

Multimodal imaging in a case of hydroxychloroquine induced maculopathy

Imagem multimodal em um caso de maculopatia induzida por hidroxiclороquina

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We report a case of a 57-year-old woman with a 23-year history of systemic lupus erythematosus treated with hydroxychloroquine at a daily dose of 400 mg/d (6.51 mg/kg/day), resulting in a cumulative dose of 3,358 g. The patient was referred to our department for annual monitoring, consistent with established guideline recommendations.⁽¹⁾ The findings from clinical and supplementary examinations revealed a chloroquine-induced toxic maculopathy,⁽²⁾ which may result in severe and progressive visual loss. In the past decade, hydroxychloroquine use has markedly increased and modern retinal imaging techniques have enabled the detection of early, pre-symptomatic disease. As a consequence, the prevalence of retinal toxicity in long-term hydroxychloroquine users is known to be higher than was previously estimated. The pathophysiology of the retinopathy is incompletely characterised, although significant advances have been made in understanding the disease from clinical imaging studies. Hydroxychloroquine retinopathy elicits sufficient public health concern to justify the implementation of retinopathy screening programs for patients at risk. Here, we describe the historical background of hydroxychloroquine retinopathy and summarize its current understanding. We review the utility and limitations of each of the mainstream diagnostic tests used to detect hydroxychloroquine retinopathy. The key considerations towards a consensus on the definition of hydroxychloroquine retinopathy are outlined in the context of what is known of the natural history of the disease. We compare the current screening recommendations for hydroxychloroquine retinopathy, identifying where additional evidence is required, and the management of proven cases of toxicity. Finally, we highlight the areas for further investigation, which may further reduce the risk of visual loss in hydroxychloroquine users.”, “container-title”: “Frontiers in Pharmacology”, “DOI”: “10.3389/fphar.2023.1196783”, “ISSN”: “1663-9812”, “journalAbbreviation”: “Front Pharmacol”, “note”: “PMID: 37324471\nPMCID: PMC10267834”, “page”: “1196783”, “source”: “PubMed Central”, “title”: “Hydroxychloroquine-induced Retinal Toxicity”, “volume”: “14”, “author”: “{{“family”: “Yusuf”, “given”: “Imran H.”}}, {“family”: “Charbel Issa”, “given”: “Peter”}, {“family”: “Ahn”, “given”: “Seong Joon”}”, “issued”: “{“date-parts”: [“2023”, 5, 30]}”, “schema”: “https://github.com/citation-style-language/schema/raw/master/csl-citation.json”¹ Fundus examination showed a bull’s eye appearance maculopathy with a partial pigmented ring. Autofluorescence imaging demonstrated a macular roundel. Macular optical coherence tomography (OCT) revealed thinning of the outer parafoveal retina with loss of the ellipsoid zone. The central visual field testing (10.2) showed a diffuse macular scotoma, while the multifocal electroretinogram (mf ERG) exhibited a disappearance of the foveal peak response. OCT-angiography demonstrated a decrease in retinal capillary density, mainly affecting the deep capillary plexus.

