

KDBH Podcast #9: Role of the Cardiologist and Treatment of T2D and CV Risk

- Robert Eckel: 00:04 Welcome and thank you for joining this podcast on cardiovascular disease and diabetes for healthcare professionals. The purpose of this ongoing series is to reduce cardiovascular deaths, heart attacks, strokes, and heart failure in people living with type 2 diabetes, and it's based on the new collaborative initiative between the American Heart Association and the American Diabetes Association, Know Diabetes by Heart. This series is brought to you by founding sponsors, Boehringer Ingelheim and Eli Lilly and Company Diabetes Alliance, and Novo Nordisk, and national sponsors Sanofi and Astra Zeneca.
- Robert Eckel: 00:41 I'm Dr. Robert Eckel, and joining me is Dr. Wang, and we're going to be discussing the role of the cardiologist and treatment of type two diabetes and cardiovascular disease risk management.
- Robert Eckel: 00:54 Tracy, welcome to our conversation today.
- Tracy Wang: 00:57 Thank you so much for having me Robert.
- Robert Eckel: 00:58 So Tracy, in your practice that's cardiovascular disease focus, you have patients enter your clinic who have type 2 diabetes. And many of them may be referred because they already have cardiovascular disease, or alternatively, have high risk for a cardiovascular disease event. So, what's your perception of the average knowledge of these patients you're seeing in the clinic in terms of their risk for cardiovascular disease?
- Tracy Wang: 01:21 Well, Bob, about 20 to 30% of the patients we see in our practice, whether it's primary or secondary prevention, have diabetes. And I'm often struck by the fact that many of these patients come and see us without really any expectation about talking about their diabetes as it relates to cardiovascular risk. So, we actually did a study on this before where we asked our diabetic patients to see if they realize that their cardiovascular risk was higher than patients their age and sex. And while they were perhaps a little bit more likely to believe that their cardiovascular risk was higher, only about a third of these patients said that because of their diabetes, their cardiovascular was higher than their peers. So, I think there's still quite a gap in patient perception of their cardiovascular risk in patients with diabetes.
- Robert Eckel: 02:17 Now these patients that reach your office or your clinic, are they typically referred by a primary care physician? And if not, are they self-referred? Or how else do they get to you, through the endocrinologist or by other paths?

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- Tracy Wang: 02:30 You know, that's a great question. I would say there are really two major paths into the cardiologist's office. One is through a referral either by a primary care physician or an endocrinologist. The other is, unfortunately, after they've had a cardiovascular event and now, they have to see a cardiologist. The idea that patients would bring themselves in to see a cardiologist without a referral and without having a prior cardiovascular event, that is happening very infrequently.
- Robert Eckel: 02:59 Well, it's interesting here, my clinic, despite being an endocrinologist, has been in the cardiovascular space for some time, for decades now. And I see some people who come directly to me who have found the clinic as an advantageous place to get further information about the relationship between risk factors and cardiovascular disease events. And often they do have type 2 diabetes, so that may be why they're seeing an endocrinologist in the cardiovascular disease clinic. So, when you're interacting with these patients, do they think that their glucose is important for cardiovascular disease risk? And if they don't think glucose is important, do they consider other risk factors, such as weight or blood pressure or lipids, in the conversation you then ensue with them?
- Tracy Wang: 03:43 Yeah, that's a great question. I also round in the hospital. I take care of patients who happen to have had an acute MI or a stroke. And when I explain to these patients that diabetes and glycemic control is one of the key aspects of preventing a second event, they seem quite surprised by that. So, I think there is still a little bit of a disconnect between the diagnosis of diabetes and the connection of that to cardiovascular risk, and then taking it from that step to the next step, which is preventing cardiovascular disease and thinking about prevention beyond glycemic control. I think that's definitely an extra step that we need to pay attention to.
- Tracy Wang: 04:26 And this is where cardiologists, primary care physicians, and endocrinologists really need to circle the wagon to make sure that we're emphasizing all aspects of prevention, rather than just each single aspect that we may feel a little bit more responsible for from a specialty standpoint. I think we really need to reinforce with patients again and again, that having diabetes means you're at higher cardiovascular risk. But it's not just focusing on glycemic control, we also need to think about all of these other risk factors.
- Robert Eckel: 04:58 Well, let me relate to your inpatient experience as an attending who sees people on the wards after they're out of the CCU or, actually, during or immediately after their ACS. Sometimes

