LINEAGE
Cell Therapeutics

Directed Differentiation and Subretinal Delivery of Allogeneic RPE Cells

OpRegen®

A Suspension of Allogeneic Retinal Pigment Epithelial (RPE) Cells in Patients with Geographic Atrophy (GA) Secondary to Age-Related Macular Degeneration (AMD)

Brian M. Culley, Chief Executive Officer

EYECELERATOR NOVEMBER 2, 2023
NYSE AMERICAN: LCTX
lineagecell.com

Forward-Looking Statements

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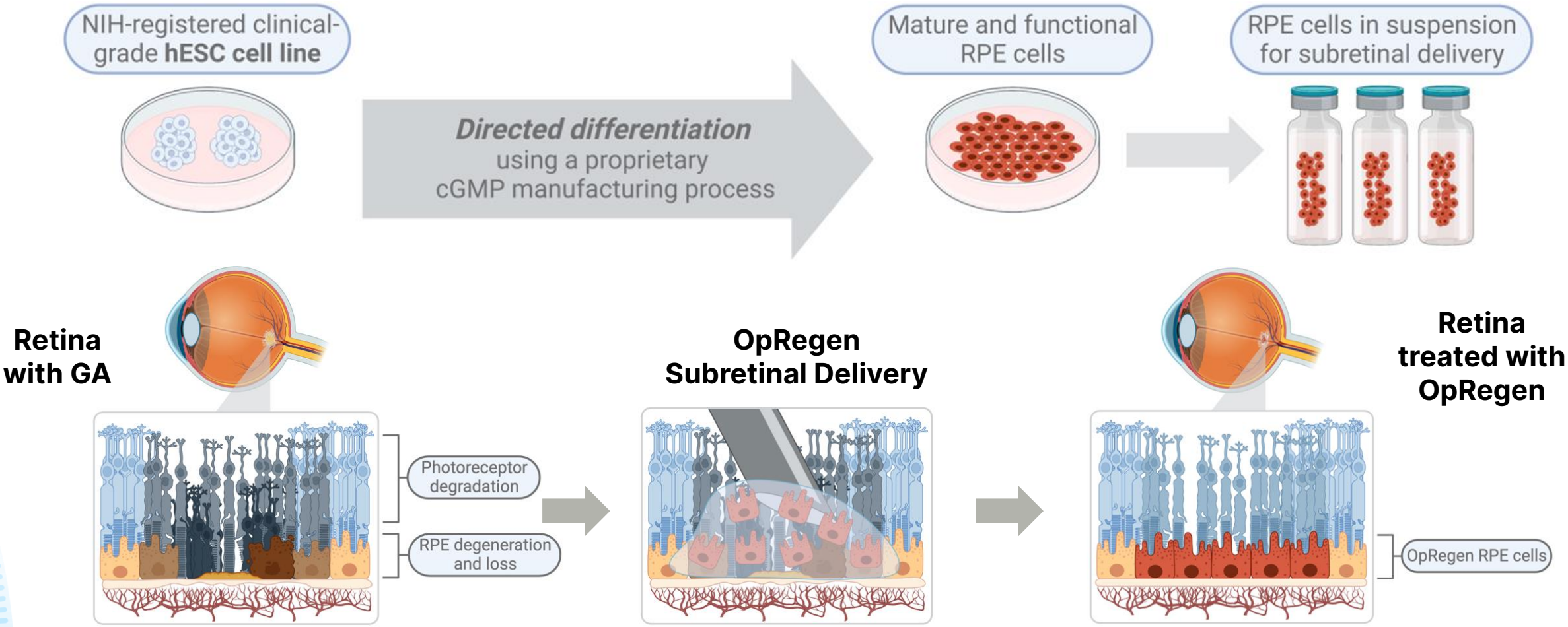
All statements in this presentation, other than statements of historical fact, are forward-looking statements within the meaning of federal securities laws. In some cases, you can identify forward-looking statements by terms such as "may," "will," "would," "expect," "plan," "anticipate," "strategy," "designed," "could," "can," "intend," "believe," "estimate," "target," "potential," "aim," "seek," "continue," "next steps," "upcoming," or the negative of these terms and other similar expressions. Such statements include, but are not limited to, statements relating to the broad potential for Lineage's regenerative medicine platform and Lineage's ability to advance and expand the same; differentiated data and Lineage's ability to reproduce the same or similar results in future preclinical research or clinical trials; the collaboration and license agreement with Roche and Genentech and activities expected to occur thereunder, its potential success, the potential application of OpRegen to additional retinal diseases, the milestone and royalty consideration payable to Lineage; the potential success of other existing partnerships and collaborations, the potential opportunities for the establishment or expansion of strategic partnerships and collaborations and the timing thereof; the projected timing of milestones of future studies, including their initiation and completion; and the potential for Lineage's investigational allogeneic cell therapies to generate clinical outcomes beyond the reach of traditional methods and provide safe and effective treatment for multiple, diverse serious or life threatening conditions. Forward-looking statements involve risks, uncertainties and assumptions that may cause Lineage's actual results, performance, or achievements to be materially different from those expressed or implied by the forward-looking statements in this presentation, including, but not limited to, the following risks: that positive findings in early clinical and/or nonclinical studies of a product candidate may not be predictive of success in subsequent clinical and/or nonclinical studies of that candidate; that planned research, development or clinical activities may be ceased or delayed for various reasons; that Lineage may not be able to manufacture sufficient clinical quantities of its product candidates in accordance with current good manufacturing practice; that competing alternative therapies may adversely impact the commercial potential success of any product candidate, and other risks and uncertainties inherent in Lineage's business and other risks described in Lineage's filings with the Securities and Exchange Commission (SEC). Lineage's forward-looking statements are based upon its current expectations and involve assumptions that may never materialize or may prove to be incorrect. All forward-looking statements are expressly qualified in their entirety by these cautionary statements. Further information regarding these and other risks is included under the heading "Risk Factors" in Lineage's periodic reports filed with the SEC, including Lineage's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and its other reports, which are available from the SEC's website at www.sec.gov. You are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date on the cover of this presentation. Lineage undertakes no obligation to update any forward-looking statement to reflect events that occur or circumstances that exist after that date, except as required by law.

