A panel of experts gathered during the 2015 annual meeting of the American Academy of Ophthalmology to participate in a roundtable discussion regarding protocols for the treatment of diabetic macular edema. The panelists discussed the results of published studies that examined various treatment options, including vascular endothelial growth factor suppression.

I would like to thank the faculty members for their participation, as well as Bayer AG and Regeneron Pharmaceuticals for supporting this OSLI Retina supplement. For more information on this topic, visit Healio.com/OSLIRetina.

Darius M. Moshfeghi, MD
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Introduction

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MODERATOR

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All faculty members have received a modest honorarium from SLACK Incorporated for their contributions to this supplement.

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The Role of Anti-VEGF Therapy in the Treatment of Diabetic Macular Edema

ABSTRACT: Diabetic retinopathy (DR) is the leading cause of blindness among working-age adults. DR often leads to diabetic macular edema (DME), which often goes unnoticed until a patient presents with vision loss. However, treatment options and data for DME are continually improving. We know that vascular endothelial growth factor (VEGF) plays a key role in DME progression; therapies that act by inhibiting VEGF production seem to improve visual acuity in patients with DME. Of the anti-VEGF therapies available, two have been approved by the U.S. Food and Drug Administration to treat DME: ranibizumab (Lucentis; Genentech, South San Francisco, CA) and aflibercept (Eylea; Regeneron, Tarrytown, NY). Bevacizumab (Avastin; Genentech, South San Francisco, CA), which is approved for the treatment of certain types of cancer, is occasionally used off-label to treat DME. Anti-VEGF therapy can stop vision loss and even improve visual acuity. Other treatments remain effective, and these various treatment options fuel a need for new data and discussion. This roundtable discussion, which took place during the 2015 annual meeting of the American Academy of Ophthalmology, outlines the current protocols used to treat DME and provides clinical opinions about selecting and treating with an appropriate anti-VEGF therapy.


INTRODUCTION

Peter K. Kaiser, MD: Diabetes affects more than 400 million people worldwide. What does the growing prevalence of this disease suggest about the prevalence of diabetic retinopathy (DR)?

John W. Kitchens, MD: It is troubling that approximately 10% of the American population has diabetes, the vast majority of whom have type 2 diabetes. Even more concerning is the fact that almost a third of patients with diabetes are undiagnosed. Caring for these patients is costing society more than $200 billion each year. We as physicians have a lot of work ahead of us to improve the statistics. The prevalence of diabetes raises concerns for eye care specialists because so much about the effect that diabetes has on vision in the early stages is unknown.

Jonathan L. Prenner, MD: Information from peer-reviewed literature and the Centers for Disease Control and Prevention illustrates the shocking increase in the incidence of diabetes in the Western world. In 2005-2008, 4.2 million patients with diabetes older than age 40 had DR. Of those, 655,000 had advanced DR, including proliferative diabetic retinopathy (PDR). Not all Americans with diabetes schedule annual dilated eye examinations, which may contribute to the number of cases of diabetic macular edema (DME) that go undiagnosed. Undiagnosed DME is problematic because the disease can require continued attention.

Kaiser: Patients who have had diabetes for 10 years or longer are likely to develop DR. How does diabetes lead to DR and DME, and what role does vascular endothelial growth factor (VEGF) play in the process?

Elias Reichel, MD: The exact progression in which diabetes leads to DR and DME is still being researched. It is clear that long-term elevated
glucose levels lead to both DR and DME. Elevated glucose, in time, increases hypoxia. Hypoxia results in ischemia, and at some point VEGF plays a role. The different interactions between the physiological factors make the process complex. What is clear is that a breakdown of the vascular inner blood-retinal barrier causes leakage from microaneurysms and/or leakage from capillary walls, which leads to DME.

Carl D. Regillo, MD, FACS: Upregulation of VEGF promotes an influx of inflammatory cells and associated cytokines. A vicious cycle ensues, with further breakdown of retinal blood vessel walls promoting additional leakage and ischemia, which, in turn, further increases VEGF and inflammatory cytokine production.

EVALUATING DISEASE PROGRESSION

Kaiser: DR follows a set progression with mild nonproliferative diabetic retinopathy (NPDR) leading to moderate NPDR and then to severe NPDR. DME can also develop during any of these stages. What kinds of examinations are important for evaluating the stage of disease in a new patient?

