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The correlation between vitreomacular traction and subfoveal choroidal thickness

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Purpose: To investigate structure of vitreomacular traction (VMT), specifically, if a correlation exists between 1) the VMT type/grade and the central foveal thickness (CFT) and subfoveal and adjacent choroidal thickness, 2) the vitreomacular/foveal angle (VMFA) and the CFT and subfoveal and adjacent choroidal thickness, and 3) the diameter of vitreomacular adhesion (VMA) and CFT and subfoveal and adjacent choroidal thickness.

Materials & Methods: Retrospective, multicenter image analysis study. We analyzed raster scans of the macula taken with spectral-domain optical coherence tomography (SD-OCT) of 61 eyes of 55 patients with VMT. Conventional scans of the vitreoretinal interface were analyzed to measure CFT and degree of VMFA. Enhanced depth imaging (EDI) scans were analyzed to measure choroidal thickness in the macula. Multivariate test of means and t-test were used to statistical comparisons.

Results: There was no statistically significant difference in CFT between focal vs. broad and concurrent vs. isolated type VMT. Central (p=0.009), nasal (p=0.004) and temporal (p=0.007) subfoveal choroidal thickness was significantly higher in broad VMT compared to focal VMT. There was difference in both CFT (p=0.035) and central (p=0.005), nasal (p=0.01) and temporal (p=0.001) choroidal thickness between moderate vs. severe VMT. There was correlation between VMFA and CFT, where a wider angle was associated with increased CFT (p=0.026). The broader VMA was associated with increased central subfoveal (p=0.032), nasal (p=0.05) and temporal (p=0.01) choroidal thickness.

Conclusions: Eyes with broad VMT have thicker choroid than eyes with focal VMT, which have a more open vitreomacular angle.

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Three-year outcomes of canaloplasty for the treatment of open-angle glaucoma

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Purpose: To investigate the long term safety and efficacy outcomes of canaloplasty for the treatment of open-angle glaucoma (OAG).

Setting: Dean McGee Eye Institute, United States of America.

Methods: This nonrandomized, single center, retrospective study explored the effect of canaloplasty (as a stand-alone procedure and combined with cataract surgery) in adult open-angle glaucoma patients. The primary endpoints investigated included mean IOP and mean number of glaucoma medications over a 3-year period. The secondary endpoints included surgical and postsurgical complications and secondary interventions.

Results: The study cohort included 318 subjects with a mean age of 72.5 years (range: 18.1-100 years). Mean baseline IOP for the cohort was reported at 19.7 mmHg which was reduced to 14.4 mmHg at 12 months, 14.0 mmHg at two years and 14.7 mmHg at three years (p<.001). Medication dependency reduced from 2.1 drops before surgery to 0.5 drops at 12 months, to 0.6 drops at two and three years (p<0.001). The frequency of surgical and postsurgical complications was low, with no serious adverse events recorded.

Conclusion: Canaloplasty was shown to be safe and effective in achieving long-term IOP reductions and reduced dependence on anti-glaucoma medications in the treatment of open-angle glaucoma.

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