OpRegen – A Suspension of Allogeneic RPE Cells

With the Potential to Counteract RPE Cell Dysfunction & Loss in GA



cGMP, current Good Manufacturing Practice; hESC, human embryonic stem cell; RPE, retinal pigment epithelium.
NIH registry for hESC cell line HAD-C 102 available at https://grants.nih.gov/stem_cells/registry/current.htm?id=428. Figures created with BioRender.com.

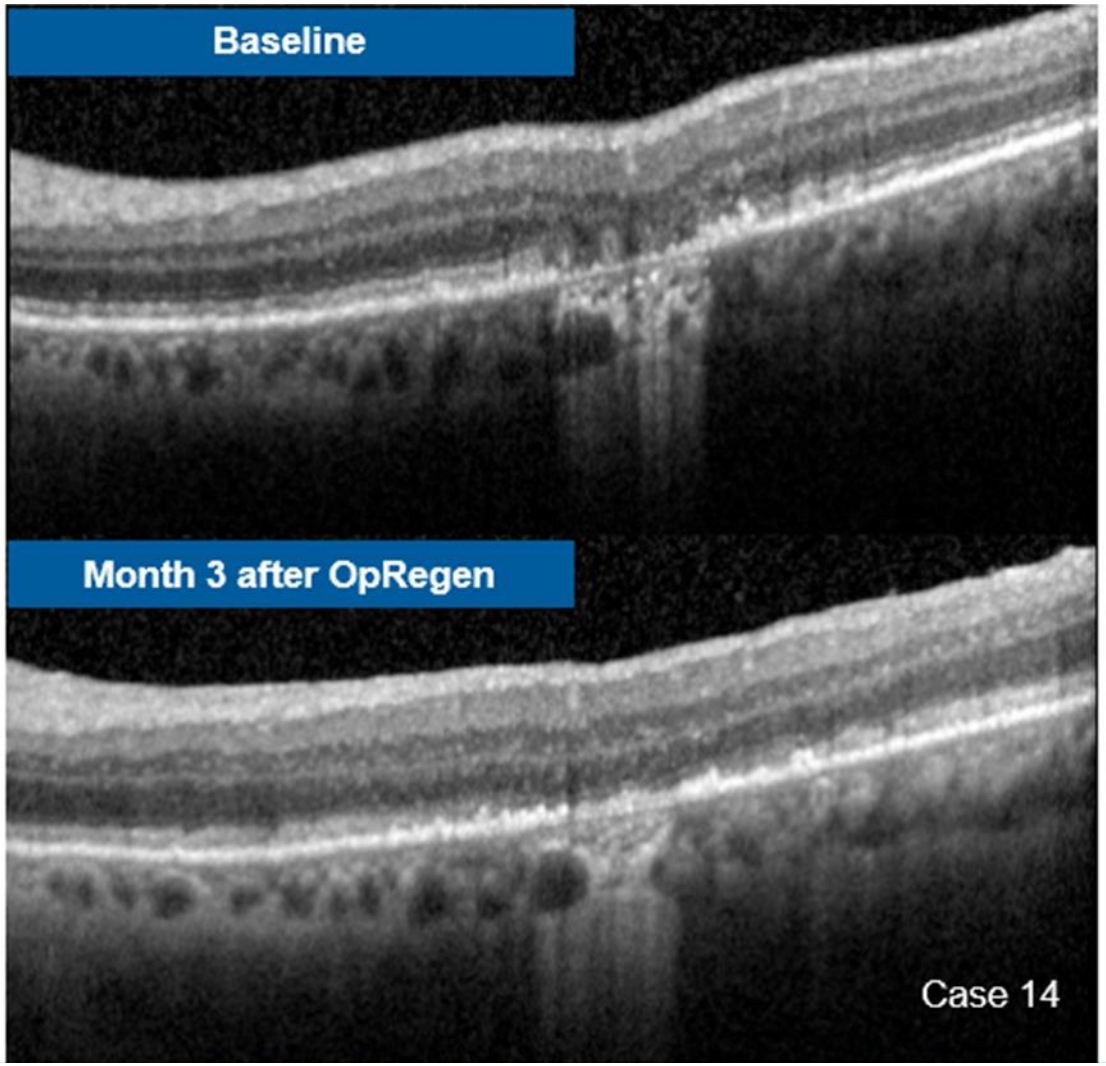
Exploratory Objective: Onset of Structural Improvement