patients develop diabetes in that setting, or at least the diagnosis is made in that setting, or you may see what we call impaired glucose tolerance in a more stressful circumstance. How do you typically approach those patients prior to discharge, and how does that relate to your follow up in the clinics perhaps six weeks later?

Tracy Wang: 05:28 Well, those are sometimes some of the toughest patients to treat, in part because they've just had one surprise, which is the acute MI or whatever it is that brought them to the hospital, and now they've got a second surprise, which is that they may be diagnosed with diabetes. And for some of these patients, this comes as a complete surprise, whereas for others it may be something that they've been suspicious for a while.

Tracy Wang: 05:55 I think it's really important for us, and we do this at Duke, where I practice, where we usually take advantage of the fact that they're a captive audience in the hospital and really try to do a lot of education in that setting. So, we generally have someone from our endocrinology service touch base with the patient, particularly those that come in that have A1Cs that are a lot higher than you might expect them to be, so maybe in the eight or nine or higher range. These are patients that we really need to get on to intensive therapy sooner rather than later. These are not typically the patients where we kind of say, "Maybe the diagnosis is equivocal, and you need to have more follow-up." We really try to reinforce that education up front, and usually we do that with the assistance of our endocrinology colleagues here in the hospital.

Tracy Wang: 06:46 We also generally have a nutritionist meet with a patient to start, not in any way comprehensive, but to at least start the conversation about both diets that fit the purpose of both glycemic control, but also other risk factor management, like blood pressure management or weight management.

Tracy Wang: 07:06 And then when we're transitioning these patients out of the hospital, while obviously many of these patients will need further cardiology follow-up, we often, especially for these diabetes patients, or newly-diagnosed diabetes patients, make sure that they are closing the loop with their primary care physician, so that this is a conversation and, unfortunately, many of these patients don't have a primary care physician, which is probably part of the reason why they weren't diagnosed earlier to start with. So, making sure that we're closing the loop and having these patients follow up with both a cardiologist as well as a primary care physician and an endocrinologist, if they're able to or need to.

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- Robert Eckel: 07:49 Well, that raises a very important question. This triumvirate, which you alluded to a number of times and I think about constantly in this space, is the PCP, the cardiologist, and the endocrinologist. And these patients with a new diagnosis of type 2 diabetes may not need to see an endocrinologist where someone with more established type 2 diabetes, and maybe is already on basal-bolus insulin, clearly that's a patient that's going to need endocrine input.
- Robert Eckel: 08:15 So what are your thoughts about a patient at the time of discharge who, in fact, has new onset type 2 diabetes? Do you need to get an endocrinologist in that loop, or are you comfortable referring that patient just back to the family physician or the internist for their next step?
- Tracy Wang: 08:28 You know, from my own personal experience, I think that the combo of a primary care physician and a cardiologist is often enough to start with for a newly diagnosed patient with diabetes. In my practice, I've rarely had to discharge someone to endocrine follow-up unless I'm seeing hemoglobin A1Cs that are really not well controlled despite previous treatment. So generally, not for newly diagnosed diabetes. I've sent quite a few patients who've had A1Cs that are in pretty shocking ranges to make sure that we've got someone else, especially with expertise in managing diabetes and glycemic control involved, and that's where I think the endocrinologist's role is in that particular population. And especially since I think the access to an endocrinologist is perhaps not as robust or as easy for patients as access would be to a primary care physician. So, I really want to make sure that we are appropriately utilizing our endocrine resources.
- Robert Eckel: 09:31 Well, I think you mention the nutrition consult part of discharge. This is incredibly important, I think, for much of our management and preventive medicine of cardiovascular disease recurrent events. But what I would like to suggest is maybe... Many institutions, I know here at the University of Colorado Hospital, we have diabetes education classes. So, I'm not sure you have that at Duke, but do you have that opportunity there, and if you do, do you utilize those services for new onset type two and the setting of a recent ACS?
- Tracy Wang: 09:58 Yes, we do. I would say that that service to me is much more familiar in the context of cardiac rehabilitation. So, there's often aspects of our cardiac rehab program that's devoted for patients with diabetes, that includes diabetic nutritional education as part of that.

