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Chats

Managing Wet AMD: Basics and Treatment

Wednesday, April 26, 2023

1:00 p.m. EDT

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Please note: This transcript has been edited for clarity and brevity.

MS. AMANDA RUSSELL: Hello. My name is Amanda Russell, and I am pleased to be with you today for today's Macular Degeneration Chat, "Managing Wet AMD: Basics and Treatment." For those of you who are new to our Chat series, this Chat is brought to you today by BrightFocus Foundation. We fund some of the top scientists in the world who are working to find better treatments, and ultimately cures, for macular degeneration, glaucoma, and Alzheimer's disease. And we do events like today's Chat to get the latest news from science as quickly as possible to families that are impacted by these diseases. You can find much more information on our website, www.BrightFocus.org. Now, I am pleased to introduce today's guest, Dr. Surendra Sharma. Dr. Sharma is the Senior Vice President of Medical Affairs at Outlook Therapeutics. He has 15-plus years of experience in the pharmaceutical and biotechnology industries. Dr. Sharma, thank you so much for joining us today.

DR. SURENDRA SHARMA: Hi, it's my pleasure. I am looking forward to our discussion today. Thank you.

MS. AMANDA RUSSELL: Great. First, let's start off with the basics. Often, people receive a diagnosis of macular degeneration, and it is not clear

whether they have wet AMD or dry AMD. What is the difference between wet AMD and dry AMD, or its advanced form, geographic atrophy?

DR. SURENDRA SHARMA: That is a good question. So, age-related macular degeneration, which is known as AMD, is a progressive eye disease that affects the macula, which is the central part of the retina that allows you to see fine details. It is one of the leading causes of vision loss and blindness in people over the age of 50. There are two types of AMD—dry AMD and wet AMD. Dry AMD is more common and progresses slowly over time, causing thinning of the macular tissues and the formation of small yellow deposits called drusen. Wet AMD is less common but more serious and occurs when abnormal blood vessels grow underneath the retina, which can leak fluid and blood, causing rapid and severe vision loss. While both dry AMD and wet AMD result in central vision loss, wet AMD is characterized by abnormal vessel growth and fluid leakage, while dry AMD is characterized by macular thinning and is not onset by abnormal growth or fluid.

MS. AMANDA RUSSELL: Thanks for that description. And what about geographic atrophy?

DR. SURENDRA SHARMA: So, when we're talking about geographic atrophy, it creates a clearly demarcated area of absence of a layer of retina at least 175 micrometers in diameter. It is considered to be the late stage of dry AMD.

MS. AMANDA RUSSELL: Great. So, back to wet AMD, what are the signs and symptoms that people should look out for?

DR. SURENDRA SHARMA: Absolutely. Let me walk you through some of the signs and symptoms of wet AMD, which is blurred vision, distorted vision, especially when you see straight lines that bend, having difficulty recognizing faces or reading due to the loss of detailed vision. You may see a well-defined blurry spot or blind spot in the field of vision. When seeing has been lost in both eyes, visual hallucination may occur, as well. And, of course, color and brightness perception may be reduced.

MS. AMANDA RUSSELL: Thanks. Who is at risk for developing wet AMD? Is it genetic?

DR. SURENDRA SHARMA: Some of the common risk factors for wet AMD include being over the age of 50, having high blood pressure, eating a diet that is high in saturated fat, and, of course, family history of wet AMD and cigarette smoking will play a role. If you smoke, the medical recommendation is to stop smoking.

MS. AMANDA RUSSELL: Yeah, that's great advice. Can you share with us a few of the key terms about wet AMD, and about how many people are impacted by wet AMD?

DR. SURENDRA SHARMA: Absolutely. Let me walk you through a few basic terms, some anatomy of the eye, and how common it is to have wet AMD. So, when we talk about an eye—especially for wet AMD, it's a retinal disease—the retina is the inner layer of the back of your eye that is responsible for seeing light and bringing that information to your brain, whereas the macula—the circular region of the retina and at the back of the eye—is responsible for our central vision, color vision, and fine visual detail. Then, you have drusen. These are the yellowish or whiteish lipid or protein deposits, which when they accumulate in the retinal layers, it leads to atrophy or wasting away of the retina. And then we talk about neovascularization. This is the process of growth of new blood vessels. Here, it is leading to the formation of new blood vessels, which are weaker and can leak the fluid and proteins. Based on a 2019 census survey, the prevalence of wet AMD among individuals over 40 years old was around 10 to 15%, which is expected to diagnose about 70,000 new cases of wet AMD every year in the U.S.