In Study Eyes with Extensive OpRegen Bleb Coverage (n=5)

Structural improvement was assessed by 3 independent expert reviewers and based on meeting all of the following pre-specified criteria[a]:

a. **Reduction in outer plexiform layer and/or inner nuclear layer subsidence**
b. **Reappearance of external limiting membrane**
c. **Increased hyperreflectivity of RPE and/or Bruch's membrane or reduction of hypertransmission**

Cases were assessed to have structural improvement if determined by at least 2 of the 3 reviewers



[a] On at least two non-adjacent B scans; the onset of improvement may be confounded by surgical bleb resolution.

Follow-up mode was turned on during acquisition of these OCT scans to enforce longitudinal registration. Registration was verified manually by comparing choroidal patterns. There may be slight offset of inner retina blood vessels due to eye orientation difference during acquisition.

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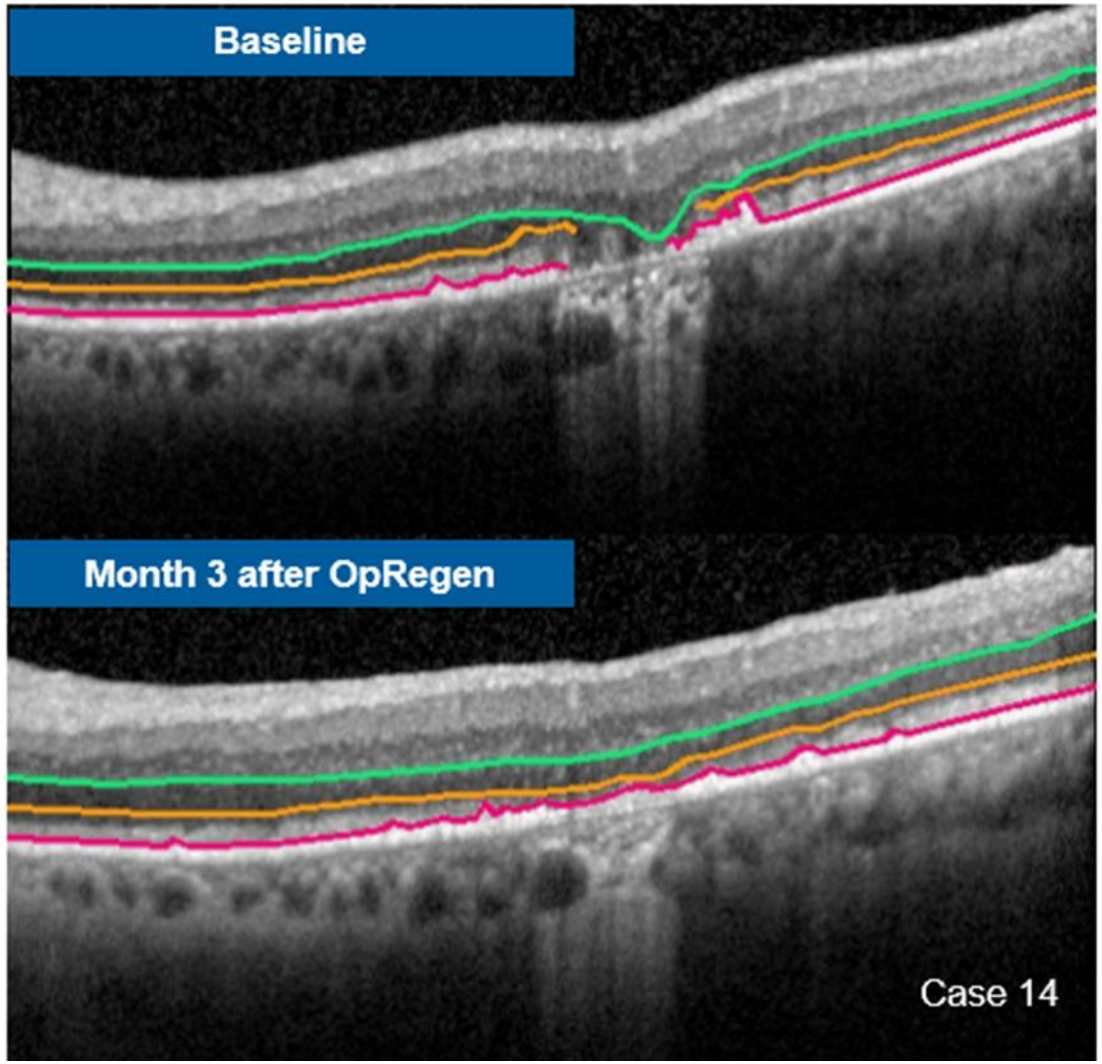

