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CHOROIDAL NEOVASCULAR MEMBRANES IN VITELLIFORM MACULOPATHIES: A DIAGNOSTIC AND THERAPEUTIC CHALLENGE

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The objectives of this study are to characterize the presentation of macular choroidal neovascularization (CNV) in patients with vitelliform maculopathies and to highlight the importance of multimodal imaging techniques—particularly optical coherence tomography angiography (OCTA)—for accurate detection and monitoring of these lesions. Additionally, the study aims to evaluate the effectiveness of intravitreal anti-VEGF therapy in treating CNV associated with vitelliform maculopathies, based on data from two tertiary ophthalmology centers.

This retrospective, longitudinal, descriptive study reviewed electronic medical records of patients diagnosed with vitelliform maculopathy between January 2014 and December 2024 at the retina departments of “Hospital de la Luz” and the ocular genetics unit of “Casey Eye Institute.” Inclusion criteria encompassed patients with genetically confirmed vitelliform maculopathy who had a minimum follow-up of six months and underwent spectral-domain OCT and OCTA imaging. Exclusion criteria included poor-quality imaging studies, inactive CNV membranes not requiring treatment, and the presence of other ocular comorbidities associated with neovascular membranes, such as high myopia, inflammatory diseases, or ocular trauma.

The study included 14 eyes from 10 patients with active CNV membranes. All were treated with intravitreal anti-VEGF agents; aflibercept was administered in 10 eyes (71%), and bevacizumab in 4 eyes (29%). The mean age at treatment initiation was 19 years (range: 5–57 years). The four patients requiring bilateral treatment were the youngest in the cohort, with ages between 5 and 12 years. Best-corrected visual acuity (BCVA) at presentation ranged from 20/30 to 20/80 (mean: 0.47 ± 0.05 logMAR, approximately 20/60). Post-treatment, all strategies demonstrated a trend toward visual improvement at one month (mean: 0.37 ± 0.05 logMAR, approximately 20/50, p=0.32) and three months (mean: 0.32 ± 0.07 logMAR, approximately 20/40, p=0.13). A significant improvement was observed at one year, with visual acuity reaching approximately 20/25 to 20/30 (mean: 0.15 ± 0.01 logMAR, p=0.0002). Treatment regimens varied from a single injection to continuous injections at different intervals. The two eyes with the longest follow-up (20 and 36 months post-treatment cessation) maintained stable improvements.

Choroidal neovascularization is a recognized complication of vitelliform maculopathies, with recent studies reporting an incidence of approximately 36%. The natural history of vitelliform maculopathies often involves variable accumulation of subretinal vitelliform material and subretinal fluid, which can hinder timely detection and management of CNV. OCTA emerges as a valuable tool for both diagnosis and assessment of treatment response. Our findings underscore the benefit of anti-VEGF therapy in managing CNV within this context, achieving visual improvement in all treated patients over long-term follow-up.

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