MS. AMANDA RUSSELL: Wow. So, let's talk about what happens to the structure of the eye when you have wet AMD. What are the main differences between a healthy eye and an eye that has been impacted by wet AMD?

DR. SURENDRA SHARMA: That's a great question, again. The main regions affected in wet AMD are the retinal layers of the eye. In the wet AMD, the eye has neovascularization and subretinal hemorrhage, leading to formation of scar tissues over the macula and further frontal vision loss. A healthy eye has a clear and undamaged macula, while an eye impacted by wet AMD experiences progressive damage to the macula, resulting in central vision loss.

MS. AMANDA RUSSELL: Great. This next question we get asked a lot: Once you have been diagnosed with wet AMD, what does the future look like? How quickly does the wet AMD progress?

DR. SURENDRA SHARMA: Absolutely. Let me give you some insight on that. The patients who were diagnosed with wet AMD in one eye have about a 20 to 42% chance of developing wet AMD in both eyes within 2 to 3 years of initial diagnosis. The speed of wet AMD progression can vary significantly between individuals. Some people with wet AMD may experience slow progression, while others may unexpectedly experience a rapid decline in vision. For these reasons, it is important to continue following up with your physician, even if you're not experiencing symptoms to identify any changes early. Likewise, if you're experiencing symptoms, make sure to consult your physician as soon as possible, and he or she will guide you for your further actions.

MS. AMANDA RUSSELL: Great. So, once you've talked to your physician and they've confirmed you have wet AMD, what types of treatments are available for people with wet AMD?

DR. SURENDRA SHARMA: That's a great question. Today, the current standard of care of treatment for wet AMD is anti-VEGF therapy, and these types of drugs have been used for many years. They are supported by a lot of safety and efficacy data, so physicians are very comfortable in using them. They're all injected into the back of the eye, which is known as an intravitreal injection.

MS. AMANDA RUSSELL: Great. You mentioned anti-VEGF therapy. What does VEGF stand for, and how does this therapy keep wet AMD at bay?

DR. SURENDRA SHARMA: VEGF stands for vascular endothelial growth factor. It is a protein that promotes the growth of blood vessels. Anti-VEGF agents bind to VEGF ligands or the VEGF receptor, and thereby inhibit the formation of new fragile blood vessels permeating the retinal layers. If these blood vessels were to be allowed to form, they can grow quickly and cause fluid leakage. When anti-VEGF therapies are used, these vessels do not grow as quickly, and the fluid leakage is reduced. This slows down the damage to the retina and subsequently slow down vision loss.

MS. AMANDA RUSSELL: Great. I'm glad we have this kind of drug to help slow down. Are there any risks with this anti-VEGF therapy?

DR. SURENDRA SHARMA: So, while this treatment is safe and effective, there are some potential risks and side effects associated with anti-VEGF therapy. The complications that may arise are generally due to injection itself. These may include an increase in pressure within the eye immediately following the injection, and perhaps an inflammatory reaction at the injection site. But those are limited and temporary, and they tend to go away in 1 or 2 days.

MS. AMANDA RUSSELL: Okay. That's great. What types of treatment should we look forward to? What may be coming up on the horizon?

DR. SURENDRA SHARMA: Currently, the majority of wet AMD patients are on the traditional treatment option of anti-VEGF agents, but some potential future options may include gene therapy, biosimilars, and biobetters of existing molecules.

MS. AMANDA RUSSELL: Great. Can't wait to hear more about those in the future. Let's go back to the beginning. What should someone expect when they go to their very first visit? We frequently receive questions about injections and the differences in approaches—for example, the different substances that are used to clean the eye or numb the eye, and whether the eye is propped open or not. Can you walk us through what a typical injection scenario is and share some of these differences that may come into play in technique?

DR. SURENDRA SHARMA: Absolutely, it is my pleasure. In an anti-VEGF injection for wet AMD, the eye is numbed, cleaned, and then—only then— injected with the anti-VEGF agent of choice. Now, your retina specialist will determine the best technique based on the patient's needs or the severity of the wet AMD. So, I highly recommend ... your physician will decide what procedure of best recommended for you.