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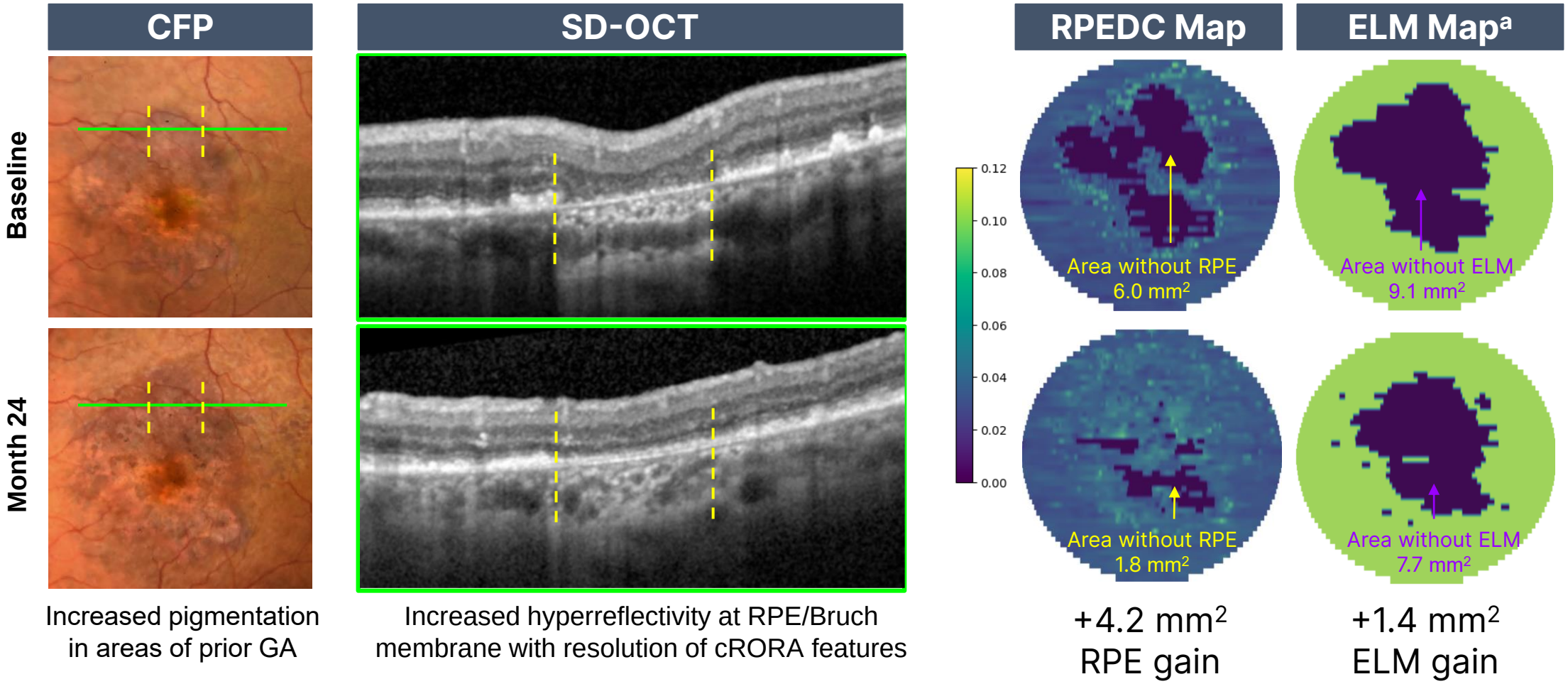
Preliminary Evidence of Maintenance of Structural Improvement 24 Months Post-Treatment: A Case Study (Case #14)



Increased pigmentation in areas of prior GA

Increased hyperreflectivity at RPE/Bruch membrane with resolution of cRORA features