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- Tracy Wang: 10:15 To be honest, I'm not sure that I am aware of diabetes education classes in and of itself outside of the setting of something, say, like an acute MI or acute heart failure. And I wonder how much that lack of knowledge is prevalent in that these classes may actually be available, but people don't know where to go find them or refer patients to them.
- Robert Eckel: 10:39 Well, we have a six-week course that many people are sent to. Many people don't come, or they come to one or two sessions and don't return. Of course, this is for new onset type two diabetes or patients that we see who don't have a very good knowledge about what type two diabetes is or how it's managed. And of course, we're talking here about risk for cardiovascular disease. And I think part of the information that we really want to provide these patients is the identification of all risks independent of simply glucose control in terms of reducing that risk. So, I think these are the kinds of things that we can do to help get our patients better informed and better educated about risk and risk management.
- Robert Eckel: 11:15 So when... I'm thinking about the role of the cardiologist here. And of course, you're very aware of all the cardiovascular disease outcome trials that have recently taken place, and we've been updated even more recently with REWIND and CREDENCE at the ADA meeting a couple weeks ago. So as a cardiologist, how comfortable are you, or how comfortable should the average cardiologist in the clinic be, in prescribing diabetes therapies?
- Tracy Wang: 11:40 I think this is still very much a work in progress for many of us in cardiology. To be perfectly frank, while we've been aware of diabetes as a risk factor for many, many years, I would say that it's a fair statement to say that many of us have been really hesitant to step into the diabetes treatment domain. If you ask many cardiologists out there, I think quite a few might express the view that this is something that is best left to the experts, so the primary care physician or the endocrinologist. Now with a lot of these cardiovascular outcomes trials coming around, I think we've now started to have a lot more dialogue about these treatments that could have not only glycemic benefit, but also have cardiovascular outcomes benefit.
- Tracy Wang: 12:28 But if you talk to many of the cardiologists today, I think there's still a little hesitancy in prescribing these. Part of the reason for that is familiarity, and I think that'll change over time as this becomes more and more of our day-to-day practice. Part of it is still this idea that maybe this is not something a cardiologist should be responsible for or should try to assume responsibility

for. And then part of it has to do with how frequently we see our patients. So, my patient who has either cardiovascular disease or is seeing me for primary prevention, is probably not seeing me very, very frequently. They're probably seeing me maybe every six months or every year, if they're really stable. And if they're perhaps someone that I need to keep a closer eye on, I might see them every three months or so. Whereas this patient, if they're being seen by a cardiologist primary care combination, or the triumvirate as you mentioned, the cardiologist, endocrinologist, and primary care physician, then all in all, I think these patients are just having a lot more frequent contact with all of his or her physicians.

Tracy Wang: 13:38 And I think that's where we kind of need to get to is a little bit of this sort of team based approach to diabetes management, where we share in the basics, the foundational things, such as discussing cardiovascular risk factors beyond glycemic control, educate, but we also share in some of the ideas here of prescribing therapies.

