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Beyond BCVA: Measuring Functional Vision in MacTel Type 2

Dr. Goldberg:
We've come to realize that visual acuity is not an accurate measure of visual function in many diseases, including in macular telangiectasia type 2, or MacTel. So how should we be assessing vision loss in these patients? This is CME on ReachMD. I'm Dr. Roger Goldberg, and here with me today is Dr. Thomas Albini.

Dr. Albini:
It's great to be here. This is a great question, and one the retina specialists are grappling with for many macular diseases where there is foveal sparing until late in the disease course. We know that there is a consistent progression of vision loss in patients with MacTel. The best corrected visual acuity is mostly stable, with small changes over time.

One retrospective series that looked at 1,014 eyes with MacTel type 2 followed over an average of 4 years showed that the best corrected visual acuity decreased by 1 letter per year. Only about 15% lost greater than 15 letters in this study, and 27% lost greater than 10 letters.

The differences in the best corrected visual acuity are not clinically meaningful for most patients, but are there, and we'll talk about some of the functional losses that are seen in these patients, even if the best corrected visual acuity still appears to be good. An ellipsoid zone loss occurs in almost 80% of patients, so you can be assured, even if the ellipsoid zone is parafoveal, that foveal ellipsoid zone visual loss is coming.

As mentioned in the first episode, functional vision is a key. It's not routinely assessed, but it may be an early indication of visual decline, and patients may be frustrated without even knowing exactly what symptoms they're having. The things that patients see are very often nasal scotomas, loss of color and contrast sensitivity, metamorphopsia, decreased stereoscopic vision, and problems with depth perception, all sort of nonspecific symptoms of macular dysfunction.

MacTel has a profound reduction on quality of life. When looking at the NEI VFQ-25 and looking at all the subscales, we see that almost across the board, there's an impediment in all of these quality-of-life features, including general vision, near vision, driving, color vision, even down to mental health. So these visual impairments are real, with real implications.

Dr. Goldberg:
Indeed. Yeah, let me show you. This is a patient of mine, actually, with relatively kind of what you might even say is early-stage MacTel but has a lot of the classic features. Vision's 20/25, but she complains about difficulty reading. Does that surprise you? Again, kind of the key is, is you got to take the time to ask. So a lot of times, these patients will have some vision loss and will be complaining about—they don't say a scotoma—but when you dig in, what they actually have is a scotoma present. And it turns out that if they have a scotoma present at baseline, that actually predicts kind of worsening disease in the future. So that's a really important metric to look for.

Dr. Albini:
Asking patients about any reading difficulties is a good indicator of disease progression and something that we often forget to do in clinic. Microperimetry is often used in research studies to show loss of visual function. Once scotomas are present, growth occurs in nearly 94% of eyes. But, unfortunately, microperimetry is not terribly practical in the clinic.

What do you think, Roger, have you ever done a microperimetry on a patient that wasn't in a clinical trial to better ascertain their visual function?

Dr. Goldberg:
I have not. I mean, I think microperimetry is a great research tool. It establishes this correlation between the ellipsoid zone loss and the functional impact of that photoreceptor loss that we see with the structural changes on OCT. But, man, the OCT is really easy to perform, and I've kind of convinced myself, seeing all the clinical trial data, that, hey, if there's no photoreceptors there, the patient's going to have a functional loss, a microperimetry visual field defect in that spot.

So anyway, that's all the time we have today. Thank you, audience, for tuning in, and thank you, Dr. Albini, for joining me today.

Dr. Albini:
Thank you!