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Trends in PDR Treatments

Maria Berrocal, MD:
Hello and welcome to this episode of Clinical Minute. I am your host, Maria Berrocal, and today I am joined by Dr. Katharine Talcott, who is a corresponding author on a study characterizing trends in proliferative diabetic retinopathy treatment.

Welcome, Dr. Talcott.

Katharine Talcott, MD:
Awesome. Thanks so much for having me.

Maria Berrocal, MD:
Yes. And yes, tell us the relevant findings of your paper.

Katharine Talcott, MD:
Yeah. We were interested in looking at trends and how we treat patients with proliferative diabetic retinopathy because it's really, I think, changed a lot over the past 10, 15 years. We used to think that the gold standard for treating these patients was really laser, but at least myself and a lot of my colleagues often will use a mix of anti VEGF injections and laser. And there's no one right answer for patients, but it's something that we often discuss with our trainees and we spend time talking about in conferences.

So to be able to answer this question, we wanted to see how the use of laser versus injections has really changed over the past 10 years. We looked at a de-identified database, the TRiNetX database, to be able to see how the utilization for proliferative diabetic retinopathy between PRP, anti-VEGF injections and a combination of the two really changed over time. And we wanted to see how COVID impacted this as well.

So we looked at the years from 2016 to 2023 in the United States. And we found that over that period of time, the use of laser alone for these patients actually decreased over that 10-year period or almost 10-year period, whereas the use of anti-VEGF injections alone increased. Also, the use of combination therapy, so physicians treating patients with both anti-VEGF injections and lasers increased as well. We also broke down these trends by different demographics to see if there was any difference in how we treat specific patients. The only significant findings that we really found in that was for Hispanic patients, especially in the post-COVID era, we found that they consistently had lower rates of anti-VEGF alone treatment and they had higher rates of laser.

So I think some of these findings were a little surprising to us. The Hispanic sub-analysis was a little surprising in how that varied. I have to say though, I think overall, us finding that the use of laser alone has decreased versus the use of anti-VEGF injections and combination therapy is pretty much what we expected. And I think reflects my practice and the practice that I see a lot of my colleagues adopting as well.

Maria Berrocal, MD:
Did you look at insurance status of the patient?

Katharine Talcott, MD:
Yeah, we tried to look at insurance status to see if that would impact things. We thought it would. It didn't really. When we tried to look at it, we didn't find any significant findings there, but I think that's more of a result of the database than anything else. The de-identified databases are really great for being able to ask these sort of hypothesis generating questions, but we found, at least when it comes to insurances, because there's so much nuances to different insurance types that just are hard to sometimes capture in these databases that we didn't find that that explained things. Because I would be concerned that certain insurances such as like a Medicaid, you might

find that those patients are more likely to have laser alone. But yeah, it's an interesting question that we weren't able to really answer.

Maria Berrocal, MD:

Well, this is interesting because you really wonder if the reimbursement issue is a concern here. And we know that anti-VEGF treatment alone for PDR when patients are lost to follow up can be catastrophic. So with all this information that you have, what is your actual recommendation for a patient without macular edema that comes in with proliferative diabetic retinopathy?

Katharine Talcott, MD:
Yeah. My goal overall is to get them to have laser because to your point, if they get lost to follow-up, if they're just treated with injections alone, it can be catastrophic to their vision. And laser really is going to prevent those patients from losing their vision. However, I think it's sometimes hard when you're just meeting a patient. Maybe you did an FA on that day or maybe you're in the weeds in clinic. It's really hard to do full PRP the first time you're meeting them. So what I tend to do is, to be honest, for most of my patients, I will often start with an injection or two. I feel like it calms things down. It gives me a little bit of time to be able to put in PRP and to switch back and forth between the two eyes.

If there's a patient who I think could tolerate a large session of PRP, sometimes I will jump straight to PRP, but I feel like more often I end up doing an injection or two to buy myself a little time and then kind of go back and forth between the eyes doing PRP.

But I very rarely have patients who are on anti-VEGF injections alone long-term. They kind of have to really convince me to be able to do that. And then eventually most of those patients I think will come around and get laser, but it does take a while for some patients to agree to it.

Maria Berrocal, MD:
Oh yeah, I think that it's a really important point. And I stress that a lot because anti-VEGFs do not reverse neovascularization and it does not reverse ischemia. So I really think, and I go to many places reinforcing the importance of PRP. PRP is the standard of care. I think anti-VEGF is very useful in many patients, particularly those that have... Because a lot of patients with PDR do have some macular edema or may develop some macular edema, especially after a full session of lasers. So pre-treating them is not a bad idea or doing it concomitantly, some people do that.

But I think this is a very interesting paper and I think it's important to really see the trends of what people are doing. It's nice to see them by region. I know that probably, I don't know how you explain the Hispanic phenomenon, but I think Hispanics usually have more diabetic retinopathy and they come in with more advanced disease usually just because, well, genetically, they're more predisposed to diabetes in general. So I think that might explain why they may get more laser just because they're seen as... If you have someone just with a little bit of neovascularization, not that much ischemia, you may think that maybe they don't have to have a full PRP right away, that sort of thing. I don't know. More thoughts on that?

Katharine Talcott, MD:
Yeah, no, I think that makes a lot of sense. That's what our thinking was. I mean, obviously we had a hard time being able to back it up with what the database could offer us, but we were especially concerned that maybe those patients are presenting at a more advanced level. And every time I'm taking care of a patient, I always think the goal is to get them to laser because otherwise they're going to end up with the TRDs that we see you so beautifully operate at various conferences. And we want to try and avoid getting to this point. You always do such a beautiful job in the videos that you show, but I was like, "Let's try and avoid that happening."

Maria Berrocal, MD:
Yes. And when you look at all the old data from laser, laser, really, most patients treated with a full PRP don't develop tractional RD if they come in time, if they're given it, and over 85% become stable forever almost. So I think it's important to remember that just because it's an old treatment, it definitely is not obsolete. And it's a lot more economical time-wise, not only economically as far as the cost, but also the time involved and the burden to the patients. Because patients that are treated solely with anti-VEGF have to keep coming in all the time, whereas basically after a full PRP, they're pretty much done and you can see them yearly or so.

Katharine Talcott, MD:
Yeah, it's very true. I know every time if I'm doing a TRD repair with one of our fellows and the patient hasn't had PRP in the other eye yet, I always try and make a point of doing PRP just in the OR while we have that opportunity. And I often tell our fellows, I was like, "The most important thing we're doing today is actually lasering the other eye." We'll try and get a person's retina attached and try and salvage what we can. But I was like, "Usually the most important thing that we're doing is protecting that other eye," which is... Yeah, it's good.

Maria Berrocal, MD:

Yes, Dr. Talcott, thank you so much for articulating these trends in care. We'll be back soon with another key paper and another expert voice.

Until then, this is Maria Berrocal signing off from Clinical Minute.