

## Cancer and Heart Disease

Webcast

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### **Introduction**

#### **Andrew Schorr:**

When you're being treated for cancer you're hoping to have your life saved, but down the road how do you know what the lasting side effects of cancer treatment might be? Can chemo for example cause heart disease? Well as a cancer survivor what preventative measures can you take? Coming up Dr. Elie Mouhayar from M.D. Anderson will answer these questions as well as what to expect when you have a preexisting heart condition before cancer treatment. It's all next on Patient Power.

Hello and welcome to Patient Power sponsored by M.D. Anderson Cancer Center. I'm Andrew Schorr. When I was diagnosed with leukemia and went to M.D. Anderson I was a runner. I had run marathons. I was just 46 years old, so I was pretty young for a cancer patient, although certainly there are patients that are all ages, but my heart was in good shape.

As you know typically people with cancer develop it as part of the aging process, and often the other thing that's been going on that we have so much of in the U.S. certainly is heart disease. So it's very possible that someone might develop cancer but also have diabetes, which can have heart complications, blockages in arteries, heart failure where their heart is not pumping efficiently, and then the other side too is that you could go through modern treatment today including the most powerful drugs, but there could be affects on your heart that some we're only learning about now as these drugs have been in use for more people longer.

Now certainly the goal is to beat the cancer, but we also want to protect your heart or deal with any underlying heart issues, so that's what we're going to talk about today with the medical director of the cardiopulmonary center at M.D. Anderson. It is the largest center of its kind at any cancer center as best we know in the world.

### **Jason's Story**

#### **Andrew Schorr:**

We're going to do that in a second, but first I always like to start with someone who's been helped. I'm in Seattle, and we're going to jump over to Chattanooga, Tennessee, and visit with Jason Lassiter who's 55 years old. Jason thank you for joining us.

**Jason:**

Yes.

**Andrew Schorr:**

Now let me tell you a little bit about Jason. Jason is a retired police sergeant from Jonesboro, Arkansas, and a few years ago he developed diabetes, and he did have a condition that's called Barrett's esophagus, and he was taking all kinds of antacid, but you're joining us from Chattanooga, I should also mention today, because you drive a tour bus right? Jason you're there with a high school soccer team I think?

**Jason:**

Yes sir. Yes.

**Andrew Schorr:**

All right. Thank you for taking the time to visit with us. So let's go back to the spring of 2009, and you were having trouble after your bus trips just swallowing, right? And so you went to the doctor. What did they find?

**Jason:**

I had an upper GI done, and he took a biopsy, and he informed me that it looked suspicious and sent it off, and sure enough it came back as esophageal cancer.

**Andrew Schorr:**

Oh my. That was a terrible shock.

**Jason:**

Yes sir.

**Andrew Schorr:**

I should mention to folks that that can develop from Barrett's esophagus, so it's certainly a concern, and people should be followed for that carefully. Now Jason, so you go see the surgeon in Jonesboro, and he says what?

**Jason:**

He tells me he'd go somewhere else to get the surgery done because all he knew of was to do the surgery or I guess treatment.

**Andrew Schorr:**

Right, and it's not a common surgery. It's a big surgery, so that brings you online. You see M.D. Anderson. You go to M.D. Anderson, and you start being evaluated with a bunch of tests with the surgeon. What did they find?

**Jason:**

I went through all kinds of tests. I've never been through anything like that in my life, and they found out that I was in stage III of esophageal cancer and wanted to start treatment at that time. So I started making all my appointments and seeing

the doctors, and they sent me to a heart doctor and to a diabetes doctor. They sent me to every kind of doctor that they have there.

**Andrew Schorr:**

And what did the heart doctor find?

**Jason:**

Dr. Mouhayar put me on a treadmill, which I'd never been on a treadmill. I've always been healthy and never had any kind of problem, and he found the blockage, a 95% blockage he told me on the backside of my heart.

**Andrew Schorr:**

Now you ended up having one of these procedures where they go up through your groin and they can put in a stent, and that opened up that blockage.

**Jason:**

Yes sir, it did.

**Andrew Schorr:**

Wow, so that was your underlying heart problem you didn't even know you had it.

**Jason:**

I didn't have any idea I had a heart problem.

**Andrew Schorr:**

Okay, and then you went on to have chemotherapy and radiation for the esophageal cancer. You never did have the surgery. We're doing this several months down the road. How are you doing now? You're driving the bus again. How are you doing?

**Jason:**

I'm back in business. Yes I'm doing good. All they could see in the PET scan was some broken ribs from some accidents that I'd had traveling back and forth to Houston. That treatment really just sucked the life out of me.

