RETINA: THEN AND NOW

As part of our 20th anniversary, *Retina Today* is digging into the archives to reflect on how much the profession has changed.

MARCH SPOTLIGHT: ANTI-VEGF THERAPY

When *Retina Today* first launched in 2006, Robert L. Avery, MD, authored an article on *Bevacizumab in the Treatment of Ocular Disease*. He outlined the pitfalls of photodynamic therapy (PDT), the only therapeutic option for retinal and choroidal neovascularization prior to the advent of anti-VEGF agents. But in 2006, he noted that "we resolutely enter the era of antiangiogenic therapy in the treatment of retinal diseases."

Here, Dr. Avery shares just how much has changed in the field since the introduction of pharmacotherapy for AMD and diabetic eye disease, and what's ahead.

RETINA TODAY (RT): WHAT WAS YOUR GO-TO APPROACH TO NEOVASCULARIZATION IN 2006?

Dr. Avery: We started using off-label bevacizumab (Avastin, Genentech/Roche) in the summer of 2005, before most people had heard about it from a presentation by Philip Rosenfeld, MD, PhD, at the American Society of Retina Specialists meeting. Prior to that, for AMD, we typically used PDT with intravitreal triamcinolone or pegaptanib (Macugen, Bausch + Lomb), neither of which tended to improve vision, but rather slowed visual loss. Ablative laser was used in the uncommon extrafoveal case, with common recurrences. For proliferative diabetic retinopathy (PDR), the standard was panretinal photocoagulation (PRP), and for diabetic macular edema (DME), focal laser or, sometimes, intravitreal triamcinolone. These treatments were helpful, but had limitations. For example, PRP was limited in cases of media opacity and could exacerbate concurrent DME, and focal laser for DME had only limited benefit in many patients. Repeat triamcinolone injections often induced cataract or glaucoma. The advent of an effective injection was quite the game changer.

RT: HOW HAS YOUR TREATMENT APPROACH CHANGED IN THE LAST 20 YEARS?

Dr. Avery: We rarely use laser for AMD, except in the uncommon case of extrafoveal choroidal neovascularization. PRP is still valuable in PDR to produce a durable treatment effect in case a patient is lost to follow-up, but it is often preceded by anti-VEGF injections to quiet the eye before PRP. Bevacizumab is used less frequently now, as newer agents dry the retina better and last longer; however, it works well in many patients and is often the first agent tried due to step therapy requirements.

RT: HOW HAS OUR UNDERSTANDING OF ANTI-VEGF THERAPY GROWN?

Dr. Avery: The hypothesis that blocking this angiogenic factor could help retinal diseases has proven true—beyond what most of us thought was possible.

Anti-VEGF therapy has transformed the treatment of a host of retinal diseases and has provided countless patients with improved vision over these past 2 decades.

RT: WHAT ADVANCES ARE ON THE HORIZON THAT YOU THINK MIGHT HELP TREAT PATIENTS WITH AMD/DME/DR?

Dr. Avery: In addition to longer-duration anti-VEGF agents, we could soon see the approval of gene therapy, which can provide long-term anti-VEGF production within the eye. Data from pivotal trials of two tyrosine kinase inhibitors may lead to approval of sustained delivery drugs with a mechanism different from the traditional VEGF blockade. Drugs to treat various other pathways, such as angiopoietin/tie (ie, faricimab [Vabysmo, Genentech/Roche]), are here, and hopefully several for the Wnt as well as inflammatory pathways are on the way. ■

FURTHER READING

Bevacizumab in the Treatment of Ocular Disease
March 20026
By Dante J. Pieramici, MD, and Robert L. Avery, MD

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