Reichel: I want to see patients when they have been newly diagnosed with diabetes, regardless of age or diabetes type. I counsel their primary care physician to recommend annual examinations looking for DR. I look at their recent hemoglobin A1c readings. Although this approach is arguably conservative, I believe early and consistent follow up is important. It establishes a habit for the patient to schedule annual examinations. The groundbreaking Early Treatment Diabetic Retinopathy Study (ETDRS) emphasized the importance of regular screening. ETDRS also highlighted the need for early detection and early treatment due to the asymptomatic nature of DR.

Kitchens: The A1c level is a critical tool for evaluating disease progression. Also important is the duration of diabetes and whether the patient has other microvascular complications such as nephropathy or neuropathy. Those patients are most likely to have treatable diabetic eye disease. In addition, the A1c level gives me some idea as to patient compliance. If the patient’s diabetes is poorly controlled, I worry that he or she may not return for follow-up visits. In this case, I am more aggressive with treating patients, particularly if they have early PDR.

Eduardo Midena, MD: European telemedicine screening centers, which provide imaging equipment and staff qualified to operate that equipment, allow patients to be easily examined and screened at any time. This is beneficial to both patients and physicians because the results obtained from this screening equipment, which may be inaccessible to some ophthalmologists, adds depth to a patient’s diagnosis. It also takes screening out of the hands of ophthalmologists, which allows more time to focus on treatment. Patients who are diagnosed with DR are referred to my practice, so patients with detectable DR are the only ones I encounter.

Stephan Michels, MD, MBA: Fundus photographs, angiography, and optical coherence tomography (OCT) are all instrumental for the development of a DR treatment path. I add ultra-widefield fluorescein angiography. It seems as if interest in widefield angiography is on the rise, but we still have a lot to learn about how to best use the technology effectively. Information provided by fluorescein angiography, however, contextualizes each patient’s individual circumstances, thus guiding his or her best treatment path. In addition, we perform any diagnostics the endocrinologist requests. Collaborating with the endocrinologist and learning what his or her priorities are for managing the disease gives us a more complete picture of the patient’s pathology and treatment goals.

Kitchens: Ultra-widefield angiography is absolutely essential in patients with moderate or severe NPDR. So many times in the past, I have underestimated the level of retinopathy on my clinical examination. The ultra-widefield system, in these cases, will often show areas of non-perfusion or even occult neovascularization of
the retina that was not visible on routine examination. Conversely, if a patient’s ultra-widefield angiogram appears satisfactory, I will have the confidence to bring them back in 6 to 12 months even if they have significant retinopathy. I think this relatively new diagnostic entity modifies how we think about the Diabetic Retinopathy Study (DRS) and the ETDRS.

**Midena:** Widefield angiography is useful for ascertaining the baseline, and to differentiate the peripheral ischemia from the central ischemia.

**Kaiser:** Twenty or more hemorrhages in four quadrants, venous beading in two quadrants, and/or intraretinal microvascular abnormalities in one quadrant make up the ETDRS “4:2:1” rule that helps define severe NPDR.9 This classification system does not require OCT or angiography.10 However, I still use widefield angiography in my practice because nonperfusion is found more often and in larger amounts in patients who I might have classified as having a low level of retinopathy without the widefield angiography. When this happens with a patient I have been seeing annually, I will carefully consider seeing that patient a little more frequently.

**Regillo:** I routinely perform spectral-domain OCT (SD-OCT) and fundus photography at the first encounter for such a patient. In many cases, I also perform fluorescein angiography, either traditional fundus camera-based photography with peripheral sweeps, or widefield angiography. I am part of a large retina practice with multiple offices, and widefield imaging equipment is not available in all of our offices. It should be said that I do not feel limited from a diagnostic standpoint in offices without widefield imaging. Imaging helps to quantify the level of retinopathy and guide both intensity of follow-up and type of treatment. I look for the number of intraretinal hemorrhages in each quadrant, the status of venous beading or dilation, the presence or absence of intraretinal microvascular abnormalities and neovascularization, and the degree and location of retinal capillary nonperfusion and macular thickening/edema. Our group has OCT angiography in our main office and, although its use is primarily investigational, clinically it can be helpful to detect central macular ischemia in a relatively quick and noninvasive manner.

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**TREATING WITH LASER THERAPY**

**Kaiser:** Photocoagulation laser treatment provided the first real treatment for DME more than 30 years ago.11 Since then, laser therapy has been surpassed by anti-VEGF therapy as the first line of treatment.12 Laser alone is often not regarded to be as effective as anti-VEGF therapy, though it is still a viable treatment option. When does treating with focal or grid laser therapy make sense?

