Periprosthetic Joint Infections

New Generation of Treatment Strategies, Antibiotics, and Outcomes

Part 4: Prevention for the High-Risk Patient

50:04
Dr. Jane Caldwell
Our guests for this accredited series are Dr. Jessica Seidelman and Dr. William Jiranek. Both work at the Duke University School of Medicine in Durham, North Carolina.

Dr. Jiranek, can we talk about prevention and a high-risk patient?

Dr. William Jiranek
Of course. So, when we talk about a high-risk patient for PJI, we're talking about a patient who's already infected. They have a PJI, but their chance of having an effective treatment is compromised some by their condition. And the thing that I'm sure everyone sees frequently is the obese patient with a BMI of 45, who has had a total knee replacement and has a PJI. In addition to their obesity, they also have a hemoglobin A1c of 9 and they have an albumin of 2. And we can talk about that later, but albumin is a good indicator of chronic inflammatory state as well as nutritional state. And with a low albumin, your chance of succeeding with our standard PJI treatments goes way down. So, I think my strategy is involve the endocrinologist, get the A1c down, involve the medical weight loss doctor, start the patient on weight reduction. There's plenty of evidence that if you starve the patient, the results will be worse, but you have to have an intelligent way of reducing weight. And I think what you're hearing is this doesn't happen overnight. And depending on how severe the infection is, you may have to do something to treat it earlier than later. Obviously, if it's a staph infection and they have sepsis, that's a different story. But if you have, for example, the indolent type of infection that Dr. Seidelman has talked about caused by Staph epidermidis or other bugs, and they likely have had that infection for months or years, I think there's no rush to take them to surgery. And so, our focus is on optimizing that. And we've found that you can be pretty effective. You can certainly control the glucose. You can improve the albumin. You can improve their overall nutritional status. And I think that's what we should be doing before surgery. Jesse may have some thoughts about this kind of patient. It's a generic patient. I didn't want to bring a specific patient, but it's a patient that probably everybody listening has seen in the U.S., the overweight diabetic PJI patient.

53:33
Dr. Jane Caldwell
Dr. Seidelman?

Dr. Jessica Seidelman
That was a really good summary. Again, just having had clinic with Bill very recently, I feel like we've had a lot of these discussions very recently, but you know, I completely agree. It's about trying to modify the risk

factors that are modifiable. We are not going to be able to modify the fact that someone is 85 years old. We are not going to be able to modify the fact that someone is a male instead of a female. But what we can try to do is modify the modifiable. I think exactly like Bill said, you know, this goes back to the multidisciplinary team, the multidisciplinary approach. So, for us, we have specific people on our roster, on our team, where you will say, this patient has really bad lymphedema; we need to send them to this individual to get this under better control. Similarly for weight loss. And there's a couple other things that, you know, I really pay attention to as well. So, you know, for instance, we have a lot of patients that have inflammatory arthritis. They may be on a lot of biologics, a lot of steroids and, you know, working with rheumatology to say, is there an opportunity to help and to have the immune system help us fight this. So, working with that. And again, I don't think that the albumin, the nutritional aspect can be underestimated here. I think a lot of people will see someone who comes in with a high BMI and they assume that that person is nutritionally sufficient.

And actually, I think that the folks that are obese and have lower albumins are much more at risk of getting a PJI than those who may have an underweight BMI and have a low albumin. So, I think that it's one of these things that more people need to be in tune to. It's something that Bill and I routinely will talk to people about in terms of optimizing their protein intake, and how they can do these different supplements. And again, like Bill said, it's not about starving people. It's not about just the weight, the BMI number. It's really about how can we get those albumin protein building blocks up so that when you have this catabolic process of, you know, a prosthetic joint infection and the surgery, how do we get you to recover best from that? Excuse me. And then I think, again, other things from an IV standpoint, you know, if someone has active infections, indwelling catheters, indwelling lines, these are all highways into the body for bacteria that are then going to find their way to the prosthetic joint again. So, I will very commonly treat things like onychomycosis to make sure that that is not going to be a portal of entry. We have a lot of discussions with urology about does this patient really needs an indwelling Foley with oncologists about what kind of line or central line a patient has for specific treatment. And again, just going back to the concept of it really is not just about ortho. It is really not just about ID. It's not even just about ID and ortho. It takes so many different specialists to make sure that these patients have the outcome.

