent setting, which is kind of ideal for our patients.

**Dr. Bill Evans** 15:28

Now, I'm sure that patients who listen to the podcast do hear us talk about immunotherapy, because it's affecting almost every cancer. So maybe we need to just for the purposes of anyone who's listening new, and particularly if they're on the trajectory of investigation for kidney cancer, or have a loved one who has. Let's talk a bit about immunotherapy, because for a longest time, we tried various immune stimulants and so on, we didn't quite understand how the immune system didn't attack the cancer because it's a foreign body in your system, and you think the immune system would deal with it? And it didn't, and why wasn't it? And what can we do now that's changing that dynamic,

**Dr. Aly-Khan Lalani** 16:13

it all comes back to science. And so I'll try and walk through how we got here. You know, we did understand the collective we all folks who study this, that there's some interaction when the body sees a foreign particle, and sometimes that can be a cancer cell. So the body's job is to have kind of a neighborhood watch in our immune system to look for particles. And you report back to Central Dispatch, hey, you know, there's, there's a cancer cell here, and we need to rev up immune cells. And so immune cells kind of are supercharged in our body, and go down a highway to find out where these cancer cells are, and try and meet the cancer cell and attacking cancer cells are smart. How do they evade this? Well, they try and wear a cloak on the cancer cell to say, hey, nothing to see here at Neighborhood Watch. I'm just a normal part of yourself. And so when that happens, then the cancer can evade our immune system. And this has been happening for years but with one of the immunotherapy drugs, and there's many of them, what we call PD one inhibitors, like Pember lism, AB, these have been shown to take the cloak off the cancer cell. And so now it reveals to the immune system that here you are that allows for better identifying, and attacking or killing of the cancer cell in that way. And different points along this process that I just described, took, you know, three or four decades of research, I tried to distill into 30 or 60 seconds, but there's different points that you could intervene with immunotherapy there. And so this is one that helps in the adjuvant setting. And it's frankly a drug that if I know many folks listen to your podcast from different backgrounds that it is similar drugs are used in many different types of cancers. But that would be the rationale or how we use it. After kidney cancer surgery.

**Dr. Bill Evans** 17:51

I love the analogy of neighborhood watch and, and sort of someone getting around your neighborhood with a cloak on so they can probably rob your home. It's kind of like the south of cancer centers right after your body of its life. And here you got a way of unclogging it and a tie in it. It is a really amazing phenomenon and the research of the last couple of decades is really turned around how we treat a lot of cancers. We're gonna take a brief break now and then we'll come back with Dr. Limani. To talk about kidney cancer a little bit more in the treatment of advanced disease and some of the other developments in its management.

**Narrator** 18:29

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**Dr. Bill Evans** 19:12

So we're back with Dr. Lalani, talking about renal cell cancer and hearing about the immune system and how it's changed the management in adjuvant therapy. But I guess we could also say it's changed management and advanced diseases. Well, hasn't it? So you as a medical oncologist are seeing people with what we call stage four metastatic disease. First of all, where does renal cancer tend to metastasize to in the body because some of these cancers kind of have their own natural patterns? And then how do you go about approaching the treatment of it? You

**Dr. Aly-Khan Lalani** 19:45

know that the spread of kidney cancer used to be called the internist tumor back many, many decades ago because it could affect different parts of the body called cause things like fever and even seizures, if it spread to the brain was very complex tumor But in terms of spread, as with any cancer, you know, we think about the local areas. So lymph nodes are lymph glands around the kidney. But what else is near the kidney it can spread to things like the liver, it can spread to things like the pancreas, the lungs are a very common side of spread as we get above the diaphragm in our body. And then as mentioned, the reason we saw, you know, reports, you know, many, many years ago about people having headaches or seizures with kidney cancer was because it can spread to the brain. And it can also unfortunately, spread to the bone. So it's one of those cancers that can spread to many places. In terms of stage for treatment. Most patients, when they present to a medical oncologist, like myself, have had a previous surgery for a localized kidney cancer. And for whatever reason, over time, it has recurred. That's, by the way, what we talked about earlier, adjuvant therapy to reduce this chance of coming back. But that's most of the usual experience patients have, there are about one in four or one in three patients who show up brand new first time presentation with a spread cancer will be called de novo or brand new stage for kidney cancer. So there's a little bit of differences between both. But in general, those are the places of spread. And if a patient has been proven to have this cancer come back, we would assess them with imaging, I like to include the brain at some point, even annually in kidney cancer because of this sneaky way of spreading to the brain. And sometimes you want to try and catch that early if you if you know it could be there. And this is one of the cancers where it could be. But in general, it's imaging that involves the chest, the tummy and the pelvis or chest, abdomen, pelvis, a CT scan of the brain and if it is involving the bone, then a bone scan might be ordered by by an oncologist. But once that's all put together, you know, we can talk to the patient about a spread cancer, we can say that treatment is and we have to use this word palliative intent, but palliative intent is you know, has evolved over 50 years that it doesn't mean, this means end of life, it just means that the intent of treatment may not be assertive. But there's lots of ways to improve how a patient feels in function. So quality of life and quantity of life. One of the things that is unique in kidney cancers is we actually have prognostic features, these are certain lab tests or clinical features called IMTC risk criteria or risk groups that we can use to help prognosticate kidney cancer. This is to give a benchmark or a ballpark as I like to say, of expected lifespan for patients. But again, that's as you and I know, that's the middle part of the curve, so to speak. So some patients will do better some patients unfortunately, may not. But this does help patients, you know, future plan and try and understand

