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www.reachmd.com
info@reachmd.com
(866) 423-7849

Racial/Ethnic Disparities in TDR, DME, and Other Vision Threats in Patients With DR

Jordan Deaner:
Welcome to the new Retina Radio Journal Club with VBS. My name is Jordan Diener from Mid-Atlantic Retina and Wolsey Hospital in Philadelphia, Pennsylvania. Today, I'm joined by two of my exceptional colleagues. Please go ahead and introduce yourselves.

Vaidehi Dedania:
Hi, I'm Vaida Hida Dhanya from NYU Langone Health in New York. Thank you for having me today.

Rehan Hussain:
My name is Rahan Hussain, I'm with Midwest Frenet Consultants in Chicago, and I'm very excited to be here. Thank you.

Jordan Deaner:
Pleasure having you both. Today, we're going to discuss the paper, Racial and Ethnic Disparities in the Risk for Adverse Ocular Events in Patients with Diabetic Retinopathy. It's by Anuzi et al. It was first published online in the American Journal of Ophthalmology in November of 2025.

Dr. Danania, would you please walk us through the paper?

Vaidehi Dedania:
Yes, so this was a retrospective cohort study, and it assessed disparities in the risk of adverse visual outcomes by race and ethnicity among patients with diabetic retinopathy in the United States.

They looked at patients in an electronic health record, so the Trinetics database, from 2005 to 2025, and they included records from over 600,000 patients.

So, the primary outcome was the incidence of adverse visual outcomes within 1 year and 5 years following the diagnosis of diabetic retinopathy, and then they stratified this by race and ethnicity.

And the visual outcomes that they included were blindness, vitreous hemorrhage, tractional retinal detachment, which you may hear me refer to as a TRD, and diabetic macular edema, which I may refer to as DME. And so, what they found was that in patients who were Black and Hispanic, there were significantly worse visual outcomes for these patients. So, Black patients face a substantially higher risk at one year of blindness, vitreous hemorrhage, and tractual retinal detachment, as well as macular edema.

And this risk was two-fold increased for TRD in particular, which is quite striking.

They also found that there are disparities between both NPDR and PDR, and so Black patients with NPDR, had a greater risk of blindness, TRD and DME at 1 year, and at 5 years, as well as vitreous hemorrhage. They found that there were disparities that persisted even after controlling for disease severity. So when they controlled for presenting disease severity amongst all the groups, they also found that, Black and Hispanic groups had meaningful differences in the risk of tractional retinal detachment and worse vision they all, one other final finding that I'll go into before we continue on is that there was significantly inadequate screening in the community, for Black and Hispanic patients.

Jordan Deaner:
Videhi, thank you for the excellent summary. That was a paper with a lot of data to digest. I'll turn it over to Rihan here and ask him for his quick gut reaction to the paper.

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Rehan Hussain:
Yeah, so I think what stood out to me was just the extent of how big these differences were between these groups. I mean, I can't say it was entirely surprising that there was a disparity. I think anybody who has trained, you know, like, a Cook County hospital, or just some sort of a county hospital has probably seen that there are gaps in care, and that minorities tend to be, you know, disproportionately affected by those gaps in care.

But just that it was, like, double the rate, or even two and a half times the rate of some of these complications, particularly for the Hispanic patient population. I just… I thought that, okay, I'm not surprised there's a difference, but that extent just kind of caught me a little bit off guard. But, you know, that's… I think, the value in these papers, you know, these large data sets, you know, real-world data is just great at, you know, uncovering these trends. Not so great at explaining the trends, but nonetheless identifies them so that further research can dive into why this is exactly happening.

Jordan Deaner:
Rodehi, the tractional retinal detachment, risk ratios were just so much higher, for our Black and Hispanic populations, you know, even compared to other outcomes like DME. Why did you think that was so different, or such a dramatic difference?

