OCT Anatomic & Temporal Biomarkers in Uveitic Macular Edema

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Background

• There is limited information on longitudinal structure-functional correlations in Uveitic Macular Edema (UME).

• In clinical practice, physicians often base treatment decisions on BCVA and/or OCT assessment.

• This study assessed these relationships, focusing on baseline anatomic features with potential prognostic value for visual response.
Phase 3 – Suprachoroidal CLS-TA

- Post hoc analysis of 198 eyes with NIU enrolled in two phase 3, 24 week clinical trials with CLS-TA (triamcinolone acetonide injectable suspension)\(^1,2\).

- Assessed relationships between BCVA and
  - Ellipsoid zone (EZ) integrity
  - Presence and location of cystoid spaces
  - Presence and location of subretinal fluid (SRF)

- Correlation analyses performed to describe the relationship at baseline, and change from baseline at 24 weeks.

- A longitudinal treatment-response analysis modeled the temporal relationship between change in BCVA and CST.

Moderate Relationships Between BCVA and CST

Baseline

PCC: -0.38 (-0.49, -0.26; p<0.001)

Change from Baseline at Week 24

PCC: -0.42 (-0.53, -0.29; p<0.001)

PCC: Pearson Correlation Coefficient

Relationship between Baseline BCVA and EZ, Cystoid Spaces, SRF at Baseline

**Baseline BCVA v. Baseline EZ:**
Mean BCVA statistically significantly worsened with each EZ grade

**Baseline BCVA v. Baseline Cystoid Spaces:**
Differences between grades and BCVA not statistically significant

**Baseline BCVA v. Baseline SRF:**
Differences between grades and BCVA not statistically significant

All pair-wise comparisons to ‘Definitely abnormal (absent)’ group were statistically significant (p<0.034) after adjustment for multiple comparisons
Eyes that showed any improvement in cystoid spaces and/or SRF showed a significantly greater improvement in BCVA ($P < 0.001$ for both)
Longitudinal modeling showed that the frame of response was more rapid for CST than BCVA.

- **CST** required approximately 3 weeks to reach over 90% of full response
- **BCVA** required approximately 9 weeks to reach the same magnitude of response.
Conclusion

• In NIU-ME, normal EZ, center involved cystoid spaces, and SRF at baseline predict improved therapeutic response.
• Anatomic response may precede visual response in uveitic macular edema by one month or more.
• These analyses have received favorable review at the American Journal of Ophthalmology.