**Kitchens:** Focal laser, or direct treatment of microaneurysms, differs from grid laser, which is the stimulation of the retinal pigment epithelium to help reabsorb diffuse areas of fluid. Focal laser works well when there are a few leaky microaneurysms that can be directly treated and closed without affecting the foveal avascular zone. Treating these leaking microaneurysms directly before the fluid reaches the foveal center can be effective. Grid laser is a little more nebulous as it can lead to retinal pigment epithelium loss if performed too aggressively. In these cases, I will usually reserve grid laser for patients who are less responsive to intravitreal therapies. I will always start with sub-threshold laser in these cases, and I find that pattern laser is helpful.

**Reichel:** The Diabetic Retinopathy Clinical Research Network (DRCR.net) Protocol I study, which evaluated the efficacy of deferred laser treatment versus prompt laser treatment, showed that there is in fact a role for laser. After 2 years, patients treated with deferred laser had improved visual acuity by three to four letters.

**Regillo:** Based on the results from the Protocol I study, laser did not seem to have a significant added benefit when introduced early on in the course of anti-VEGF therapy for center-involving DME. However, there may be an occasional
patient for whom the subsequent introduction of laser in the course of pharmacotherapy may have some benefit, such as to achieve more complete resolution of the edema or to reduce the need for ongoing, frequent injections. Furthermore, focal laser alone is often useful to treat non-center involving DME.

**Midena:** I am still in favor of laser treatment in many cases because it is fast and reliable. However, I should note that I no longer use the standard laser treatment—I have been using micropulse laser treatment for the last decade.

**Prenner:** Focal laser remains an excellent option for certain patients and has the obvious advantage of being noninvasive. In addition, laser may allow for sustained and prolonged therapeutic benefit without the need for frequent retreatment. I am building my personal experience with micropulse laser. I also continue to treat focal areas of non-center involving DME, particularly when circinate lipid is present, with standard ETDRS-style focal laser. I no longer perform grid laser therapy without the micropulse laser.

**Michels:** If the patient’s disease is still progressing, and intraretinal fluid continues to approach the fovea, attractive treatments exist outside of laser treatments. I think laser treatment can be destructive, and I avoid its use if possible. Newer laser technologies are likely less destructive, but their effectiveness should first be evaluated in prospective, controlled clinical trials before a general recommendation can be given.

### TREATING WITH ANTI-VEGF

**Kaiser:** Anti-VEGF injection therapy is the most popular form of treatment for DME. However, when to begin anti-VEGF treatment remains one of the most prominent clinical questions surrounding DME. When do you begin treatment with anti-VEGF injections?

**Kitchens:** A difficult decision must be made when asymptomatic patients present with both good visual acuity and non-center involving DME. In my current approach, I leave that decision to patients. I make clear to them, however, that deferring anti-VEGF injections often leads directly to frequent follow-ups. Fortunately, the DRCR.net Protocol V study is seeking to answer whether patients with center-involving DME and good vision benefit more from prompt anti-VEGF treatment, or deferred anti-VEGF treatment with or without prompt laser therapy.

**Regillo:** Even once the patient begins to present with center-involving DME, I still prefer to watch the patient when practical. The condition of the patient’s other eye and the level of the retinopathy present may influence my decision. If a patient presents with center-involving DME and is at risk of PDR or experiences any measurable visual acuity loss from DME, that is my indication to begin treatment with anti-VEGF injections.

**Kaiser:** The DRCR.net Protocol T study of aflibercept (Eylea; Regeneron, Tarrytown, NY), bevacizumab (Avastin; Genentech, South San Francisco, CA), and ranibizumab (Lucentis; Genentech, South San Francisco, CA) for DME examined which anti-VEGF therapies work in which circumstances. Is there a particular anti-VEGF therapy with which you prefer to start?

**Regillo:** Anti-VEGF injections are clearly the correct move once a patient presents with vision loss from center-involving DME. Until the Protocol T study results were published, the differences between respective anti-VEGF therapies were purely anecdotal. Protocol T did show some difference in the efficacy of these drugs, though. The anti-VEGFs studied in Protocol T did not differentiate themselves when the patient had milder degrees of visual acuity loss (ETDRS Snellen equivalent of 20/32 to 20/40) coupled with smaller amounts of edema. The results were the same regardless of which anti-VEGF was used. However, when there was worse-presenting visual acuity or more severe degrees of central retinal thickness, some differences in efficacy then became apparent with aflibercept being the most effective and bevacizumab the least effective.

