IS IT MGD?

And, does it matter?

BY WHITNEY HAUSER, OD

The answers to the questions above are, respectively, “probably” and “absolutely.”

Dry eye disease (DED) affects between 20 and 30 million people in the United States, and, of those, meibomian gland dysfunction (MGD) accounts for 86% of cases.

With those statistics in mind, MGD is not always the diagnosis, but it should be in the differential for most ocular surface complaints. The best way to identify MGD and manage it successfully is to follow three steps: Listen, look, and then lead.

LISTEN

The first step in evaluating MGD is the most crucial and the most commonly overlooked. Listen to the patient. It sounds painfully simple, but many practitioners believe they can quickly tick that box and then move on to the physical examination. However, really listening to a patient involves more than jotting down a chief complaint and the corresponding history of present illness. Obtaining a thorough case history can be time-consuming, but, ultimately, it makes the exam itself more efficient and will likely help pinpoint the problem more accurately.

The patient says, “My vision gets blurry.” Blurred vision can originate from innumerable refractive and pathologic causes. However, it is also among the most common symptoms elicited from patients about their MGD. Visual disturbances associated with MGD can strike any time throughout the day, although many patients identify exacerbations in the early evening or after extended use of digital devices.

A 2014 study evaluated light scatter in patients with aqueous tear deficiency (ATD) or MGD using the Optical Quality Analysis System (OQAS; Visiometrics). The OQAS supplies an objective measurement of optical aberration and loss of transparency. Patients with MGD not only had higher mean OQAS light scatter indices than those with ATD, they also experienced momentary decreases in light scatter after blinking. Blinking had little or no influence on the ocular scatter index in patients with ATD. Even when participants with ATD had similar tear breakup time to those in the MGD group, they had overall less scatter. This finding suggests that MGD may pose unique challenges to visual quality.

The patient says, “I can’t wear my contact lenses comfortably as long as I’d like to.” About half of the 35 million contact lens wearers in the United States are suspected to have DED. Many of them are undiagnosed, and they attribute their daily struggle to just another aggravation of contact lens wear. In reality, long-time contact lens wearers have a greater prevalence of MGD than nonwearers. A 2009 study found an association between contact lens wear and the number of functional meibomian glands. Furthermore, the number of glands was proportionate to duration of wear.

Unfortunately, many practitioners are distracted by patients’ complaints of burning, irritated eyes and decreased wear time, and they consider these symptoms likely to be contact lens-related complications. However, they also resemble symptoms of MGD. Changing lens material, modalities, and/or care systems will not likely yield relief for these patients and will take up significant chair time. Aggressive treatment of the MGD, on the other hand, may prolong comfortable lens wear for both the day and the long run.

LOOK

In recent years, the collective consciousness of eye care providers has been raised with regard to lid health. This trend is due to a greater understanding of the role that meibomian gland function plays in DED as well as an influx of products to manage lid hygiene concerns.

• Lid positioning. Proper lid apposition to the globe is crucial for the accessibility of the meibum to the other components of the tear film. Positioning may be hindered by conjunctivochalasis, entropion, ectropion, and increasing laxity in the skin with age. Poor apposition may also occur after oculoplastic surgery such as blepharoplasty. Lid movement plays an integral role in the pumping of meibum out of the glands; lid tension is required to accomplish this movement.

• Lid and gland appearance. Staining with lissamine green dye can identify devitalized cells on the cornea and conjunctiva. Additionally, it is valuable for highlighting the devitalized cells that accumulate at the mucocutaneous junction (MCJ). The MCJ forms between the dry, keratinized skin of the eyelid and the wet mucous membrane of the palpebral conjunctiva. The stained surface cells at the MCJ are also known as the line of Marx. The presence of MGD and other inflammatory conditions such as blepharitis are correlated with anatomic changes to the MCJ and the line of Marx. Examples include increases in the width, height, or position of these landmarks. Chronic tear instability can drive the surface cells of the MCJ anteriorly as the disease state progresses. The keratinized cells on the lid margin connect to form a
meshwork of keratinized (or cornified) epithelium.  

Debridement of the MCJ and of the generalized buildup of debris on the lower lid margin may provide significant symptom amelioration and improvement in meibomian gland function.  

A golf club spud can be used to mechanically reduce the thickened layer of cellular debris. The improvement in gland function and reduction in patient symptoms achieved with debridement scaling of the MCL and keratinized lid margin has been demonstrated in multiple patient populations including patients with Sjögren syndrome with MGD. Comparing gland expression before and after debridement can reinforce the benefits to the practitioner and deliver relief to the patient.  

- **Lid hygiene.** Options for lid hygiene have exploded. Surfactant wipes and foams, hypochlorous acid solutions, tea tree oil products, and hyaluronic acid moisturizing cleansers have all found their ways into practices across the country. Each one potentially provides different benefits for patients. A popular course of therapy for patients with MGD includes a lid hygiene regimen and a bottle of artificial tears. Some practitioners find this plan too conservative, but both clinical experience and research support lid hygiene as a therapeutically effective treatment for MGD. Studies have shown improvement in tear breakup time (30% of patients normalized to 10 seconds or greater) and patient symptoms (88% of patients) as well as improvement in gland patency.  

**LEAD**  

Patients with MGD often leave their eye care providers’ office with the catch-all diagnosis of DED, which does not truly define their condition. Patients require leadership and direction from their doctor. Education specifically geared to the chronic, progressive, and often inflammatory foundation of MGD is essential to ensure that patients understand and acknowledge the nature of their problem. Removal of barriers for the patient furthers compliance. Pitfalls for MGD patients’ compliance include difficulty in forming good habits and lack of product availability.  

Offering written and web-based instructions can help patients revisit the doctor’s directions at home and reinforce new behaviors. A study at the University of Alabama School of Medicine found that simple, standardized instructions provided to patients after surgery led to a shorter recovery period after surgery. Other studies have encouraged the use of both written and verbal instructions to achieve the best compliance. Compliance with recommendations such as use of warm compresses is necessary for success. If patients do not accept the need for MGD therapies, these practices do not gain traction, and failure frustrates both doctor and patient.  

Selling over-the-counter goods such as heated masks and lid cleansers in the office can help to eliminate barriers for patients to find and purchase these products independently. Consider offering nutritional supplements as well. Often practitioners have particular preferences, but patients may settle for store brands if left to compare products on their own. Having supplements accessible in the office not only ensures that patients use the prescribed treatment, but it also helps make certain that they get the doctor’s preferred MGD treatment.  

**CONCLUSION**  

The “listen, look, and lead model” is applicable to any medical condition. Patients come to their doctors with symptoms and hope they have found one who will listen to their complaints and examine them thoroughly. Once a diagnosis is made, the patient wants and needs leadership to find resolution and relief. Considering its chronic and progressive nature, MGD is no different and demands the same attention and direction as other commonly seen conditions. Offering patients clear direction and a therapeutic plan is essential to their acceptance of the disease state and symptomatic improvement.  

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