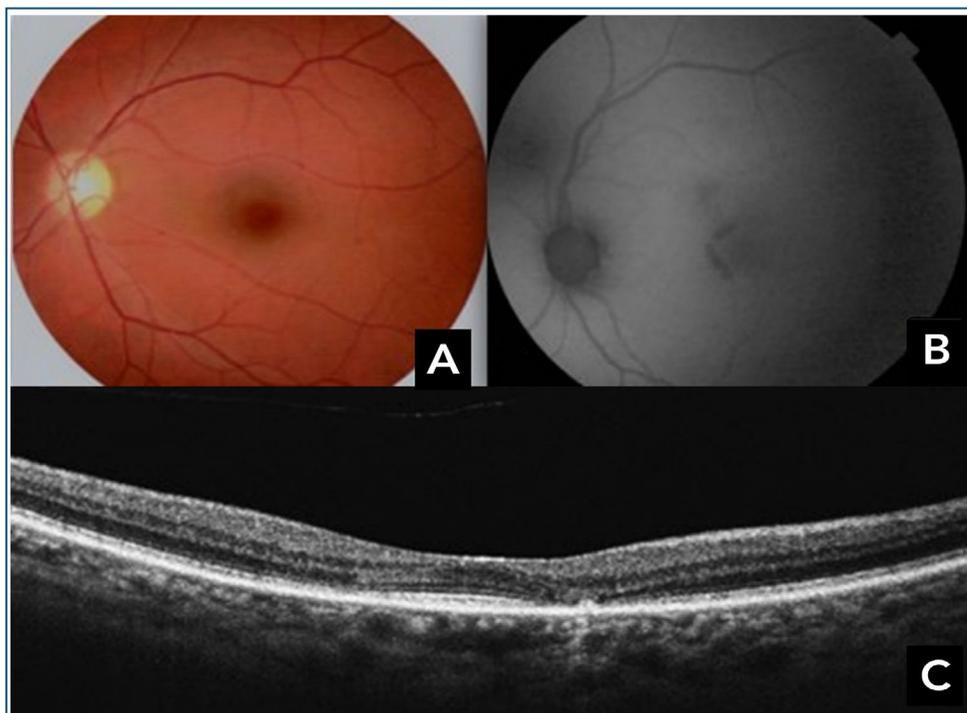


Figure 1. (A) Color fundus photograph showing a “bull’s eye” maculopathy. (B) Autofluorescence image showing a macular cockade image. (C) B-scan of macular optical coherence tomography showing thinning of the outer layers with interruption of the ellipsoid zone and alteration of the pigment epithelium in the parafoveolar area.

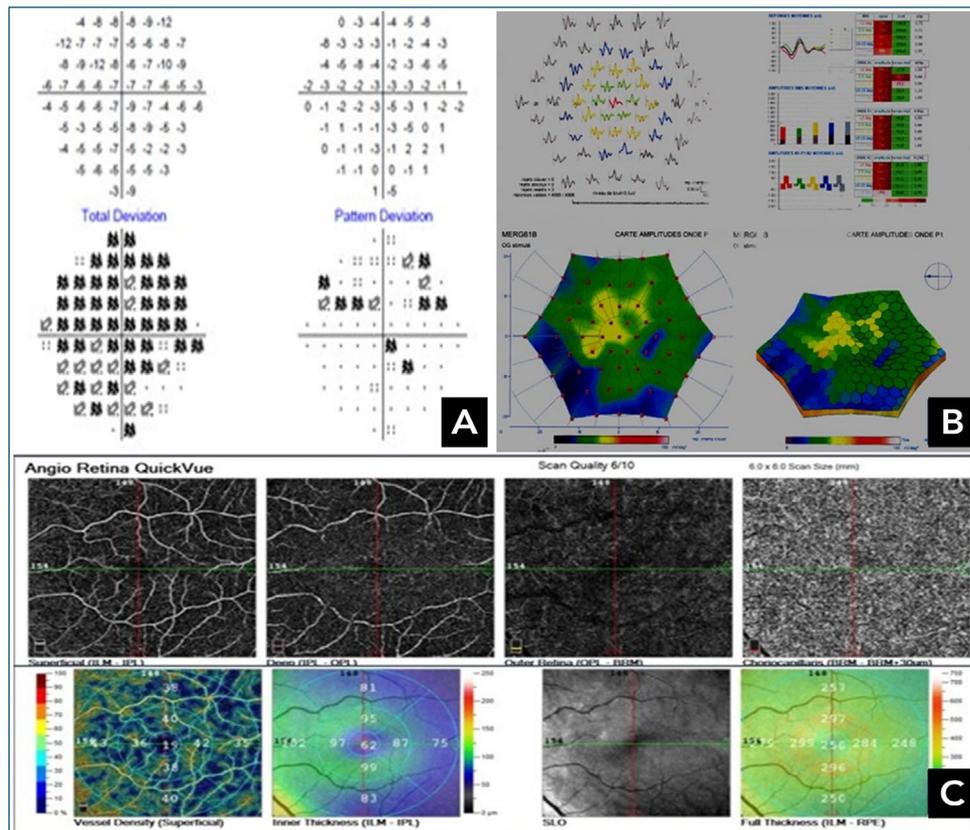


Figure 2. (A) Central visual field 10.2 showing a diffuse deficit in all quadrants. (B) Multifocal electroretinogram that shows a disappearance of the foveolar peak as well as a reduction in the amplitude of parafoveolar responses. (C) 6*6 mm optical coherence tomography-angiography showing a reduction in macular capillary vascular density mainly at the level of the deep capillary plexus.

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