MS. AMANDA RUSSELL: Yeah, and so you might have a different technique than your friend who has a different doctor, I could assume. And depending on your individual needs.

DR. SURENDRA SHARMA: Yes.

MS. AMANDA RUSSELL: Okay, how about this question: Why is anti-VEGF therapy treatment not something that would be useful for people with dry AMD?

DR. SURENDRA SHARMA: This is an interesting and good question. Anti-VEGF therapy is effective in slowing down the progression of wet AMD by reducing the growth of abnormal blood vessels and preventing further damage to the macula. However, in dry AMD, the underlying mechanisms are different, and the anti-VEGF therapy does not address the underlying cause of the disease.

MS. AMANDA RUSSELL: That makes sense—different treatments for different conditions. We know that monitoring and screening are critical in detecting wet AMD early, before there is significant vision loss. At what age should people begin annual screenings?

DR. SURENDRA SHARMA: I highly recommend—and the practice by the American Academy of Ophthalmology—annual screening for all AMD should begin at age 40, especially for individuals without symptoms, as recommended by the American Academy of Ophthalmology, with more frequent exam needed for those with the risk factors. It is important to seek personalized advisement from your ophthalmologist if diagnosed with wet AMD.

MS. AMANDA RUSSELL: That's great advice. And what type of doctor should I see if I start experiencing any symptoms, or even if I don't?

DR. SURENDRA SHARMA: The first thing you want to do—anything when it comes to your eye—you want to see your ophthalmologist, right? Consult your ophthalmologist—tell them what symptom you're experiencing—and then your ophthalmologist will decide typically where to send you, whether it's the retina specialist if you're diagnosed with AMD, or if you're diagnosed with other diseases, then he or she will recommend where to go from there.

MS. AMANDA RUSSELL: Great, so it's just good to start with the ophthalmologist, and they will refer you from there. Great. And if people already have a diagnosis, what is the likelihood that your second eye being

at risk? And are there other ocular conditions that your doctor should be monitoring for?

DR. SURENDRA SHARMA: Yeah, when you go to physician's office at 2-year post of the initial diagnosis of wet AMD, about 86 percent of these patients are affected in both eyes. This may include wet AMD, dry AMD, or geographic atrophy, as we discussed earlier. Your doctor may also examine you for further ocular conditions with wet AMD, which may include cataracts, diabetic retinopathy, glaucoma, retinal vein occlusion, or myopia. All these diseases, once you've been diagnosed ... when you go to the physician and he or she is examining you, they may look out for these diseases, as well.

MS. AMANDA RUSSELL: Right, so it's really important to keep up with your appointments and get all of your exams done in case there's other conditions there as well. Well, Dr. Sharma, we just ran through a bunch of questions really quickly actually. I think we've gotten to the end of what we had on our list. The next BrightFocus Macular Chat is going to be held on Wednesday, May 31, 2023. Dr. Sharma, before we conclude today, are there any final remarks you would like to share with our audience?

DR. SURENDRA SHARMA: Absolutely. First of all, I would like to thank you so much for the opportunity to join and discuss wet AMD. And again, I highly recommend that people follow up with their ophthalmologist to make sure they are being screened and evaluated for all of the conditions that we have discussed, and if they have any questions, make sure they get the answers for it from their physician. And once again, thank you so much.

MS. AMANDA RUSSELL: That was all such great advice. Thank you for joining us today. This concludes today's BrightFocus Macular Chat.

Useful Resources and Key Terms

BrightFocus Foundation: (800) 437-2423 or visit us at www.BrightFocus.org. Available resources include—

- [Amsler grid](#)
- [Apps for People with Low Vision](#)
- [BrightFocus Foundation Chat Archive](#)
- [Clinical Trials: Your Questions Answered](#)
- [Healthy Living and Macular Degeneration: Tips to Protect Your Sight](#)
- [How Low Vision Services Can Help You](#)
- [Macular Degeneration: Essential Facts](#)
- [Research funded by BrightFocus Foundation](#)
- [Safety and the Older Driver](#)
- [The Top Five Questions to Ask Your Eye Doctor](#)
- [Treatments for Age-Related Macular Degeneration](#)
- [Understanding Your Disease: Quick Facts About Age-Related Macular Degeneration \(AMD\)](#)

Other resources mentioned during the Chat include—

- Anti-VEGF (vascular endothelial growth factor) injections