

Transcript Details

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Uncovering the Drivers of Dry Eye Symptoms

Announcer:

You're listening to *On the Frontlines of Dry Eye Disease* on ReachMD. And now, here's your host, Dr. Steve Jackson.

Dr. Jackson:

Welcome to *On the Frontlines of Dry Eye Disease* on ReachMD. I'm Dr. Steve Jackson, and joining me to explore factors contributing to dry eye disease is Dr. Anat Galor, Professor of Ophthalmology at the University of Miami Miller School of Medicine.

Dr. Galor, it's great to have you with us today.

Dr. Galor:

Thank you so much. It's great to be here.

Dr. Jackson:

Dr. Galor, when a patient presents with dry eye disease, why is it so important to understand what may be driving their symptoms?

Dr. Galor:

I am so glad you asked me that question, but I'm going to reverse it a little bit. For me, when a patient comes in with symptoms, why is it so important to figure out if they have dry eye? Because this is the problem. People can feel their eyes for many reasons. And so when we use the words "dry eye symptoms," we're talking mostly about pain or discomfort described as dryness, burning, grittiness, irritating sensation, or foreign body sensation. People have different words to describe how their eyes feel, and in general, it's unpleasant and they don't like it, and our job is to put on our detective hats and figure out why they have symptoms. And one cause of symptoms is dry eye, which, for me, means not making enough tears, but there are other causes of symptoms, like having an epitheliopathy because of dry eye or for something else, or having tear instability, or having rosacea, or having abnormal meibum quality.

And so for us, in order to really treat our patients well, we need to take a complaint, do an exam, which includes a history, to figure out what is causing the problem, and then try to target it. And that is different than what we currently do, where we really just call everything "dry eye," and I don't think we do a good enough job looking at the individual contributors in order to apply precision medicine to our patients.

Dr. Jackson:

And as you're evaluating a patient, what clues from the past medical history that you mentioned and the ocular assessment can help you identify what may be contributing to their dry eye disease?

Dr. Galor:

So it starts with their symptoms. It's not a perfect science, but there are different symptoms that suggest etiologies. So if someone tells me gritty, foreign body sensation, tearing, fluctuating vision, I'm thinking that the answer is going to be at the level of the ocular surface. If someone tells me itching, I say, "You know what? There could be an allergic component." But if someone uses the words burning, sharp shooting, tenderness behind the eye, or pain that extends beyond the eye, at that point, I'm thinking there could be a nerve dysfunction somewhere in the peripheral nerves, the central nerves, or maybe the autonomic nervous system that is contributing to their symptoms. And humans are complex, so they're allowed to have both.

And the key is to then get a good history, right? I'm looking for things like autoimmune diseases that may suggest an inflammatory cause, things like sleep apnea with a CPAP use that can suggest anatomical issues at night. And then, of course, I'm also looking for clues that there could be nerve issues for people who have migraine, fibromyalgia, or chronic widespread pain. And so just from the

symptoms and history, I can start getting clues as to what I think could be contributing to symptoms.

But then it comes to the exam, and I believe in a short but comprehensive ocular surface exam to look for potential sources of pain. It starts with the periocular skin, looking for rosacea, and the eyelids, looking for *Demodex*, looking for anterior blepharitis related to periocular skin conditions, and looking at the lipid quality the meibum. Then I do a quick test using my vital dyes, looking for epitheliopathy, either at the level of the cornea or the conjunctiva, looking for any changes in the palpebral conjunctiva, like follicles or papillae that can look for an etiology, and then looking for things like tear stability and tear production. And so even with that short exam, you can see how many different factors can play in on driving symptoms and why it's so important not to use the word dry eye, but to just say, "You know what? I have a patient who has X, and I'm going to do a very comprehensive but quick exam to figure out their personal contributors."

Also anatomy—if you're not closing your eyelids, if you don't blink, if your eyelids are in an abnormal position, or any bumps or lumps anywhere on the ocular surface, all of those things can lead to pain. So it's really important that we really recognize the number of things that can cause people to come in with what we call "dry eye symptoms," but probably ocular surface pain or discomfort is a better word. And then we have a comprehensive exam that can get us to the contributors in an individual patient.

Dr. Jackson:

Now, what are some common comorbidities associated with dry eye disease, and how might they influence your approach to care?

Dr. Galor:

The nice thing about being an ophthalmologist is I believe the eyes are the window to the soul, or at least to the body, and every single disease that you can imagine probably has a relationship to some form of dry eye disease, but not the same relationship. So patients with Sjögren's, lupus, or rheumatoid arthritis are likely to have inflammatory dry eye disease. They may have inflammation and low tear production and epitheliopathy, and those are the people where I want to target inflammation when I'm trying to treat symptoms. People with migraine and fibromyalgia are the ones who oftentimes present with symptoms out of proportion to signs. We have different words to describe that—pain-predominant dry eye disease, pain without stain, although I don't like that one because it suggests that there's no stain. The general idea is it's a specific set of symptoms, like burning, light sensitivity, wind sensitivity, aching, and shooting pain that's out of proportion to what you see in a patient with the appropriate comorbidities suggests that nerve abnormalities somewhere contribute to pain. And we can keep on going down the list. Diabetes is more likely to be related to neurotrophic keratitis, which, again, is not dry eye disease, but it's a subtype because that presents with decreased sensation and an epitheliopathy. And so again, you can see how there's overlapping features where you see epithelial disruption, and it can be caused by more than one thing.

