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Retinal Changes in Patients with Idiopathic Inflammatory Myopathies: A Case-Control Study

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Abstract : Aim: Retinal changes are the window to systemic vasculature. Therefore, we explored retinal changes in patients with idiopathic inflammatory myopathies (IIM) as a surrogate for vascular health. Methods: Adult and juvenile IIM patients visiting a tertiary care centre in 2021 satisfying the International Myositis Classification Criteria were enrolled for detailed ophthalmic examination in comparison with healthy controls (HC). Patients with conditions that precluded thorough posterior chamber examination were excluded. Scale variables are expressed as median (IQR). Multivariate analysis (binary logistic regression-BLR) was conducted, adjusting for age, gender, and comorbidities besides factors significant in univariate analysis. Results: 43 patients with IIM [31 females; age 36 (23-45) years; disease duration 5.5 (2-12) months] were enrolled for participation. DM (44%) was the most common diagnosis. IIM patients exhibited frequent attenuation of retinal vessels (32.6% vs. 4.3%, p <0.001), AV nicking (14% vs. 2.2%, p=0.053), and vascular tortuosity (18.6% vs. 2.2%, p=0.012), besides decreased visual acuity (53.5% vs. 10.9%, p<0.001) and immature cataracts (34.9% vs. 2.2%, p<0.001). Attenuation of vessels [OR 10.9 (1.7-71), p=0.004] emerged as significantly different from HC after adjusting for covariates in BLR. Notably, adults with IIM were more predisposed to retinal abnormalities [21 (57%) vs. 1 (16%), p=0.068], especially attenuation of vessels [14(38%) vs. 0(0), p=0.067] than jIIM. However, no difference was found in retinal features amongst the subtypes of adult IIM, nor did they correlate with MDAAT, MDI, or HAQ-DI. Conclusion: Retinal microvasculopathy and diminution of vision occur in nearly one-third to half of the patients with IIM. Microvasculopathy occurs across subtypes of IIM, and more so in adults, calling for further investigation as a surrogate for damage assessment and potentially even systemic vascular health.

Keywords : idiopathic inflammatory myopathies, vascular health, retinal microvasculopathy, arterial attenuation
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