**Andrew Schorr:**

Right, it is aggressive treatment, but it's certainly a very serious cancer. As far as evidence of the cancer now where do we stand?

**Jason:**

I hadn't been told, but as far as I know it I'm in remission. They cannot see anything, and I'm scheduled to be back in Houston in December to have another PET scan and an upper GI run to check and see if it's back.

**Andrew Schorr:**

Drive carefully, but it sounds like you have some good news there. Jason let's meet your heart doctor and learn more about it. So joining us now is Dr. Elie Mouhayar

who's the medical director as I said of the cardiopulmonary center. So he's a cardiologist at our number one cancer center at the University of Texas M.D. Anderson Cancer Center. You don't normally think of cardiologist specializing in cancer, but you have a growing and very prominent group don't you doctor?

**Dr. Mouhayar:**

Yes. Andrew thank you for having us. I'm very excited to be here and good to hear from you Jason. Yes, we're a really growing group, and we're specifically specialized in multiple areas in cardiology and mainly focused on managing patients with cancer who had previous cardiac conditions or developed cardiac problems following therapy.

**Andrew Schorr:**

Right those are the two issues I think we need to discuss. So let's start with Jason's story. So how was it discovered that he had heart problem, and why didn't he know it?

**Dr. Mouhayar:**

It's a very, very unusual case. The way it was discovered is when he was seen by a surgeon he had a basic workup to evaluate the extent and how widespread his cancer was. They did a typical nuclear scan to look at the esophagus, and there was very atypical uptake or signals coming from the heart when they did the scan. The concern was is this tumor extension into the heart? Is it involvement of the heart by a tumor, or could it be related to a significant blockage in the arteries of the heart, hardening of the arteries?

That's what triggered his referral to us by the surgeon. When we saw him he again as he mentioned before he was asymptomatic, but this is not unusual for somebody who had diabetes to have what we call "silent ischemia" suggests it can be related to his diabetes over the years.

**Andrew Schorr:**

As I understand it people with diabetes can have nerve transmission problems, and so he might not just feel what was going on in his heart. So it's silent ischemia as you said. So he gets on the treadmill and what did the treadmill say?

**Dr. Mouhayar:**

In order to clarify what is causing this anomaly on the scan we had to make sure we got adequate imaging of the heart, which we do have in our cardiopulmonary center, to make sure there is no tumor invading the heart, and we didn't find any by ultrasound testing of the heart.

Then we put him on a treadmill and just after brief minutes on a treadmill he was showing some significant anomaly on the monitoring part of the test that was highly suspicious for something critical. Because of the highly abnormal stress test we went ahead and took him to our cath lab across the street and we did an angiogram which showed that one of the major arteries had more than 90%, 90%-

95% blockage, and it was really decreased flow to the rest of the heart, which explains why the nuclear scan done for the tumor showed up so abnormal in the heart.

**Andrew Schorr:**

So you put in a stent and you open it up. Now let's think about this. So you have patients who come there from all over the world and as I said some people may know they have heart issues, and other people like Jason may not, but you want the heart to be as strong as it can be when somebody's going through cancer care, right?

**Dr. Mouhayar:**

Yes. We typically people who are asymptomatic and they're functional and they're doing okay, they don't typically get stress tests. So even though it's an incidental finding but the severity of the anomaly on his stress test and the severity of blockage made us go ahead and treat it because we know he's going to go down the road into aggressive treatment for this cancer, which includes medications called chemotherapy that can cause clotting, and clotting can happen more frequently on a very tight blockage. So to prevent problems down the road we went ahead and opened that blockage.

**Treating Heart Disease Before Aggressive Cancer Management**

**Andrew Schorr:**

And the last thing anybody would want is here they think the fight of their life is cancer and they're beginning their journey and then to be blindsided by what may be their demise being heart disease.

**Dr. Mouhayar:**

Exactly, and Jason's case is an example of patients coming to M.D. Anderson for cancer management, and we find some serious cardiac condition that we address and take care of. The majority of our population, however, comes from another group of patients; those that develop cardiovascular complications related to cancer itself or to the therapy.

When I say cancer itself I mean the cancer can cause some effusion in the sac of the heart that compresses on the heart, and this is a life threatening complication from the mass, from the tumor, or people can have their heart invaded by the tumor or the cancer, or the tumor itself can trigger some clotting problems in the artery. We also can see advanced leaky valve related to specific cancers, and this is the typical patient population we see and deal with.

**Andrew Schorr:**

Right and then there's the whole issue of older and newer therapies that can cause either near term or even years later complications with the heart.