57:15
Dr. Jane Caldwell
This approach must involve some difficult conversations. How do you educate patients and tell them about prevention?

Dr. William Jiranek
By educating them about the success rate in patients with their same characteristics and how markedly worse those results are. Because you're right. A lot of people, you tell them they need to lose weight, and they say, well, why? Justify that for me. What's the real difference? My albumin is low. Why is that important? And so, you're right. It's a huge educational thing. The interesting thing is in these patients with PJI, they are so beaten down by the whole process that they're willing to listen and understand.

Dr. Jessica Seidelman
And I think that's a really good point, you know, a lot of what Bill and I do is in the outpatient setting. We are seeing these patients prior to them showing up in, in periop, right? So, we have the opportunity to talk with them. We have the opportunity to explain why we're doing what we're doing for them and as Bill mentioned, you know, lot of these patients have had years and years of infection, years and years of surgery. They feel so isolated, so beaten down. And, know, there's good literature, to suggest that some,

that these PJIs are as morbid as some very common cancer diagnosis here in the U S and, know, I think that when people have a diagnosis of cancer, there is a sentiment of people rallying around them, right? And there should be. But I think that with our patients specifically, folks feel like they have had their primary arthroplasty because they wanted a better life. They did this electively. They were going to be able to play more golf. They were going to be able to, you know, walk on the beach with their family. And then they have this horrible complication where they're worse off than they were before. And there isn't the same amount of support out there for these patients. In fact, because they're labeled as infection, I think a lot of folks feel pretty isolated. They feel like, you know, am I going to make folks sick? had a really big conversation with a patient recently where she wanted to go hold one of her new grand babies and was told not, that she couldn't do it, because they were concerned that she was going to make the baby sick. And I said, absolutely. You know, let's, let's break this down. Let's understand that a little bit more, but all that to say that I think, um, patients are reassured by coming in to see us because we've seen so many people like them. We've treated so many people like them. And by being able to explain, here is something that you can do, that you can be proactive for to reduce your chance, or I should rather say, increase your chance of success. I think a lot of patients really take that and say, look, I do not want to go through this again. I'm going to... you know, do whatever is in my control because so much of what happened to me was really out of my control. So, I think again, shifting the practice again to this outpatient setting where we can have these conversations, where we can plan is really powerful and helpful for these patients.

Dr. William Jiranek
I would just add, I think Jesse has described the PJI patient is the modern-day leper. For those of you who have ever heard of leprosy and what it was like and how people would shun those patients and avoid those patients, some of that goes on with PJI treatment even today. And we need to change that. It's not uncommon for providers to want to do the primary joint surgery but not really want to manage the infection should it happen. And I'm not sure that that's terribly wrong if they're not going to do a good job in managing the infection. There is some feeling that we need referral centers across the country to manage PJI. And I think that is slowly working through and people are getting more comfortable with that concept.

1:01:57
Dr. Jane Caldwell
Before I leave you today, is there anything that you wish that I had asked you that I did not ask? Something that we didn't cover?

Dr. Jessica Seidelman
I think I would just want to add that, like I said, we've had this clinic open since July of 2020. And then it is truly one of the things that brings me a lot of joy in my clinical practice and just personally to be able to take care of these patients, to have longitudinal patient-physician relationships, to work alongside the expertise of Dr. Jiranek and the other orthopedic surgeons at our institution. I think it is something that we need to inspire another generation of young clinicians to get into. All I can say is that I found it incredibly rewarding. We are helping people who really have nowhere else to turn.

Again, you're not going to win everything, but I think in general folks are so grateful for what you are doing. And just to say that I think it brings a lot of joy and a lot of hope to people and just feel very fortunate to be able to practice along on wonderful clinicians like Dr. Jiranek.

Dr. William Jiranek
And I feel the same way with Dr. Seidelman.

1:03:27

Dr. Jane Caldwell

All righty, well, thank you so much for taking time from your busy schedule.

Dr. William Jiranek

Thank you so much, Jane.

Dr. Jessica Seidelman

Thank you so much for having us. This was wonderful.

1:03:48

Dr. Jane Caldwell

To obtain credit for this program, please listen to the video in full and click the button below the video for CME/CE evaluation. Fill in your information on the evaluation page and answer the questions. Upon submission of your evaluation, an email will be sent with your certificate to the email address you provided. If you do not receive your email certificate within a few minutes, please check your junk or spam folders for an email from **Info@Medavera.com**.