And that's why I think ophthalmologists can really help primary care physicians and other specialties put it all together, because by looking at the ocular surface or dry eye signature, we can really help understand how the eye relates to the body, and we can monitor the eye as a way to also help other clinicians monitor what's happening at the level of the body. But every disease that primary care doctors see may have a signature that we can see in the eye, and I think ophthalmologists are really important in working as part of the primary team to not just treat the eyes but the entire body.

Dr. Jackson:

For those just tuning in, you're listening to On the Frontlines of Dry Eye Disease on ReachMD. I'm Dr. Steve Jackson, and I'm speaking with Dr. Anat Galor about identifying factors contributing to dry eye disease.

When you identify several potential contributors, how do you decide what to address first?

Dr. Galor:

So the rule is because there are so many different things that could lead to some form of dry eye disease, first I address what I see and the thing that is most obvious. So if I see inflammation, I generally treat inflammation. And fortunately, most of the approved dry eye disease medications that we have treat aspects of inflammation. So short-term corticosteroids and topical corticosteroids, and then long-term, we have four FDA-approved T-cell modulators and three formulations of cyclosporine and lifitegrast that we use in people who have inflammatory dry eye disease.

But not everyone needs long-term chronic anti-inflammatory therapy. And if I see more of a rosacea picture—periocular rosacea, telangiectasias, or lid hyperemia—then I generally use therapies that are approved for rosacea, like IPL and antibiotics in the form of doxycycline or azithromycin or short-term courses of corticosteroids.

And then if I see a lot of anterior blepharitis, I believe in a good lid hygiene protocol using things that are approved to clean your eyelids. So I don't like baby shampoo; I like things that are approved. If you see a huge burden of *Demodex*, we have an FDA-approved medication for that. And so mostly it's just going down and trying to see what I detect on exam and then trying to target it with the variety

of medications that we have.

The problem is my plan A doesn't work, and right away I tell patients, "Listen, I have plan A through Z. And our goal is to find the right combination, your own personalized Goldilocks—not too little, not too much—that gets you to good enough." And so if I target inflammation and that doesn't help, then maybe at that point, I target meibomian gland health. And if that doesn't work, maybe then I look at tear deficiency if that's a problem. We have two agents that increase tear production. And pretty much I go down the list until I find the right combination. But if I have a patient who I suspect has a nerve problem, then I'll still target what I see because I can usually find something that I see in everyone.

But what I do is if I have a patient that I think has nerve abnormalities, I still target what I see because I usually find some abnormality. But in general, if I target it and things don't get better, then I'm open to the possibility that even though I'm seeing it, that's not the main cause of symptoms, and that in certain patients, I start addressing nerve issues earlier or later depending on the clinical profile. And that is a field called neuromodulation, which pretty much means if I think the nerves are abnormal, I try to get them to function a little better, and I can do that with topical therapy. In the right people, I use blood products like autologous serum tears. I can use oral medications that are approved for neuropathic pain outside the eye, and I can use adjuvant periocular therapies, again, that I borrow from pain management and neurology, things like TENS units or botulinum toxin injections.

And so if I think about all the nociceptive tools and all the neuropathic, nociplastic tools I have to target symptoms, you start seeing that this is more than just dry eye. These are patients who have symptoms. They can have multiple contributors, of which dry eye can be one of them, and our job is to figure out which one or combination is the best for each patient. And so this is a challenge because we have more and more solutions and not great companion diagnostics to help us predict which patient will respond to what. So as a community, we're trying to do better, talk about these things, and look for predictive factors so we can get patients what they need faster. But it's still an ongoing process, and it, at this point, is a little more of an art and not a science.

Dr. Jackson:

Finally, Dr. Galor, how can a better understanding of the factors driving a patient's symptoms help you individualize their care?

Dr. Galor:

Well, it turns out that people do not enjoy feeling their eyes. And so if you talk to people and you think about something like dryness, burning, or irritation, you tend to disregard the symptoms and say, "You know what? They're not visually threatening. You're not going to go blind." But if you talk to patients who have these chronic symptoms, they feel like they are functionally impaired. They cannot work the way they want. They may have glare when they're working on screens. They are not enjoying life because they're constantly feeling their eyes. It affects their social interactions. And so as a field, we need to understand that improving visual function and quality of life is something that we need to take maybe if not as seriously, almost as seriously as things that cause blindness, and dry eye symptoms fit under that category. In fact, older studies show when they did utility assessment, people were as miserable as people with class four angina.

We need to understand why a particular patient has symptoms and get them to feel better as quickly as we can because it has a huge impact on functional vision and quality of life. Our patients are really suffering, and we need to do better as a community to figure out how to help them.

Dr. Jackson:

A great way to wrap up this conversation. I want to thank my guest, Dr. Anat Galor, for joining me to review factors that may contribute to dry eye disease and how we can address them.

Dr. Galor, it was great having you on the program.

Dr. Galor:

Thank you so much for having me.

Announcer:

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