**Dr. Mouhayar:**

Exactly, so when we move from the cancer itself to the therapy consequences we see patients coming back after years from being treated with certain chemotherapy coming back to us with enlarged heart causing congestive heart failure. Some people come back showing evidence of hardening of the arteries after radiation therapy typically to the neck area where they have their arteries in the neck getting stiff that can predispose them for a stroke.

**Andrew Schorr:**

But you're trying to be on the front end. So with your cardiology team though you're working alongside the oncologists and oncology surgeons and radiation oncologists to consider the heart both if they have an underlying condition first or the cancer's affecting it, or even the therapy, you're part of that discussion often, right?

**Dr. Mouhayar:**

Yes absolutely, and this happens very frequently. The patients in our cardiopulmonary center are assessed first in our clinics where we see basically patients coming to the clinic to itself referred by their oncologist or surgeon to evaluate them for candidacy and also assess their cardiac risks when they undergo specific therapies that we know can have some side effects on the heart.

We also see a lot of patients who are cured from their cancer, they're cured from the cancer for the last 10-15 years, and now they're dealing with some residual side effects on the heart. We also have on the other part of the cardiopulmonary center other than the clinics we have an armamentarium of noninvasive tests and invasive tests in our labs to assess their condition and help manage their cardiovascular problem.

**Andrew Schorr:**

One thing we should mention where you gave the example of somebody 10-15 years later we think well older drugs, we didn't understand. They were kind of, let's say chemo, kind of a shotgun approach to get the cancer as best we could, but we have some modern medicines, very modern medicines that we're finding now while they're very effective at fighting the cancer are having effects on the heart too, right?

**Dr. Mouhayar:**

Yes absolutely. The way we look at it is as there are these standard chemotherapies that we've been using for the last 30 years, and surprisingly most of them are still here and we're still using them because these are very effective drugs, and we deal with the side effects of these drugs. On the other hand, as you mentioned, there is these days cutting-edge findings regarding what we call "cancer targeted therapy" and these are drugs that focus specific mechanisms of activity in the cells and can trigger some significant cardiovascular side effects, specifically significant worsening of hypertension that may lead to congestive heart failure. The good news

about it is that all these are treatable conditions, that we can get them under control, the severe hypertension can get under control, and we can get the patient through his therapy to complete and finish his therapy.

**Andrew Schorr:**

All right, we have so much more to talk about. We're going to take a quick break. When we continue we're going to help people understand the advantages of having cancer subspecialists who are cardiologists being part of your team for evaluation and certainly if you have a known heart condition or as you embark on therapy that could have effects on your heart, and as you just heard even the latest targeted therapies we're learning now, and if you're a long-term cancer survivor, whether it's like me now fortunately 13 years, or even somebody who was treated as a child what evaluations should they be having to look at how their heart is doing as they go on through life. Much more as we discuss the heart in cancer care coming up as we continue on Patient Power.

Welcome back to Patient Power as we discuss with a leading cardiologist from M.D. Anderson cancer and the heart and also one of his patients, Jason Lassiter, who joins us while he's on a road trip, he's a tour bus driver, and he's normally from Jonesboro, Arkansas, but he's joining us from Chattanooga, and he had a heart problem, a blockage that was discovered as he was being worked up for treatment for esophageal cancer, and then he had a stent put in.

Jason, so we have Dr. Mouhayar with us. How much of a role do you think he played in you feeling great today and being alive today?

**Jason:**

He had to be the one to save my life because I had no idea that I had a blocked heart. I didn't have any idea at all. He actually saved my life I would think. That's the way I feel.

**Andrew Schorr:**

He's on there. Do you want to say anything to him now publically?

**Jason:**

I've told him and told him, I've seen him so many times. I've been in Houston a year fighting this cancer, and I've seen him. I had a reaction to some iodine, and he even showed up there, so he's my savior.

**Andrew Schorr:**

It's much make you feel great there Dr. Mouhayar.

**Research for Cancer Treatment's Effects on the Heart**

**Dr. Mouhayar:**

Thank you Jason for these nice words, but I don't know if I can say that. I would say we probably were able to help Jason get through his chemotherapy and his

potential future-planned high-risk surgical procedure that he may need in the near future. The reason I'm saying probably is because you know there are things in medicine that are not 100% sure, and we tend to treat based on what we think will improve a patient's condition. After saying that the reason we don't know is there has been no major scientifically-proven study to show that by doing all this we can help people, and that drives me to mention some of the studies we're running and to mention that our cardiopulmonary center is strongly involved in research targeting patients typically like Jason and patients who had already complications from chemotherapy.

We're pretty active at the research level including basic and clinical research, and we strongly encourage people to help us find better answers for the future.