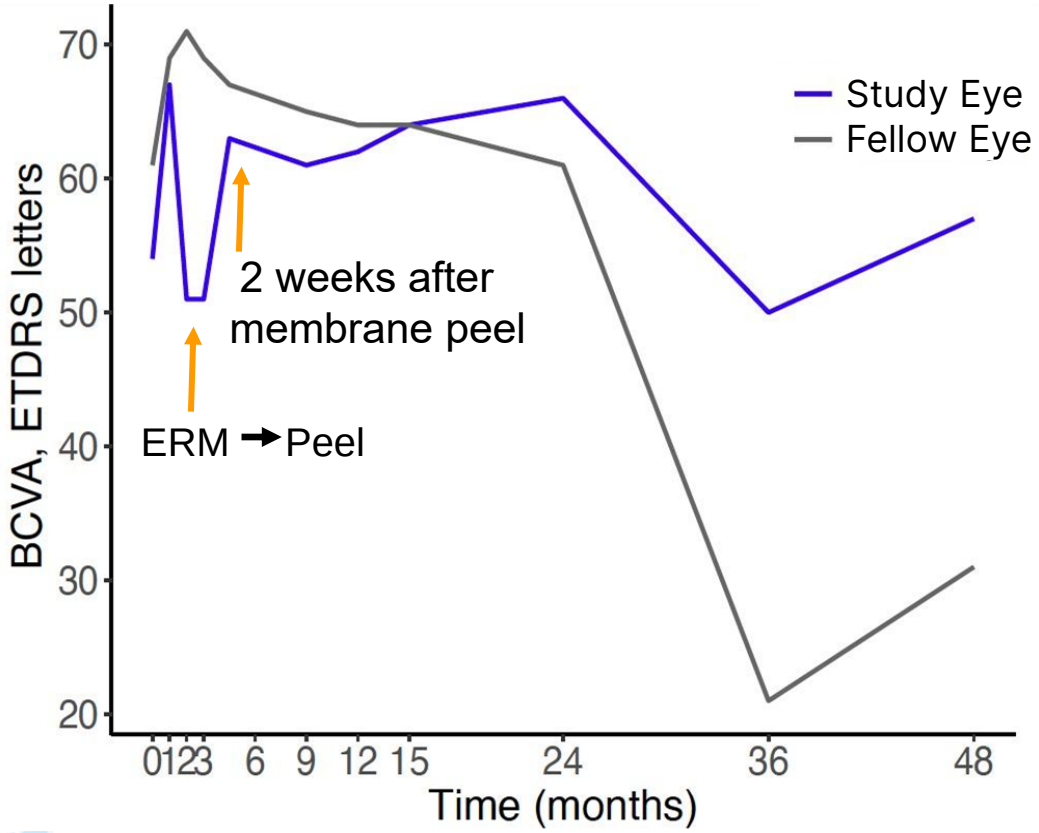
+4.2 mm^2 RPE gain

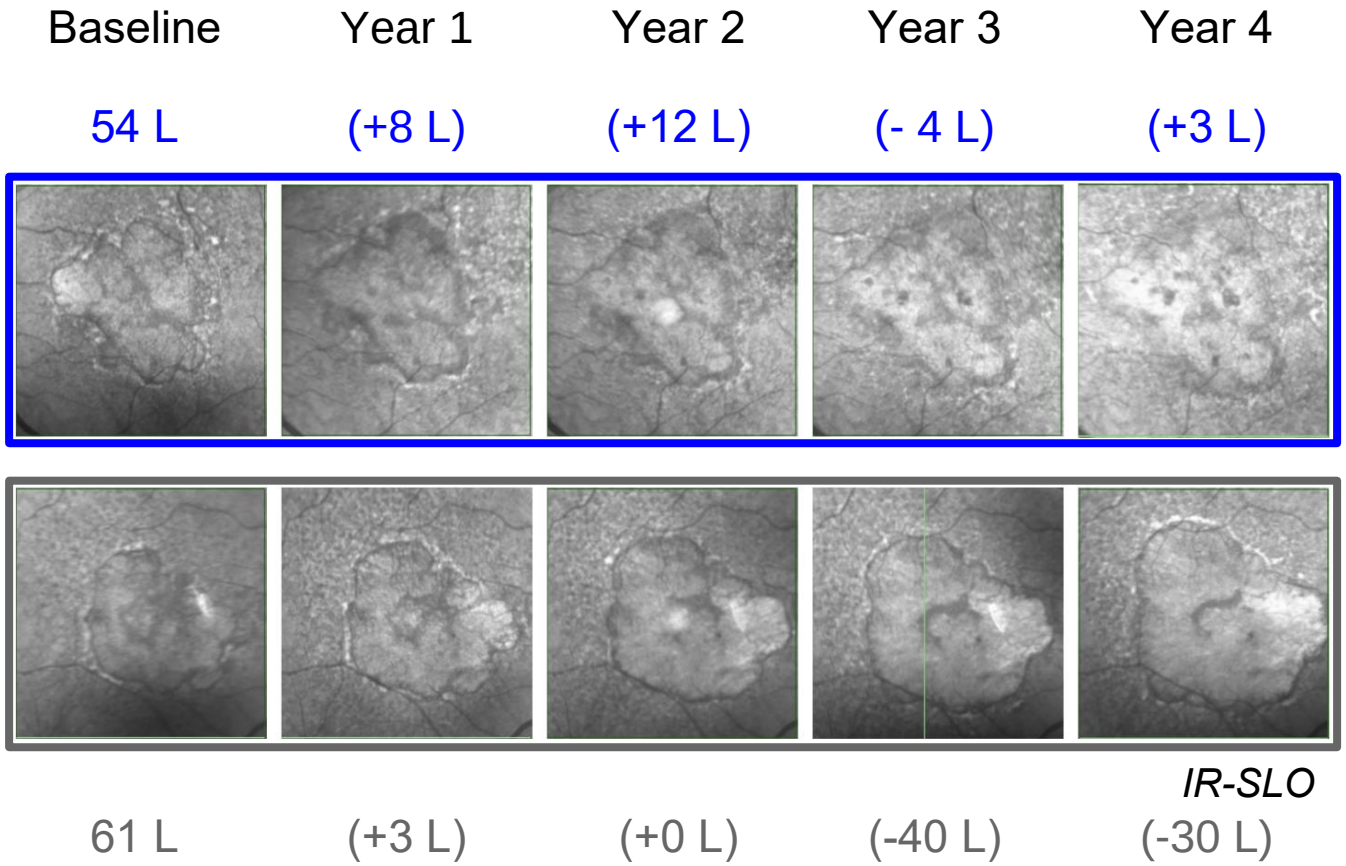
+1.4 mm^2 ELM gain

CFP, color fundus photography; cRORA, complete RPE and outer retinal atrophy; RPEDC, retinal pigment epithelium drusen complex
[a]ELM map, binary external limiting membrane presence/absence map, green when ELM is present, dark blue when ELM is absent
RPEDC and ELM maps are generated by Genentech EyeNotate OCT segmentation algorithm; the segmentation results are reviewed and corrected by a single masked expert grader.