**Dr. Bill Evans** 22:42

things. What are some of those risk factors?

**Dr. Aly-Khan Lalani** 22:45

Yeah, no, it's a great question. So it's been studied that the patient's performance that so how well are they how up and about are they throughout the day. So performance status, a number is important, the time from that initial diagnosis to treatment. So for example, if you had a nephrectomy, 10 years ago, and God forbid the cancer recurred later, that's very different than someone who just had an effect me five months ago, for localized disease, and an unfortunate came back within one year, so time to diagnosis of less than one year is a problem. And then blood tests, simple blood tests, low hemoglobin, high platelets, high neutrophil count, which is part of a CBC test or blood test, and a high calcium level are factors. And based on those six factors, if patients have none of them, that's considered favorable risk. If patients have one or two, that's considered intermediate risk, and then three or more would be porous. Those are genuinely studied to be prognostic features. There are sometimes treatments that require certain numbers of those risk factors to pick immune therapy treatments. But in general, that's a very important place to start for patients that helps them understand what risk group on my end. And you know, what do I kind of expect in terms of a general survival, knowing that we're coming to work every day to help beat that?

**Dr. Bill Evans** 23:59

So then the treatment options having put people into those different categories? Very right. Now, I'm, I'm so old that I remember when we use mega days for treat cancer and saw the very, very rare response, things that come a long way, we still got a way to go that there things certainly improved. So maybe distract that sort of evolution of treatment because we now have oral drugs that make a difference as well as the immunotherapy and then combinations of them for the advanced disease. Yeah,

**Dr. Aly-Khan Lalani** 24:31

you know, back. And I like to study the history of kidney cancer back in the 80s and 90s. There was IV old school immunotherapy interleukin. And, you know, the responses were few. Unfortunately, there were there were significant side effects with that kind of treatment. Some patients responded and had done well for decades. And that was the first kind of what I say the text or the foray into immunotherapy for kidney cancer. And anyways, we fast forward now, where we have have in the first treatment for Stage Four disease there's immunotherapy combination, so either to IV drugs like nivolumab and ipilimumab as combination immunotherapy or IV treatment and oral treatments. So drugs like nivolumab or habra, lism AB can be combined with oral targeted pills. These pills are not there. They're cancer pills. They're not quite chemo pills. They're targeted pills to help reduce the blood supply that kidney cancer loves to grow. And so when you put those two IV treatments or an IV and oral treatment together, we have shown now multiple randomised trials published in New England journal and other places that that improves the patient lifespan more than doing oral pills alone. There might be some patients who for whatever reason, unfortunately can't receive immunotherapy. But in general, that's how we try to approach the patients first treatment for Stage Four kidney cancer.