**Andrew Schorr:**

Right well as I think about it we have an aging population. As people live longer whether they've been treated for cancer or were just doing better hopefully that we might have heart problems as well, and then we're talking, and we'll talk more about the effects of drugs on your heart, this information, the heart or cardiology information tied in with cancer patients, I hope you're training people in doing studies that can benefit doctors worldwide because many people will come to M.D. Anderson, but it may well be that they need the benefit of your research far away, right?

**Dr. Mouhayar:**

Absolutely. The advantage at M.D. Anderson is that you have all these specialists working together in a multidisciplinary approach in order to try to deliver the best care for patients like Jason and also to try to search for what would be the optimal way of treating these conditions.

**Andrew Schorr:**

Right. Let's talk a little more about it. If somebody comes to M.D. Anderson, there will be some various tests, and if there are heart issues either that were known or revealed they may have interventions with M.D. Anderson doctors like Jason did. That would be one example, right?

**Dr. Mouhayar:**

Yes.

**Andrew Schorr:**

Another example would be having an assessment of the therapy or the intervention and having the patient clearly understand and the treatment being evaluated for them personally as to what could be the effects on the heart and then that being hopefully kept to a minimum but certainly monitored, correct?

**Dr. Mouhayar:**

Absolutely, and our colleagues in treating the cancer itself, they are fully aware. They do a great job in really addressing these issues. We're at the other end where if there is a question about the candidacy or risks people get sent to us to see them in this regard.

**Andrew Schorr:**

So doctor, now I mentioned about the newest drugs. So usually we, the patients, think newer is better, and lots of research and hundreds of millions of dollars go into new and approved therapies. A lot of the research goes on at M.D. Anderson as you said to target the cancer. What are we learning about some of these drugs? We can mention some of them. I know there are some in certain classes. So they're great at targeting the cancer cells and knocking them out as best we can today, but what are we learning about what some complications can be, and what do we do about it?

**Dr. Mouhayar:**

There are new targeted-therapy drugs that go and destruct the lifeline for the tumors by killing the small vessels, the small arteries that bring nutrients to the tumor and makes it grow, and these are called angiogenesis inhibitors. That means they kill these vessels and stabilize the tumor, and in the cancer field they've seen tremendous benefit in being able to stabilize a tumor and prolong patients lives free of symptoms. So they're very helpful; however, you can imagine if these molecules or these medications kill the small vessels in a tumor they may be doing similar activity in the normal arteries or normal vessels leading to some complications in this regard, and that's where our role starts. If we see patients coming in on these drugs and developing some side effects, mainly elevated blood pressure, that's where our intervention can help control this hypertension, keep it under control, and allow them to continue with this very beneficial regimen targeting their cancer.

**Andrew Schorr:**

All right, so you might use anti-hypertension or lowering blood pressure medicines to control a side effect of the medicines and let them stay on their cancer-fighting plan?

**Dr. Mouhayar:**

Yes.

**Andrew Schorr:**

Okay, well that's important. Now what about later on? So for years there were women who had a drug like Adriamycin. Some women called it the "red devil," but it certainly was a staple of breast cancer treatment, but then they were told later well their heart isn't as strong as it used to be. What do we do to guard against that or to help people like that?

**Dr. Mouhayar:**

Fortunately now many years after this drug has been on the market and used we have relatively found a way to put a limit on how much a patient can get without causing side effects on the heart. Having said that there are still some cases where people can experience side effects even at low dose.

Fortunately this is a very good drug, still effective in many areas and still being used, and we need it. So in the last few years there have been some guidelines regarding how to monitor people on this drug in order to minimize the risks of them developing a cardiac side effect, and we apply this on a daily basis with our patients.

**Andrew Schorr:**

Now I wanted to ask about something. We're talking about the effects of chemotherapy. I understand this thing called "chemotherapy-induced heart failure," but there's a blood test that can be used. Tell me about that to evaluate whether you have that.

**Dr. Mouhayar:**

There are blood tests that are commonly used in different settings to assess people with difficulty breathing. These blood tests can get checked, and if these are elevated they sometimes can be helpful in clarifying what's causing the shortness of breath whether it's heart failure or something else. So typically in heart failure patients these blood levels go up, and it's predictive of how well they will do and how aggressive we need to treat them.

In our cancer population we're trying to apply this type of blood test in trying to predict who's going to develop potential side effects to these medications.

**Andrew Schorr:**

So that's an example of applying research to the clinic.

**Dr. Mouhayar:**

Exactly. So still in the research field it's not being applied routinely, but we use it as a research tool to try to predict who's going to have trouble or not.

