

Has the prevalence of uveitis in patients with multiple sclerosis been overestimated?

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Introduction: The occurrence of intermediate uveitis in patients with multiple sclerosis (MS) might be a sign of inflammatory disease activity. Intermediate uveitis is characterized by the presence of vitreous inflammation resulting in vitreous haze (VH). Studies on uveitis in MS patients have reported varying prevalences (ranging from 0.4 to 44%) which is partly due to the subjective manner of assessment by slit lamp examination. Recently, a new algorithm has been developed for the quantification of VH on optical coherence tomography (OCT) scans, making it possible to objectively assess the presence and activity of uveitis.

Objective: To investigate whether there is evidence of VH in patients with MS and whether this VH is associated with inflammatory disease activity.

Methods: This cross-sectional study included 315 MS patients and 87 healthy controls from the Amsterdam MS cohort who had previously undergone an OCT scan. Macular volume scans were analysed for the presence of VH using an automated algorithm. All VH scores were log transformed before analysis. The relationship between VH and clinical, retinal OCT and MRI parameters of inflammatory disease activity was investigated using generalized estimating equations.

Results: The mean VH scores were low in both MS patients and HCs (respectively -0.96 vs. -0.93) and did not differ between these two groups (mean difference 0.03, $p=0.419$). There was no difference in VH score between relapsing remitting and primary progressive MS patients (mean difference 0.14, $p=0.471$) nor between relapsing remitting and secondary progressive (mean difference 0.12, $p=0.251$) MS patients after correcting for age. A history of optic neuritis did not affect the amount of VH (mean difference 0.05, $p=0.132$). In addition, VH was not associated with inner nuclear layer volume on OCT ($\beta=-0.00009$, $p=0.990$) or cerebral T2 lesion load on MRI ($\beta=-0.089$, $p=0.219$).

Conclusion: Using an objective measure to detect the presence of uveitis in a large cohort of MS patients, this study could not find evidence of increased vitreous inflammation in MS patients compared to HCs nor was there any association between VH and measures of inflammatory disease activity. The results might indicate that uveitis in MS is less prevalent than previously thought.