Vaidehi Dedania:
You know. There are a number of reasons. Some that I wanted to bring up were, unlike DME, which can develop early and is often caught during routine screening, TRD is late stage, and there are many steps in this cascade that represent opportunities that were missed to intervene. So, this higher rate of TRD could suggest that there are multiple systemic failures and touchpoints, not just one. You know, TRD is also… the development of them requires, or the prevention of them, rather, requires sustained engagement in the healthcare system. And so, if… when we're preventing TRDs, it demands that patients come in for their regular anti-VEGF treatments, laser photocoagulation, regular follow-up over the years. So again, this brings us back to the point of these patients falling through the cracks at multiple time points. And we also then, consider how these patients are… what treatment are they receiving? So, when we look at this study, they really looked at what were the adverse outcomes for these patients, but it doesn't necessarily get into the nitty-gritty of how were they being treated. And so, that can also impact what their visual outcome is going to be at 1 in 5 years from diagnosis.

Jordan Deaner:
I think you made some really good points there. You know, you really don't get a tractional retinal detachment from diabetes unless things have really gone wrong, and really multiple things have gone wrong, and that includes, you know, a delay in diagnosis, progression of disease, mistreatment, and then also just inadequate follow-up. So, nail on the head there. Well, thank you both for that excellent introduction. We're gonna take a quick break, and we will be back after the break to dive in a little deeper. Welcome back to New Retina Radio Journal Club with VBS. Let's get into a longer discussion about the paper. Vedahi summarized in the first part of this episode. I'd like to turn it back to her and just say, Vedahi, what surprised you the most about this paper?

Vaidehi Dedania:
Yeah, so, you know, Dr. Hussein touched upon this a little bit already, but what really surprised me was even when they, accounted for the presentation, the severity at presentation, Black and Hispanic patients still had worse outcomes. So, you know, our thinking up until this point for many of us has been that these patients just present later because they may not have access to care. Well, even when they present at the same severity, they also have poor outcomes, and so this has to lead us now to what changes we can make and what the next steps would be to change this.

Jordan Deaner:
So, going off of that, Vidhi, what, variables do you think we're not capturing that you think, are affecting, these patients, and why they're presenting, they're presenting at the same disease state, but then they're getting worse outcomes here. So what other variables are feeding into this?

Vaidehi Dedania:
You know, some of it probably comes from the group of patients within the Trinetics database. They're going to be a very specific type of patient, it's not going to include all patients, and it doesn't really get into the nitty-gritty of, you know, do we know, do these… were these patients treated by specialists, retina specialists, or were they treated by other types of ophthalmologists? It also doesn't account for things such as hypertension, other factors that we know, other metabolic and biological factors that affect the progression or the outcome of diabetic retinopathy. So patients who have uncontrolled blood pressure, and we know that this is more common in Black and Hispanic populations. Those patients may have… likely have worse outcomes, and so this doesn't really account for that either, as well as a number of other factors.

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Jordan Deaner:
Rihan, can we get your reaction?

Rehan Hussain:
Sure, well, I really like what Vedahi said earlier, just, you know, not knowing what treatments they got. You know, we talked about how they are presenting at around the same stage, but, you know, there's so many things that limit what we want to do in the real world. Like, if we had the choices that we want, we might use our preferred branded anti-VEGF drug, but in the real world, you know there's limitations on insurance, you know, lack of good days funding, all these things can play a role. You know, we don't know how many of these patients had PRP, or anti-VEGF ejections, or which anti-VEGF ejections they had. So all of that could influence, you know, their rate of progressing to some of these more severe complications, like a TRD, for example. One other thought was that, you know. I'm sure we're all familiar too, but just so many barriers to receiving the care. We always think about, okay, lack of insurance, but there's so many other real-world issues, like just hard to get time off of work, you know, lack of socio-economic, you know, support, you know, lack of family support, lack of transportation all these things. Of course, we probably dealt with that in the real world, but, you know, this paper that we're looking at doesn't really answer those questions, but it kind of makes you think about those questions nonetheless.

Jordan Deaner:
Rihan, yeah, I think you hit the nail on the head there that these, access to care issues are a huge hurdle for many patients. We have to remember that our diabetics are oftentimes young patients that have to have jobs, they have to have time to take off from the jobs. All of those things require, you know, money and transportation. Vada, can you, take us back and maybe give us some suggestions on things we can do to better capture this cohort earlier on, better, and then hopefully we can treat them better?

