Ocriplasmin (Jetrea; Thrombogenics) is a recombinant protease with activity against components of the vitreoretinal interface, including fibronectin and laminin. Ocriplasmin was recently approved for the treatment of symptomatic vitreomacular adhesion (VMA). A previous report has described transient vision loss associated with disruption of the photoreceptor outer segments after ocriplasmin injection. We describe a 71-year-old woman with symptomatic vitreomacular traction who received intravitreal ocriplasmin and experienced darkening of vision in dim illumination for 4 months, despite improvement in visual acuity and release of symptomatic vitreomacular traction. We demonstrate that disruption of photoreceptor inner segment–outer segment (ellipsoid) layer on SD-OCT and reduced ERG amplitudes correspond to the patient’s symptom of darkened vision. Further work is needed to understand mechanisms of visual impairment after ocriplasmin.

OBSERVATIONS

We describe a 71-year-old woman with symptomatic vitreomacular traction who received intravitreal ocriplasmin and experienced darkening of vision in dim illumination for 4 months, despite improvement in visual acuity and release of symptomatic vitreomacular traction. We demonstrate that disruption of photoreceptor inner segment–outer segment (ellipsoid) layer on SD-OCT and reduced ERG amplitudes correspond to the patient’s symptom of darkened vision. Further work is needed to understand mechanisms of visual impairment after ocriplasmin.

CONCLUSIONS AND RELEVANCE

On the basis of these findings, it is possible that ocriplasmin may have a diffuse enzymatic effect on photoreceptors or the retinal pigment epithelium that is not limited to areas of vitreomacular adhesion. The rod photoreceptors may be more susceptible than cone photoreceptors to the effects of ocriplasmin. Further work is needed to understand mechanisms of visual impairment after ocriplasmin.
creased implicit time in the treated left eye (Figure 2D). Notably, the retinal pigment epithelial layer remained intact on SD-OCT throughout the postinjection course, and no pigmentary abnormalities were apparent on examination. Fluorescein angiography and autofluorescence were not performed.

Discussion

Phase 3 clinical trials of ocriplasmin indicated that blurred vision, visual impairment, and photopsias are significantly greater in patients receiving ocriplasmin than those receiving placebo (drug vehicle diluted with saline). Notably, 5.4% of patients who received ocriplasmin compared with 1.6% who received placebo reported visual impairment. In addition, 2% of patients receiving ocriplasmin noted dyschromatopsia (described as a yellowing of their vision) with a corresponding decrease of a- and b-wave amplitudes on ERG in half of these affected patients. In this case report, there was an immediate release of VMT and a subsequent improvement in visual acuity and distortion. However, the symptom of dark vision persisted and was associated with alteration of the IS/OS (ellipsoid) layer. A ×2 magnified area of the nasal macula shows this more clearly (arrowhead). Images A through C were acquired by Heidelberg Spectralis SD-OCT (Heidelberg Engineering), and image D was acquired by Cirrus SD-OCT (Carl Zeiss Meditec Inc).
Figure 2. Electroretinography (ERG) 4 Months After Intravitreal Injection With Ocriplasmin

A. Multifocal ERG (central 20°) comparing the left and right eyes shows a marked reduction in the foveal peak amplitudes and surrounding 3 rings in the treated left eye compared with the untreated right eye. B. Dim flash (scotopic) ERG demonstrates markedly reduced amplitude (arrows) in the left eye compared with the right eye, indicative of rod dysfunction. C. Bright flash ERG demonstrates reduced a- and b-wave amplitudes (arrows) in the left eye compared with the right eye, indicating rod dysfunction. D. Photopic 30-Hz flicker demonstrates an approximate 30% reduction in cone function (vertical arrows) with an increased implicit time (33.5 vs 30.50 milliseconds) in the left eye compared with the right eye (horizontal arrows).
toreceptors may be more susceptible than cone photoreceptors to the effects of ocriplasmin, but both classes of photoreceptors are affected. Further work is needed to understand the effects of ocriplasmin on photoreceptors and determine which patients may be more susceptible to a prolonged reduction in photoreceptor activity.

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