**Prenner:** We now well recognize the commonly seen disconnect between the retinal anatomy on examination and imaging tests, and associated visual function. I generally will not treat patients who have good vision initially, but will follow closely for a short period of time
and try to help the patient recognize signs of clinical damage on imaging tests. OCT is quite valuable in this regard. I also ask patients to monitor themselves for compromise of their visual function in daily life. In patients with significant vision loss and OCT thickening, Protocol T suggests that aflibercept is the preferred therapeutic option. Protocol T also suggests that any of the three anti-VEGF agents are appropriate for patients with good vision. I tend to follow these guidelines generated from the DRCR.net in clinical practice.

Reichel: For me, vision loss is the key symptom before treatment. Presently, any of the three anti-VEGF therapy options are acceptable. OCT results play a role in choosing which anti-VEGF to use because Protocol T and supplemental materials show that patients who presented with 400 µm of thickness tended to do better with aflibercept. Aflibercept’s advantage was not clinically noticeable when patients presented with mild macula thickness or mild visual acuity loss (between 20/32 and 20/40 Snellen chart results) at the time of initial treatment. However, patients who presented with advanced thickness visible on OCT, or showed a worse Snellen visual acuity than 20/40, responded to aflibercept more than ranibizumab and bevacizumab.

**ANTI-VEGF DOSING PROTOCOLS**

Kaiser: There are currently no comparative studies evaluating dosing protocols for anti-VEGF therapy. The treat-and-extend approach applies an anti-VEGF monthly until the macula is dry, then the injection date intervals are extended with each visit. This protocol has been rising in popularity but may overtreat the patient. Pro re nata (PRN), which is administering anti-VEGFs as needed, is also a reasonable approach to treating DME. Both RISE and RIDE studies, as well as the VIVID and VISTA studies, also evaluated fixed continuing injections. Given the risks and benefits to anti-VEGF treatment regimens, which dosing protocol do you use to administer anti-VEGF injections?

Michels: DME is a chronic disease and in my experience, patients with diabetes tend to present compliance issues. Because of patient compliance, I favor a treat-and-extend protocol. Patients being treated using this method are continuously treated and under my watch. It is important to educate patients about the risks of foregoing treatment and to show them that the disease is chronic and should be approached that way. I might suspend treatment if the patient goes a year or more without center-involving DME recurring. With regard to potential overtreatment, currently we cannot completely exclude a systemic risk from intravitreal anti-VEGF therapy, but if there is one, it is likely low.

Regillo: Anti-VEGF treatment burden is typically greatest only in the first year of therapy. Protocols I and T, which used a PRN-like style of treatment, showed a mean number of anti-VEGF injections to be in the range of eight to 10 in the first year. By years 2 or 3 in Protocol I, the mean dropped to less than half that amount, and it was not uncommon for patients to not need further treatment, or at least very few injections, going forward.

Midena: Because we see that one injection does not produce significant results, I am convinced that a loading-phase treatment is essential. Depending on the drug, the number of loading-phase injections can vary; for aflibercept, I use five loading-phase injections. I use the loading phase to identify whether the treatment is working for the patient. This treatment method allows me to follow up with a personalized treatment plan. Randomized trials, case records, and published records show an increase in visual function and a decrease in thickness on OCT scans. The results of a loading-phase treatment can provide more information about the efficacy of the treatment plan and detailed information about the patient’s condition.

Regillo: The shortcoming of the treat-and-extend approach in this setting is not knowing which patients can come off treatment. My treatment protocol is similar to what was
done in Protocol I and Protocol T, using PRN. I administer injections monthly at first until the macula is dry. Once the macula is dry, I closely monitor for recurrence and then treat accordingly as needed.

Reichel: Practically speaking, looking at these clinical trials (eg, RISE, RIDE, VIVID, VISTA, Protocol T), it generally took five or six injections to get to the plateau in OCT or the increased plateau in visual acuity. Therefore, in the first year of treatment, I argue that erring on the side of overtreatment is better than undertreatment.

Kaiser: We should not expect that just one or two injections would adequately manage significant center-involving DME. The first year should be considered a treatment-intensive timeframe to reduce edema. Staying ahead of the disease is the key, and that lies with early treatment.