Long-Term Vision Preservation in Study Eye: A Case Study (Case #14)

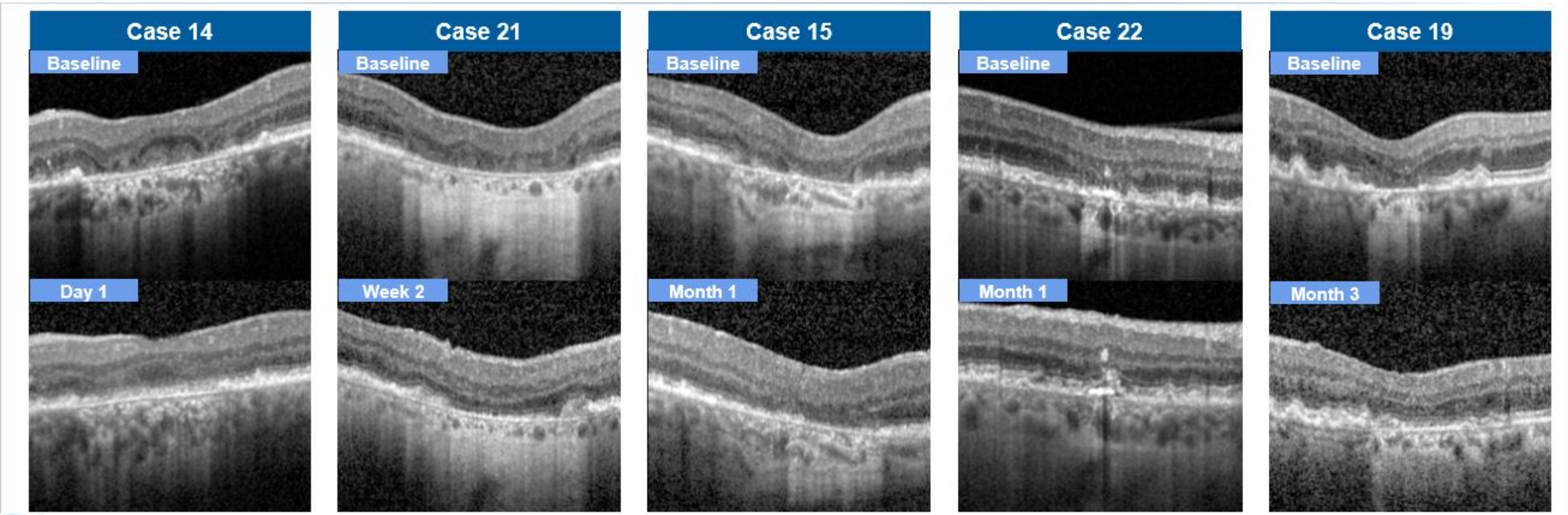
Vision Loss from GA Progression Over Time in Fellow Untreated Eye





L, letters read

Onset of Structural Improvement Within 3 Months in All 5 Patients with Extensive Bleb Coverage



- Structural improvement was only observed within GA lesions covered by surgical bleb
- Maintenance and/or greater structural improvements were observed over time
- These patients also had an average +4.4 letter BCVA gain at Month 3, and +12.8 letter BCVA gain at Month 12