Tracy Wang: 14:03 So I'll give you a classic example. A couple of weeks ago, I prescribed a patient an SGLT2 inhibitor and we sat down in clinic, we talked about it, we talked about the patient's cardiovascular risk, and I had the patient agree that this would be something that she wanted to pursue to try to lower her cardiovascular risk. I wrote a prescription for that class of therapy and I set a follow-up appointment for three months from when our appointment was as our next follow-up appointment, knowing that she was going to see a primary care physician sometime in between that period of time. One of the things that I perhaps failed to do was to let the primary care physician know that this was a prescription that I started, even though we share an electronic health record.

Tracy Wang: 14:48 But a week later, the patient had a urinary tract infection, which may or may not be related to the SGLT2, although we know that this class of therapy tends to have a higher risk of urinary infections. And she went to see someone in urgent care for her UTI, and ultimately this funneled up to her primary care physician who expressed some surprise that she was started on an SGLT2 inhibitor and wondered whether or not it may be associated with a UTI. More importantly, the patient stopped the SGLT2 inhibitor because she felt that this was something that caused her UTI, and if she were to resume it, she would get another UTI.

Tracy Wang: 15:26 So I kind of gave you that particular example, and I'd love to get your thoughts on this of where we still have some work to do,

and I aired a little bit of my dirty laundry here, in terms of how we coordinate the care, especially since we all know that this is important for cardiovascular risk reduction. But we also know that for many of these therapies, it's not just simply prescribing these therapies, it's also monitoring risk on these therapies and progress on the treatment, and perhaps even titrating doses or things like that later on.

- Tracy Wang: 15:58 What's your thought about this particular example that I gave?
- Robert Eckel: 16:01 Well, I think it's an important example in terms of the coordination of care. Mike Blaha, who you may know at Hopkins, and I, proposed a new medical subspecialty called cardiometabolic medicine. This is going to take a decade to get accomplished, if that, in terms of the American Board of Internal Medicine approving such a specialty. And I think we can take steps in the interim to make the triumvirate, if you will, work more favorably in terms of coordinating care for these types of patients.
- Robert Eckel: 16:28 I saw some recent data, Tracy, where they looked at those prescribing the SGLT2 inhibitors or the glucagon-like peptide-1 receptor agonists, the two classes of drugs, I think, that have entered mainstream science and medicine these days in terms of preventing recurrent events, or even first events, in high risk patients. Less than 5% of these prescriptions are being written by cardiologists, with the majority, meaning a significant minority, by endocrinologists with primary care physicians second in terms of the percent of prescriptions being written. So, I think we're not seeing these drugs implemented as much as we would hope based on the clinical trial evidence. But one reason for that, as we well know, is the cost of these agents. I mean, that does prohibit these types of prescriptions being routinely given on discharge from the hospital at the time or following an acute coronary syndrome.
- Robert Eckel: 17:19 Now the Hopkins group, under Roger Blumenthal's leadership at the Ciccarone Center, has married diabetes with cardiovascular disease for some time, and we've done that here in Colorado some. I know around the country; people are taking steps in that direction. But this isn't the kind of training program I think that really marries this field of cardiovascular disease. It's mostly atherosclerotic with the heart failure and other things related to diabetes or other risk factors, and endocrinology and metabolism.
- Robert Eckel: 17:47 So my thoughts are these, if the cardiologist is going to be more proactive in prescribing these drugs, he or she has to be in a

position to have a back-up plan, and that's best initially orchestrated by having a Certified Diabetes Educator in the clinic. I don't think many cardiologists want to manage basal-bolus insulin therapy in an insulin requiring patient, let's say a type 1 or a type 2, who has very little insulin secretory capability. But if we're going to prescribe a GLP-1 receptor agonist, I think the cardiologist can do that, but I think the titration schedule is often something that maybe the cardiologist, he or she doesn't want to assume responsibility for. Of course, a lot of people do get a little bit nauseated as the dose is escalated, and you have to kind of plateau for a while and then increase it to the maximum tolerated dose. And most people get up to that dose without a problem. But if you're with a Certified Diabetes Educator who's very used to prescribing these agents and following these patients very carefully with you, or a research nurse or a PA or someone who can assume that, I think the cardiologist can get more comfortable in using the GLP-1 receptor agonists.