Prenner: I generally manage patients with a treat-and-extend approach when treating wet age-related macular degeneration, as the consequences of undertreatment can be devastating. I tend to treat with serial monthly injections in DME until the retinal anatomy mostly normalizes. Subsequently, I switch to a PRN treatment approach in many patients, as there is typically little risk to recurrences of DME. Often, this change to a reduced treatment burden is driven by the younger, less compliant population of patients who have DME.

SELECTING THE APPROPRIATE THERAPY

Kaiser: Protocol T revealed different success rates in terms of the respective anti-VEGF agents. Protocol T clearly showed that aflibercept improved visual acuity and reduced edema under certain baseline circumstances, including a worse initial visual acuity and a macula more than 400 µm thick (Figure). Corticosteroids are another option for patients who are not responding well to anti-VEGF therapy and are not at significant risk for increased intraocular pressure. Once other treatment options are exhausted, patients may require vitrectomy. When does switching treatment modalities make sense?

Midena: Switching to aflibercept is the correct move when treatment reaches plateau. If
the most recent OCT shows no change and the patient begins experiencing visual acuity issues, aflibercept makes the most sense. Patients with DME have systemic endothelial issues resulting from diabetes. The easiest way to measure those issues may be by checking the progenitor endothelial cells in the blood. It is important to remember that DME is a chronic disorder. Despite its chronicity, this disorder is self-limiting. The decreased need for injections is evidence for the limiting nature of the condition.

**Regillo:** Patient progress indicates whether a switch in treatment is the right course of action. As long as the OCT shows improvement in thickness or the visual acuity is improving, I stay the course of treatment. However, should a patient undergo four to six monthly treatments without significant improvement in either parameter, I would make a change. If I started with bevacizumab or ranibizumab, I would first switch to aflibercept. If already on aflibercept, I will consider switching to a steroid. Steroids work well to treat inflammation-related disorders of the eye, and that includes DME. We have known that DME and associated decreased visual acuity improve after intravitreal steroid injections. Long-term intravitreal steroid exposure may also decrease DR progression.

**Prenner:** If I do not see sufficient anatomic improvement on OCT after treatment with bevacizumab, I will change anti-VEGF agents and treat with aflibercept. After multiple additional injections, if an acceptable clinical response is not achieved, I will add a regional depot steroid to the treatment regimen. In these difficult cases, continued anti-VEGF therapy may be required while the steroid is active.

**Kitchens:** I start with aflibercept because I want to make sure I am treating with the most effective anti-VEGF therapy. My interpretation of Protocol T is that aflibercept is the most effective anti-VEGF treatment. I found that aflibercept showed supremacy in the following categories: overall visual acuity, visual acuity in patients with 20/50 vision or worse, OCT improvements, rescue laser therapy, and the number of re-treatments needed. Then, if the patient is failing to respond, I consider treating with steroids as soon as possible.

**Kaiser:** Some patients respond more slowly to anti-VEGF injections. Whether a particular patient will respond to a particular anti-VEGF therapy often becomes apparent quickly. A recent presentation suggests that patients typically maintain the same relative response to any further anti-VEGF therapies based on their response to the first few injections. The best indicator of responsiveness to anti-VEGF treatment is a dry macula. Protocol T showed 70% of eyes treated with anti-VEGFs became dry.

**Michels:** If a patient has progressively reduced edema, I would continue using the drug he or she is taking. If there is no change in the edema—that is, if the patient’s OCT scan does not change at all after three injections, I would consider that the patient is insufficiently responding. In such cases, a different drug or class of drugs is worth trying. Because DME is a disease that goes along with chronic local and systemic inflammation, these patients can respond favorably to anti-inflammatory treatment such as steroids.

**Reichel:** When a patient presents with DME, VEGF is not always found to be elevated in the vitreous or the aqueous humors. This implies that possible systemic issues are also involved, which may be causing the DME. Some recent data show interleukin-8 to be much higher in patients who do not respond well to anti-VEGF injections. If a patient does not respond to anti-VEGF therapy, and if there are no signs of upregulated VEGF, treatment with steroids make sense.
Midena: Early inflammatory phenomena modulate treatment and encourage the use of steroids, but the inflammation will be a long-standing issue. Three injections ought to be enough to determine whether the patient is an anti-VEGF responder or nonresponder. Most of the published studies on anti-VEGF treatment, including some seminal studies published by the DRCR.net, have shown that a significant percentage of the treated population does not adequately respond to the initial anti-VEGF treatment, in which case other treatment procedures should be added or different drugs should be used.22

“\text{The biggest concern about systemic safety does not have to do with what we know now but what might still be discovered.}”
—EDOARDO MIDENA, MD

Kaiser: Some have advocated using peripheral-targeted panretinal photocoagulation based on widefield angiography to reduce the frequency of anti-VEGF injections. Do you find this approach is useful, and what data do we have to support it?