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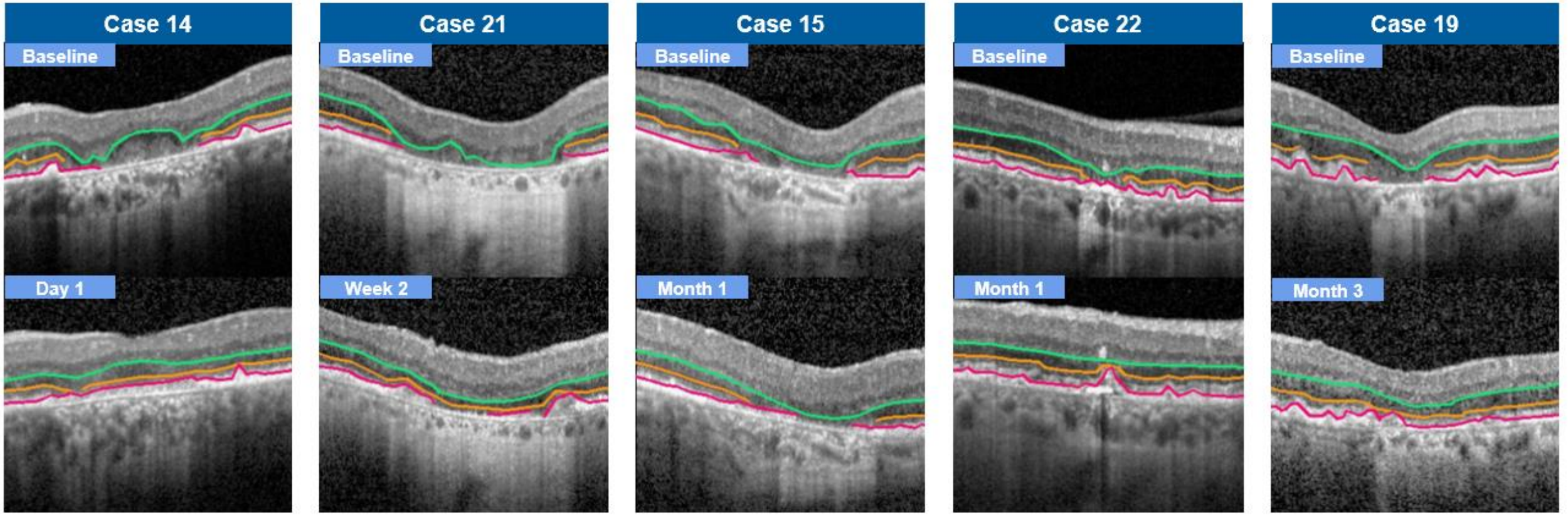

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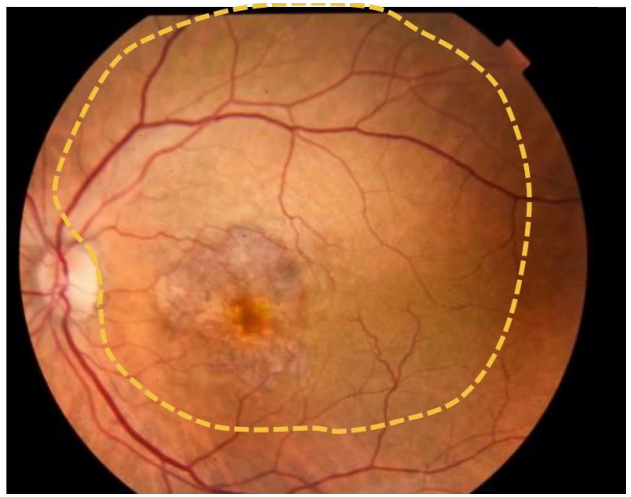
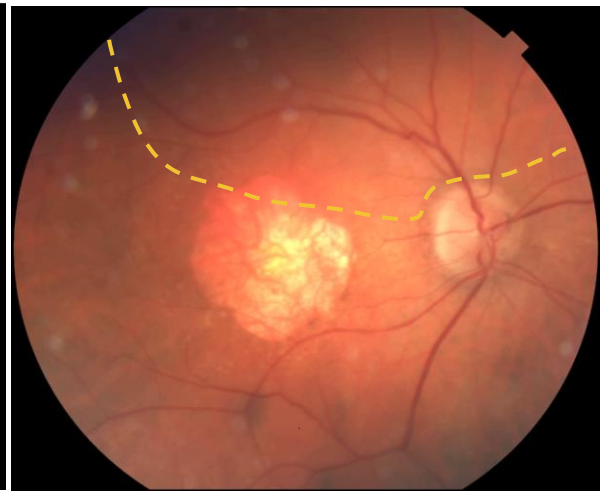
Greater Visual and Structural Improvements in 5 Patients in Cohort 4 with Extensive Bleb Coverage