Vaidehi Dedania:
Yeah, so what we really gain from this study is understanding that there are multiple levels where we are missing. It's not… it's not just screening, you know? It comes in down the cascade. So, we… we try to hammer home screening, screening, screening. Well, getting these patients in can be very difficult. So, there are a number of places that implement screening cameras in primary care offices, right, to increase the ability for these patients to know that they have diabetic retinopathy. But we also know from studies that that is not enough, that these patients need to have follow-up. So we need to continue to improve our ways to reach out to these patients to then follow up for their diabetic retinopathy. There are a number of factors that may prevent them. Some of them may be insurance-based, some of them may be the fact that they can't miss work. And so we have to find unique ways and different ways from what we're already implementing to get these patients to also come in. And I think one big factor, really, is education. So, we can do all of these things, but these patients who are coming in late with TRDs, or maybe re-presenting late with TRDs. Those patients need to know from when they're diagnosed with diabetic retinopathy that this is a possibility. And just telling them, oh, you have mild NPDR, I'll see you in a year, that might not be the only conversation we need to have with these patients. We need to have a more in-depth conversation on what this can look like, and how they need to… how frequently they need to come back, and what they need to think about as they take care of themselves.

Jordan Deaner:
I'll take it to a practical question here. Rihan, I'll have you go first. What do you think you're gonna do differently in clinic tomorrow after reading this paper?

Rehan Hussain:
Well to be honest, probably not going to change my algorithm on how I treat a patient with diabetic rhinopathy or PDR. I'll admit, in my setting, and I have a variety of patients, but it's probably a little bit shielded from, you know, some of the things I saw in my training. I do kind of practice in an area that has more, kind of, affluent patients, but nonetheless, I think it's just awareness of the barriers. You know, there has been a huge trend to try to make, diabetic rhinopathy care more patient-friendly. That's why they keep making longer-lasting anti-VEGF drugs. I think for me, it's just the philosophy, is when I see a new diabetic patient, especially with PDR, I think there's a moment where they're kind of afraid, you know, like they got a new Vitheem, and I capitalize on that, and I try to get as many things done as quick as possible. Get the PRP set up quickly, and, you know, get the injections going, because, you know, there's, like, a little bit of momentum you can take when they have that emotional fear. Eventually, sometimes people get complacent, and, you know, so I really try to just knock out the things that are gonna prevent blindness and TRDs early on. So that we can at least prevent some of these catastrophic situations.

Jordan Deaner:
I would echo that. Rihan, you know, I think one of the times I take a moment in our busy clinics, you know, we're seeing lots of patients, we're taking care of a lot of complicated patients, but one of the times I take a moment to sit down and really try to connect with my patients is my diabetic patients, you know, particularly the PDR patients, but now I maybe need to sit down with the MPDR ones, too,

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and just really say, hey, you know, this is serious, you need to follow up with me.

Things look great right now, but I don't want you to stop coming, and then come back in a year or two with a retinal detachment, and then we're both just sad. You know, so maybe we need to spend even more time with our less severe patients, as this study is kind of suggestion. Vedahi, what are your thoughts? How are you changing your clinical practice?

Vaidehi Dedania:
Yeah, so, you know, we have guidelines on how frequently to see patients based on whether or not they have no retinopathy, mild, moderate, severe. I think that utilizing these guidelines for your patient population, which is something I might start to change, and I have already implemented, for example, I might have a severe patient come back in 6 to 8 weeks for no other reason except to explain to them, like, this is not a, I'll see you back in 4 months, I'll see you back in 6 months. This is more significant than that. I need to see you back so that you understand, A, that you're not going to be gone and out of sight for a while, and also, we have another touchpoint to talk about what the future might look like.

Jordan Deaner:
Excellent. I love it. I'm gonna take both of your suggestions, with me to clinic tomorrow.

I'd like to thank you both for a great discussion.

And thank you to the audience for listening to New Retina Radio Journal Club with VBS. Stay tuned for further episodes.

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