**Dr. Bill Evans** 25:51

And those oral pills are really targeted at the receptors of stimulate the growth of blood vessels, right? These are very vascular tumors. Right? Yeah,

**Dr. Aly-Khan Lalani** 25:59

absolutely. It it looks vascular on a CT scans, it makes it challenging when we asked the radiologist to biopsy because they can see a very blood vessel rich cancers, we have to be careful with that. But you're right, it absolutely is targeting the blood supply. And the receptors there from the growth factors made by the cancer to say, hey, let's make this railway of blood vessels angiogenesis, that gives me the nutrition or the railway to grow. And so we can block there. But now we also have immunotherapy drugs available. So either to immunotherapy drugs or immunotherapy and these oral pills together. They haven't been compared head to head to each other, but they have been compared to just doing the oral pill alone. And this is why these are, you know, now available standard of care. We can see in candidates, it's reimbursed and covered across pretty much all provinces. And so it's available for Canadians and really folks around the world who are listening. And

**Dr. Bill Evans** 26:53

can you test for or do you test for either the immune markers to indicate whether some patients are going to work whether the immune therapy is going to work well, or can you test for the vascular epidermal growth factor, etc? are these tests available to us? Yeah,

**Dr. Aly-Khan Lalani** 27:09

I mean, initially, when the immunotherapy drugs were brought to kidney cancer, much like other cancers, it became Hey, can we check what's called PDL? One level that's relevant in lung cancers and other cancers. But in kidney cancer, it was found that these patients benefited irregardless, some patients who had higher Pdl, one levels benefited more, but it didn't become a requisite and I'm, I'm happy for that, that it didn't require us testing patients to decide for them to get treatment. And so in that sense, approvals across the world are not based on that number. We do have lots of other things we've tried to look at. We've personally studied the factors in your blood like neutrophil, or lymphocyte ratio, we've tried to assess if things like BMI might portend how patients do but in general, I think if we give these patients treatment and observe them closely upfront, we we feel that their chance of keeping the cancer under control or responding is better than the oral pills alone. It's not to say these pills aren't available they are. And in fact, we sometimes do them next if a patient's cancer grows, but we have so many ways of doing better now up front. So

**Dr. Bill Evans** 28:20

where do you think the future is going to be with the various agents who've gotten out? What new things do you expect to see on the horizon? Yeah,

**Dr. Aly-Khan Lalani** 28:28

I think we've made a lot of remarkable recent progress. I think, if I were to break down what I'm excited about, I would say, we'll look at the toolbox. So how can we expand that toolbox and there is drugs, you know, you eloquently pointed out how we block the blood vessels being made. But at the Cancer level that makes those factors that close to the blood vessels, there might be something we can do there and block something called HIV to alfen. I'm happy to get technical about it. But really, it's a treatment that actually works at the kidney cancer cell. We studied this. We've actually had this trial here at McMaster and other places in Canada. And it's shown that patients feel and function better than other treatments if they've exhausted all the standard of care used all the treatments already. So this is currently under review in our country by Health Canada, and it's under review and other places. So I'm excited to try and have that option available. But if I might point out how we can work together we kind of will come full circle, we talked about how we could use innovative things like radiation for kidney cancer. And what we're actually trying to understand is for those patients that have a brand new kidney cancer where their kidney is still in the body, and we would give them immunotherapy instead of delaying time to think about cutting out a kidney in a stage four setting already where it might cause some harm to patients or delay for systemic treatment. Could we continue with treatment and give radiation to that area kind of hit the kidney with some radiation that does not require surgery? and still give the patient IV immunotherapy. And I'm really proud to say that we asked this question back in 2018 19. You know, myself and some supportive colleagues wrote this down on a back of a napkin and we took this idea to folks and we launched a clinical trial actually, the first patient we put on our side o string study, which again evaluated patients getting immunotherapy or immunotherapy plus radiation to the kidney. We launched February 2020. World Cancer Day, we put our first patient on and window it. Next week in February, something called COVID happened. And so yeah, into that trial for a while, it went on a pause. And so as the young investigator I got, I got to experience what it's like running a trial through COVID. And anyways, fast forward, April 2024, we've just recruited the last patient to that trials were able to pause, reopen and run that trial. And now we've, we want to thank all the patients for their generosity, we had a federal grant for some biomarker research, all of which we're about to now focus on. But I am proud to say that's the first trial in the world that has completed in this setting. There are others that have copied and have launched later, and we look forward to understanding information from those trials. But I'm excited about asking innovative questions that help medical oncologists and radiation doctors come together to treat stage four cancer in this case, and we've talked about adjuvant therapy, surgeons and medical oncologist coming together. So being part of is now putting all of us in the same sandbox and saying, How can we work together? So that's kind of what I'm excited for us interesting,