**Closing Comments**

**Andrew Schorr:**

Let me go back to Jason before he has to ride off in the bus. So Jason, so you went online, you looked at different choices. It ended up you went to M.D. Anderson, and you said how glad you are. So this understanding, this research, this work going on for treating or protecting the heart while you fight the cancer, are you glad you made that choice to go where you went to a center where they're trying to roll all this together?

**Jason:**

Oh there's no doubt about that. They're just so far advanced from anywhere that I've even checked online or anywhere. They have doctors there for everything, and you know you really think you've got it bad when you get cancer, and you go there and you just look next door to you at somebody who's waiting on an appointment and see how bad they've got it, and then you're really not that bad. It's amazing.

**Andrew Schorr:**

Yes, I experienced that too. I'm happy to be a 13-year leukemia survivor.

**Jason:**

I'm proud for you.

**Andrew Schorr:**

Yes, thank you. So doctor, so this dedication that M.D. Anderson has to heart issues, research, analysis of people who have an underlying heart condition and understanding the side effects on the heart, this is quite a dedication and a growing dedication your institution has, and it seems like an important one now in protecting or treating the heart while we try to beat the cancer.

**Dr. Mouhayar:**

That's very true. This is based on our full belief and understanding that a multidisciplinary approach in treating these patients will lead to an optimal outcome.

**Andrew Schorr:**

So for the people wherever they are who are listening, it sounds like when they're talking to a cancer doctor, whether it's a surgeon or an oncologist or a radiation oncologist, it's a very fair question to say, "How's my heart health as I embark on the therapy you're recommending, and what is the effect of the therapy you're recommending on my heart short-term and long-term, and what monitoring do I need?" Those are all fair questions, right?

**Dr. Mouhayar:**

They are when one's specific therapy is being recommended. There is a huge armamentarium of chemotherapy drugs, and only a few of them can lead to major cardiovascular problems that are irreversible. A lot of these drugs can cause clotting, but the majority of them are okay, and very selective ones can affect the heart itself. Usually the treating physician will be able to give advice in this regard.

**Andrew Schorr:**

But at M.D. Anderson there's your department where there are cardiologists who specialize in this specifically.

**Dr. Mouhayar:**

Yes.

**Andrew Schorr:**

Okay, it's really just a wonderful dedication by the institution. I am so thrilled to have had this discussion because I know I need to think about it, and then in other programs we're talking more about cancer survivorship, and thank god we have kids who are treated for leukemia but with powerful drugs who are living long, full lives, but they were treated with aggressive drugs, so we're talking about people having a sort of a survivorship care plan. So that's important as we go on as long-term cancer survivors to let people know what drugs we've had and be on the lookout for long-term heart effects, right doctor?

**Dr. Mouhayar:**

That's very true. In fact our clinic is structured in a way where we do have a survivorship clinic that we try to see and if needed we try to evaluate patients that had some type of therapy years before and now they are at risk of having complications. By these patients I specifically mean those who had a type of radiation or high-dose Adriamycin and other chemotherapy that we think they're at higher risk of developing problems down the road.

We do have these clinics available, and we have dedicated people that see them and follow them over time.

**Andrew Schorr:**

So Jason we're going to let you go down the road. I am so delighted you're back to driving the tour bus and feeling great, and I hope your remission goes on for many years, your diabetes is managed, you're esophageal cancer never shows up again, and your heart just keeps ticking really well, okay?

**Jason:**

Thank you very much.

**Dr. Mouhayar:**

Jason it was good to hear from you, and one other point that I'd like to mention is Jason is a bus driver, and in our specialty we look at people that have higher risk professions for others in a little bit different way like pilots and bus drivers because if something, god forbid, happens to him like having a silent heart attack, that will put his life at risk and also all the people with him at risk.

**Andrew Schorr:**

Right, a very important point. Well you drive safe there Jason, and Dr. Elie Mouhayar who's the medical director of the cardiopulmonary center at M.D. Anderson I want to wish you all the best with the research you and your colleagues are doing and the communication you're doing with your oncologists and cancer surgeons, and really it sounds to me to make perfect sense that we're really working to protect or treat our heart as we fight the cancer. All the best to you doctor, and we appreciate you being with us too.



**Dr. Mouhayar:**

Thank you Andrew.

**Andrew Schorr:**

This is what we do on Patient Power, and I am so delighted. As I said I hadn't thought about it enough, but I think we need to about our heart as we fight our cancer to lead a long, long life. Thank you so much all of you for joining us and M.D. Anderson of course for sponsoring our ongoing series of Patient Power programs.

I'm Andrew Schorr. Remember, knowledge can be the best medicine of all.

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