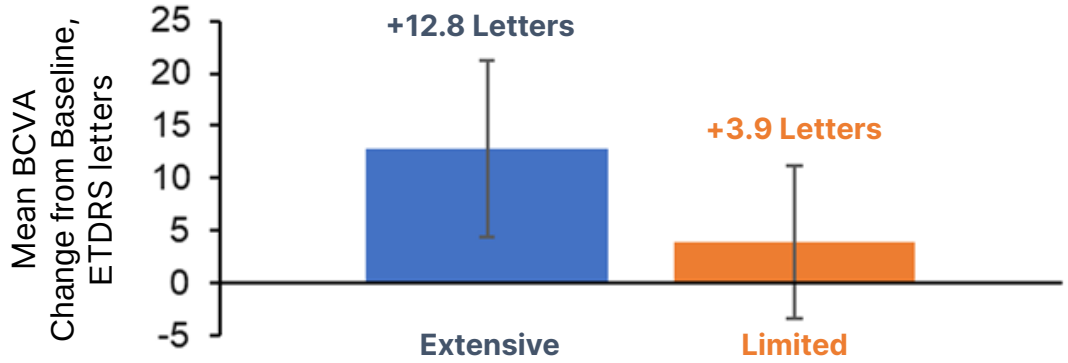


Extensive
Bleb Coverage
Considerable bleb coverage of GA area (including fovea)
(n=5)

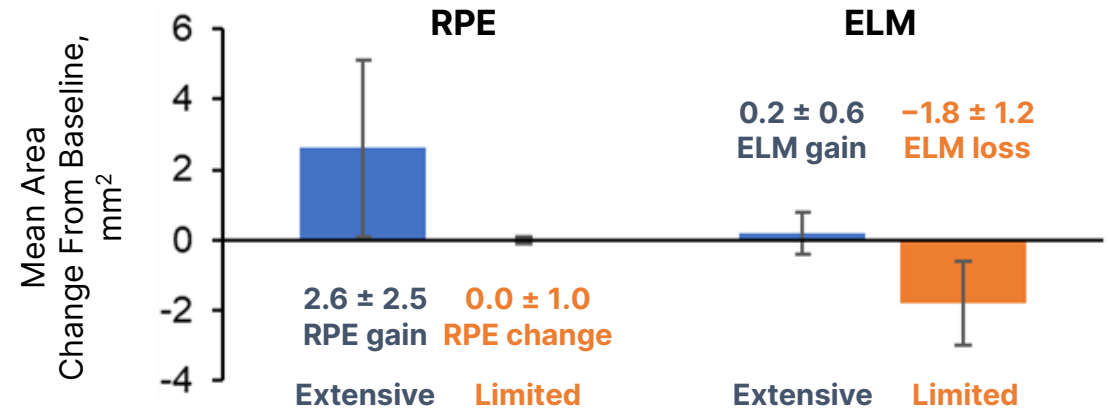


Limited
Bleb Coverage
Minimal to no bleb coverage of GA area
(n=7)

BCVA Change in Study Eye at Month 12



RPE and ELM Change in Study Eye at Month 12



ELM, external limiting membrane
Error bars represent standard error
Data cutoff: 18 Jan 2022

Safety Summary[1]

OpRegen Was Well Tolerated With an Acceptable Safety Profile

- All 24 (100%) treated patients reported ≥1 AE and ≥1 ocular AE
  - Most frequent systemic AE: URTI (n=7)
  - Most frequent ocular AEs: conjunctival hemorrhage/hyperemia (n=17) and ERM (n=16)
  - The majority of AEs reported (Cohorts 1-3, 87%; Cohort 4, 93%) were mild
  - No cluster of AEs related to immunosuppressive regimen were reported
  - One patient discontinued due to an AE (stage IV lung adenocarcinoma unrelated to treatment)
- No cases of rejection have been reported
- No acute or delayed intraocular inflammation, or sustained intraocular pressure increase observed

[1] Ho A, et al. Presented at the Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting. Denver CO, USA. May 1-4, 2022.
ERM, epiretinal membrane; URTI, upper respiratory tract infection.
Data cutoff: 18 Jan 2022

Ongoing Development: Phase 2a Trial

Genentech
A Member of the Roche Group

A multicenter, open-label, single arm clinical study in patients with geographic atrophy (GA), secondary to age-related macular degeneration

- Study managed and funded by Genentech
- Seeks to evaluate the success and safety of subretinal delivery as well as preliminary activity of OpRegen
- Estimated enrollment up to 60 patients
- Primary objectives:
  - Proportion of patients with subretinal surgical delivery of OpRegen to target regions, and
  - Incidence and severity of procedure-related adverse events at 3 months following surgery
- Secondary objective:
  - Proportion of patients with qualitative improvement in retinal structure, determined by SD-OCT

Currently enrolling

(NCT05626114)