Robert Eckel: 18:53 I think the SGLT2 inhibitors, by the story you just shared, is a little bit more concerning. And I think the biggest risk there is not the urinary tract infection, although they do occur more commonly in patients on SGLT2s than patients who are treated with other glucose lowering therapies. But the other thing I wanted to say is the SGLT2 inhibitors do carry another concern, and that relates to the presence of diabetic ketoacidosis in a setting where the blood glucose is not that elevated. In other words, this is a situation in which the cardiologist should probably be uncomfortable, despite the fact that they're internists first. But this is something that needs to be carefully instructing the patient to do ketone monitoring and watch out that the insulin dose doesn't get reduced too much.

Robert Eckel: 19:37 Now patients not on insulin, I think that's less of a concern. But in patients who are on insulin and the insulin dose is cut back, because these agents have the patient excreting much more glucose in the urine, they're obviously going to have lower levels of plasma glucose. So often in that setting, there can be a metabolic scenario. This is hormonal endocrinology that relates to DKA occurring at a much lower glucose concentration. So that's a comfort zone that I think most cardiologists don't have and shouldn't be there. So, this triumvirate, if you will, with primary care, cardiology, and endocrine, may be necessary at this time to really address this problem.

Robert Eckel: 20:16 Now keep in mind, this cardiometabolic medicine subspecialty that Mike and I have proposed, would take years to develop in terms of getting faculty engaged, getting training programs

developed, and ultimately training people both in cardiology, which would be entirely preventive cardiology, no electrophysiology, no heart transplantation, no intervention, but all prevention in cardiology. And then on the other side, there'd be no thyroid, no pituitary, no reproductive endocrinology, no metabolic bone disease. So, this would be a physician who's now trained to meet the needs of a more obese, more glucose intolerant, more type 2 diabetes related and cardiovascular disease related patient. So, these, as you mentioned earlier, are much more common these days. And I think that's perhaps the future that we would look to, but that's not the quick fix. So, I think the cardiologist with a CDE, or a person in the clinic like a Certified Diabetes Educator, can start being more comfortable, I think, in prescribing some of these drugs.

Robert Eckel: 21:16

Your thoughts on that Tracy?

Tracy Wang: 21:18

I absolutely love this idea. I agree that it's not a quick fix. I think many practices and institutions across the world and in the US have really thought about how we can really effectively coordinate care for patients. At our institution here at Duke, we started out with the first idea that we would potentially try to co-locate some of these specialties, even within the same building, so that we can facilitate some discussion. So, we now have a building, a practice, that has primary care physicians, cardiologists, endocrinologists, as well as nephrologists, and I think also some weight loss experts, including some options for bariatric surgical care, all within one location and with shared resources. So, as you've mentioned, diabetic educators being one of those resources that's shared across the group.

Tracy Wang: 22:13

But I will say that that's not necessarily something that every practice can set up. The idea behind us setting this up is that, for many patients, it could represent one stop shopping, so to speak, where they kind of get all of their needs met in a way that's not confusing. And it also helps us to really be able to structure our coordination a little bit more collaboratively so that we really tighten the net here. We don't have anyone falling through the cracks here. But again, that might be a luxury of an environment like Duke and North Carolina where some of our patients really are able to take advantage of that type of setup.

Tracy Wang: 22:53

The reality is, if you look at community practice across the US, many patients are seeing physicians in individual practices, some of which can be quite large, and some of which may be quite small. And so, care is a little scattered, if you think about

sort of the landscape of healthcare in the US. We thought of the electronic health record as being the grand unifier, so to speak, where we could actually have medical records talk to each other so we can facilitate messaging, and we've taken really great steps towards that, but I would say that, honestly assessing this, we're really not quite there yet in order to be able to really say that we are, not necessarily acting on, but even being aware of what other clinicians are doing for our shared patients.