Regillo: I have never been convinced that using panretinal photocoagulation for a patient with peripheral nonperfusion had a significant impact on DME. I have tried scatter laser to areas of peripheral nonperfusion to reduce macular edema in both DR and retinal vein occlusions, and did not see significant benefit. Published data to date appear to support the lack of efficacy. Furthermore, nonperfusion can be a moving target in DR, especially if the eye is also receiving anti-VEGF therapy. Because regular anti-VEGF injections in the setting of DR can reduce the level of DR, the area of nonperfusion could change in a positive way.

Kitchens: I do think that peripheral-targeted panretinal photocoagulation may affect the pharmacokinetics of future injections. To me, the most important aspect of injections in patients requiring surgery is to ensure that they have received an anti-VEGF medication preoperatively. This seems to reduce the risk of postoperative vitreous hemorrhage and may reduce rates of intraoperative complications.

CONSIDERING THE RISKS

Kaiser: Injections are not without side effects and occasionally, complications. How do you counsel your patients when offering them injections?

Michels: In our setting, I reassure patients that endophthalmitis is extremely rare with anti-VEGF treatment.23 OSLI Retina reported recently the endophthalmitis rate in U.S. centers to be 200 for more than 350,000 injections, which, compared to Swiss standards, is quite high.23 Retinal detachment and lens damage are rare, with rates as low as 1 in 20,000. When risks are that low, I can confidently assure my patients of their safety.

Midena: In my experience, adverse effects from anti-VEGF injection procedures are anecdotal and unpredictable. The biggest concern about systemic safety does not have to do with what we know now but what might still be discovered. We know that when laser therapy started and was approved, studies backed the safety and efficacy. However, some 20 years later, we saw patients with scarring. In patients with diabetes, nerve fiber thinning can be seen even before retinopathy can be seen, and we know that nerve fiber thinning has been associated with anti-VEGF injections.24 I try to consider what might happen to a patient 10 years into the future if they had been treated with anti-VEGF injections for DME.

Prenner: I am always concerned about endophthalmitis despite the low incidence rate, particularly in patients with good vision. Although endophthalmitis is fortunately rare in modern practice, the outcomes of these infections are often devastating. My general impression is that all three anti-VEGF agents may carry a low associated risk of systemic adverse events, although we are limited in prospective evidence concerning this issue. In addition, studies that demonstrate a safety imbalance between anti-VEGF agents do not exist, as registration trials of these agents were not powered to demonstrate a safety difference.
CONCLUSION

Kaiser: We have discussed some of the current research and how that can be applied in practice. Looking at the big picture, where has this research taken us, and where do we still want it to go?

Michels: We have a wide variety of effective drugs at our hands that have led to significant strides in the treatment of DME.

Reichel: The advantage of DME is we have several modalities to treat it; the next step is to integrate the treatments to maximize efficacy and efficiency.

Midena: I would like to see the development of a better way to identify at baseline when the patient is not responding to a particular drug. Finding that, after 6 months to 1 year, up to 40% of patients whom I have treated are not responsive because an inappropriate drug was used is discouraging. For these patients, the entire previous course of treatment seems useless, and this knowledge is frustrating when we think about the costs associated with this care.

Kaiser: I think we have some interesting studies comparing anti-VEGF therapies in a head-to-head fashion, but we have little comparing anti-VEGF to steroids and other treatments, such as vitrectomy. We need better guidance regarding the relationship between the multiple treatment paths for DME. We need to know when steroids should be added and whether we should continue with anti-VEGF therapy instead. Understanding the clinical trials to date and incorporating what we have learned from the studies is necessary to provide the best possible care for our patients with DME.

I would like to thank the panel for their participation and OSLI Retina for hosting this roundtable discussion.

“My interpretation. . . is that aflibercept is the most effective anti-VEGF treatment.”
— JOHN W. KITCHENS, MD
REFERENCES