**Dr. Bill Evans** 31:29

you bring up the being in the same sandbox, because more and more there's multidisciplinary clinics and conferences and so on rather than solitary physicians independently making decisions for patients. Maybe talk a bit about what it looks like at the Juravinski. Now in terms of neurological cancers, yeah,

**Dr. Aly-Khan Lalani** 31:48

we're quite fortunate that we have an excellent two Gu what's called Gu disease side team, so genitourinary team. This is a team of folks who are focused on Gu cancers, prostate, kidney, bladder, obviously, testes, cancers, and others. And we meet every two weeks together. It's open region wide. And so as you know, our region we include quite far and to Burlington and east of that and we cover into Niagara and we are able to meet with the with the advantages of zoom for those who are dialing in, we're able to present our patients to get the best gold standard consensus guidance on what, how to treat any of these challenging cases. And we have the advantage of having surgeons, medical oncologists, radiation oncologists, radiologists, those who specialize in innovative scans, like PET scans, we have pathologists all dialed in and our trainees to help come to consensus. When we meet patients, or we bring cases to them and come back to patients, we can say, hey, we've discussed in what's called a tumor board, or a case conference together, all of us who, you know, really live and breathe to treat these cancers to offer the best plan because there's so much of what I call kind of Baton passing between these specialized doctors to help patients and these tumor boards are great. It also allows us to come together and ask interesting questions. We can have trial ideas, we actually have our own Gu group having our annual meeting in Niagara, which is coming up this weekend, it might be after this is released, but it just goes to show the patients that we aren't siloed. In fact, at centers like ours, we do take this seriously, we work together. And we try and research and ask questions together. So I think that's the exciting part is being multidisciplinary as you say, I

**Dr. Bill Evans** 33:30

think it's very reassuring to patients to there's multiple minds meeting on how to best manage their particular cancer. So it's not in the past, it strikes me that too much was done by independence. And that dependent, if you were fortunate enough to be sent to the right specialist fund is good. But if you respect the center, a surgeon you might get surgery sent to radiation oncologist by get radiation rather than having that dialogue about what really would be best in your particular situation. So I think that's that's really good to hear how that's working in our region. One thing we didn't touch on is a little bit the ablative therapies that when you can't really do an operation press because of frailty or or other comorbidities. There's a quite a spectrum of different types of, of Kineo, ablative therapies, and we should probably touch on that for completeness sake. Yeah.

**Dr. Aly-Khan Lalani** 34:22

And again, you know, we rely a lot on those experts who do that but one of the advantages of our tumor board is we can bring cases for for patients who don't have particularly vulnerable spread cancer and say, you know, what can we do for this one area, we see a lot of patients who have had a prior kidney surgery, for whatever reason they inherited or were born without a functioning kidney and so the other kidney when it has a cancer, you know, it's it's quite technical expertise, you need to manage and look after the patient. So, at our tumor board, we have what's called you know, kind of small renal masses and then we have a particularly part of our tumor board and in the area that is part of our quality assurance. metric at the Cancer Care Cancer Care Ontario to review these patients, so it's, we review the imaging, we have radiation specialists. So these are folks who deliver I mentioned this earlier SPR T is stands for stereotactic body radiation, but essentially it's focused and high concentration of radiation to a focal area or one area for the patient, but really provide, you know, high dose to that area. And that, again, tries to spare other parts of the body that you don't want to harm. You know, there's a physics team that helps these radiation oncologists plan this, but we try and balance is it the knife surgery and if it's not, could it be the what sometimes people call the CyberKnife or the or the radiation in this case to help and then sometimes there's other treatments, that you can use other techniques called cryoablation, or other kinds of technologies that can be done a little bit more invasively with probes, but again, delivering local treatment in that area and in kidney is great for that because there is evidence for all of these, but it's parsing out the right one, when surgery is usually the first option, but it may not be the best for the patient. The other time, I'll just quickly mention that patients might hear their doctors talk about this is sometimes if there's a spread cancer that's under good control. And there's, we've done a really good job of keeping the majority of cancer under control. But there's one or two pesky areas that are growing, we can leverage focal treatment like radiation or others to those areas. It's much more technical than spot welding. But sometimes when I use the word spot welding patients getting, yeah, okay, I get what you're trying to do. That's why I'm meeting this radiation oncologist. And you know, so shout out to all my radiation oncology colleagues who do a great job. But this is why we might actually do it, because we've found that there's earlier phase data showing IV or oral treatment, plus leveraging those, you know, few times of doing radiation can all help the patient have longer cancer control, feel better and live longer. And so this is the benefit of working in centers like ours, where we're, you know, constantly talking together and saying, Hey, can can you help this patient in this way? And, and I think patients appreciate it.