Tracy Wang: 23:40

In my neck of the woods, again, I practice at Duke, I have a lot of patients that have a UNC primary care physician and a Duke cardiologist, and perhaps even an endocrinologist that's outside of either system. It wasn't even until two years ago that the Duke and UNC EHR started talking to each other, and now I can actually tap into lab tests that they had done with their primary care physicians at UNC. But you can imagine that this kind of environment is quite prevalent across the US.

Tracy Wang: 24:10

So one of the key things, I think upfront, is for us to recognize and improve on how the triumvirate can really work effectively together to make sure that the patient's needs are met. Because as you said, every therapy has a benefit, but also a risk, and we need to monitor for those risks. But I may be a little challenged to do that as a cardiologist to bring someone in to monitor for that risk on anything perhaps more frequent than every three months standpoint, but that shouldn't mean that I shouldn't think about prescribing these therapies. It just really means... That example I gave before, I needed to have coordinated this a little bit better and maybe done a little bit more to get the PCP involved with that decision to start that therapy.

Robert Eckel: 24:56

Well, I think that's a critical point, Tracy. I think when we're referring a patient back to the PCP who is not being seen by an endocrinologist, and you prescribe one of these two new classes of drugs that have shown benefit in cardiovascular disease risk reduction, that PCP, she or he, needs to be in a position to feel comfortable overseeing the management of a patient managed with one of these two agents. Again, the GLP-1 receptor agonist, once the patients on an optimal dose, meaning the highest tolerated dose that's FDA approved, then they're pretty much on autopilot at that point. But the SGLT2s, I do think, carry a little bit more concern about adverse effects that may show up in an unexpected manner, so that's a little bit more challenging. But even in the primary care setting, where, in fact, there's a lot of comfort with these agents, a CDE or a periodic visit to a Certified Diabetes Educator might be helpful to the primary care physician too.

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- Robert Eckel: 25:50 I think the patient who's on at least basal insulin, but clearly on basal-bolus insulin, needs to be seen by an endocrinologist. I don't think there are many PCPs that are into glucose sensing and ultimately pump therapy. I think that really is a training that's requiring much more extensive education. So, I think in the future, this cardiometabolic subspecialist is going to be capable of doing both.
- Robert Eckel: 26:16 Now we have a program that we're starting to initiate here, and I know this is occurring elsewhere, so the idea of diabetes, at least more complicated diabetes, being a much needed area of sub specialization, we're thinking about having a once-a-year spot for a cardiologist to spend one year or six months in diabetes related education. And that includes pumps and glucose sensors and beyond. So, this might be the beginning of one of these consolidated programs that ultimately is going to require a decade to develop. So, we'll see how that takes place over time. And we're optimistic, but I think guardedly optimistic, about the success of this type of joint venture.
- Robert Eckel: 26:53 So I think we've really addressed many of the issues that relate to the practice of cardiology and referral patterns at discharge, or how you implement your clinic strategies to modify CVD risk. And we don't want to forget about lifestyle. And you mentioned cardiac rehab, so important after hospitalization for an MI. So, I think we all need to work together as a team. And I think at Duke and Triangle Park area, you probably are getting this increasingly well-coordinated.
- Robert Eckel: 27:19 One thing about Colorado, we're the only show in town that's a university, and that doesn't mean that there aren't very sophisticated private care settings where people can get their CVD risk with diabetes evaluated, and that includes the Kaiser system here; but nevertheless, I think this is an orchestration of multiple areas of attention to patient care that we need to coordinate much better going forward.
- Robert Eckel: 27:39 So I'm going to close our conversation today, and thank you for joining us today, Tracy.
- Tracy Wang: 27:44 Thank you very much for having me on the program today. It was a fantastic conversation, Bob.
- Robert Eckel: 27:49 Thank you very much for listening in everyone out there and stayed tuned for upcoming podcasts that are going to follow. Again, this is a joint venture between the American Heart Association and the American Diabetes Association, Know Diabetes by Heart.™