**Use of the SS-OCT to evaluate if choroidal or scleral thickness is related the myopic macular degeneration**

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Purpose
The relative contribution of mechanical and vascular factors to the pathogenesis of myopic macular degeneration (MMD) is unclear. To address this gap, we examined the association of choroidal thickness (CT) and scleral thickness (ST) with myopic macular degeneration (MMD).

Methods
Prospective, clinic based case series of 62 eyes of 41 patients with high myopia (≤-6 diopters or axial length≥26.5mm). Swept source optical coherence tomography(SSOCT) was performed to measure subfoveal CT and ST. MMD was graded from fundus photographs according to the META-PM Classification. Presence of MMD was defined as META-PM category ≥ 2 and severe MMD was defined as category ≥ 3.

Results
The distribution of MMD severity was 15 (24.2%) in category 1, 28 (45.2%) in category 2, 10 (16.1%) in category 3 and 9 (14.5%) in category 4. Correlation of MMD severity was strong for subfoveal CT (r=-0.70, p<0.001) but weak for subfoveal ST (r=-0.31, p=0.01). Subfoveal CT, but not ST, was independently associated with presence of MMD (age and gender adjusted odds ratio (OR) per 10 um decrease in CT 1.41, p=0.002) and subfoveal CT, but not subfoveal ST, was significantly thinner in eyes with severe MMD (≥Category 3) than in eyes with mild MMD (CT:31.5 ± 40.5um vs 82.0 ± 57.1um, p<0.001.; ST: 261.6 ± 78.5um vs 297.0 ± 73.8um, p=0.09).

Conclusions
We demonstrated significant thinning of the choroid with increasing MMD severity. In contrast, ST was weakly correlated with MMD. These data suggest progressive loss of choroid may be important in the pathogenesis of MMD.

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