

Zimura, a new fight for Dry AMD

Ophthotech is a biopharmaceutical company focused on finding treatments for retinal diseases. Last year, their AMD drug Fovista, was in clinical trials to determine if there was a benefit when added to other treatments for AMD like Eyelea or Lucentis. When the results did not show improved outcomes, the company dropped that drug's development and turned attention to Zimura, another AMD drug in its pipeline.

Anti-VEGF therapies like Eyelea and Lucentis are found to upregulate complement activation in the retina. Zimura inhibits complement C5 signaling, one of the cascading elements of the complement signaling pathway. Overacting in this system results in a membrane attack complex (MAC) and leads to retinal cell death. Zimura would inhibit one of the steps of MAC, and would slow down the process of cell death. Ophthotech is betting that supplementing the existing anti-VEGF therapies with a complement inhibitor like Zimura will enhance the overall effectiveness of intravitreal therapy.

As of June 2018, the company has already recruited 60 patients with wet AMD to serve as study subjects, and will follow these patients for six months after treatment. If there are no adverse events, the company will likely start a larger scale clinical trial using Zimura in combination with Lucentis to look for improved outcomes for treatment of wet AMD.

The company has also started a clinical trial involving 200 patients with advanced dry AMD and will follow these patients for one year to look for changes in geographic atrophy. Results from this study which was established to determine the optimal drug dosing will be available at the end of 2019. If the results are encouraging, the company will begin another round of clinical trials testing efficacy.

One unusual aspect of Zimura is that Ophthotech is evaluating the drug as a potential treatment for both wet and dry AMD. The drug was originally developed for the treatment of Stargardt's disease, an inherited form of juvenile macular degeneration and is undergoing clinical trials for patients with this condition as well.

The company has set an ambitious timeline for these studies and hopes to make announcements about data results within 2 years. To date, no therapies that affect dry AMD have come to market due to the complicated disease pathways, but we remain hopeful.