**Dr. Bill Evans** 37:06

I'm glad you brought up that concept, which we I guess, goes under the rubric of all ago, metastatic. So something probably less than six metastatic sites that you might chase after was spot welding to deal with, because it is an interesting concept being applied to a number of different tumor types, including kidney cancer. Yeah. And it does help certainly symptomatically and probably to some extent with survival as well. Are there any other areas that I haven't asked you about? No, I in terms of management of kidney cancer really

**Dr. Aly-Khan Lalani** 37:38

enjoyed this. And I, you know, I know we could, we could talk and certainly off camera for a while and kidney cancer, I would say another area that's of interest. And just because patients might hear about it either in my clinic or others, is we're trying to understand deeply why some patients benefit from immunotherapy more than others, you know that we talked about how it's available. We do know patients have different experiences on immunotherapy, not all patients benefit, although we're trying to make that the majority. One of the things I'd been interested in for some time, even back in my fellowship time and certainly a staff is is it possible the gut health helps have the immune system be fully charged are able to receive immunotherapy? And so you know, I believe that's the case. I think what we had previously shown that antibiotics given unnecessarily to patients sometimes or or too much antibiotic can disrupt gut health. And we know that might affect how immunotherapy functions. We've shown that in kidney cancer, but now we're actually collecting microbiome or gut relay stool samples on patients to analyze that bacteria. And we had a grantor driven ski Hospital Foundation that the state is maturing and we're looking to publish this year on showing all patients started immunotherapy and gave us the samples around especially timing with their CT scans, can we correlate benefit on imaging with changes in gut health? And before? You know, you ask I'm sure patients are thinking about this, you know, it's actually become quite innovative with how to do this. There's small samples in the privacy of your own home that can be done and an even little amount of tissue, the stool that's collected in these tubes can be analyzed sometime after it doesn't need to be emergency dropped off at a center for analysis. But in this little ways we can really try and understand the gut health maybe we can envision a future where we give better supplements to optimize someone's gut health. Maybe if someone has a side effect from immunotherapy, can we help their gut health get better? These are all questions patients have. And we need to study it really before we tell them yes we can or no, this is why it's not been found to be helpful. But we're in the mix. I think we're we're players in that field. And, and so I think that's kind of exciting. And it's one that you know, I've started this in the kidney cancer world but we have excellent people in McMaster who have labs that focus on this and when We're asking these questions in lung cancer, in myeloma and other cancers. So I think the microbiome and cancer is, is going to be something we're gonna talk about even more.

**Dr. Bill Evans** 40:09

I'm sure for a lot of people listening, they're gonna think what's the connection between bacteria in my gut, and how well my immune system works. But clearly there is a link that's being explored. And it's fascinating. And the fact that immunotherapy really doesn't work well, when you've kind of bleated the gut function with a whole lot of antibiotics. So it's a, it's a fascinating, fascinating area for, for research. And I'm sure in the future years, we're going to have much clearer direction about how to use a meal therapy, and maybe antibiotics, which we use too much anyway. So probably altering the gut flora. Far too much. But it is truly I'm glad you brought that up, because it truly is a very, very interesting area. And it's not intuitive that these things should be connected. So fascinating. So I think it's been a great conversation, I've really enjoyed a lot, I learned a lot too. And I hope that people listening also learned something about kidney cancer. And if and if you're in fact experiencing that at the moment, or you have a loved one who is hopefully it's been beneficial to you. We have many other podcasts that are available to you through the cancer Assistance Program. So you can go to cancer assist.ca. I have about 60 podcasts there on all sorts of different tumor types on supportive care measures and a whole lot of other things that may be of relevance to you. If you are experiencing cancer, we bring those to you from the cancer Assistance Program, and hopes that it makes the journey of cancer easier for you. So I want to thank Dr. Lenny for giving us the time today for a very insightful conversation about kidney cancer and wish you very much luck with your research. And I'm sure you're doing a wonderful job with your patients. Thank

**Dr. Aly-Khan Lalani** 41:50

you for having me. It was a real pleasure discussing this with you today. And hopefully we'll do it again sometime.

**Dr. Bill Evans** 41:54

Great. Thank you.

**Narrator** 41:59

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