Correlation of Best Corrected Visual Acuity and Central Subfield Thickness in Macular Edema Due to Retinal Vein Occlusion, Diabetic Retinopathy and Uveitis

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Financial Disclosures

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Background

- Given the clinical importance of visual acuity and macular edema, this analysis demonstrates structure-function correlations.
- In clinical practice, physicians often base treatment decisions on both BCVA and OCT assessment.
  - Over 90% of retina specialists, both in the U.S. and internationally, utilize OCT-guided variable frequency anti-vascular endothelial growth factor (VEGF) treatment protocols for nAMD.\(^1\)

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Methods

• This post hoc analysis included data with monitor-verified diagnoses per eligibility criteria, Early Treatment Diabetic Retinopathy Study (ETDRS) protocol refractions and OCT reading center evaluations

• 1063 eyes from 6 clinical trials spanning 3 disease states were included
  – NIU, RVO, and DME

• Correlations were calculated and univariate regressions were conducted to assess the relationship between BCVA and CST at baseline and changes from baseline at week 24

• Analyses were performed for pooled data and separate disorders
Moderate Relationships Between BCVA and CST in RVO

BCVA v. CST at Baseline

PCC: -0.56 (-0.61, -0.51; p<0.001)

BCVA v. CST, Change from Baseline At Week 24

PCC: -0.35 (-0.43, -0.27; p<0.001)
Moderate Relationships Between BCVA and CST in DME

**BCVA v. CST at Baseline**

- **ETDRS BCVA Letter Score**
- **Central Subfield Retinal Thickness (µm)**
- **HULK**
- **TYBEE**

PCC: -0.50 (-0.64, -0.33; p<0.001)

**BCVA v. CST, Change from Baseline At Week 24**

- **Change in ETDRS BCVA Letter Score**
- **Change in Central Subfield Retinal Thickness (µm)**
- **HULK**
- **TYBEE**

PCC: -0.30 (-0.48, -0.09; p=0.006)
Moderate Relationships Between BCVA and CST in Non-Infectious Uveitis

BCVA v. CST at Baseline

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

BCVA v. CST, Change from Baseline
At Week 24

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

• There were moderate correlations between BCVA and CST in all diseases at baseline and for change at Week 24.
• These correlations provide context around the use of CST in clinical decision making and visual recovery.