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Retinal toxicity secondary to Plaquenil therapy

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KEYWORDS
Plaquenil toxicity;
Hydroxychloroquine;
Bull's eye maculopathy;
Multifocal electroretinogram;
Threshold Amsler grid;
Fundus autofluorescence

Abstract

BACKGROUND: Hydroxychloroquine sulfate (Plaquenil; Sanofi-Aventis, Bridgewater, New Jersey) is an antimalarial agent, which is sometimes used for the treatment of certain autoimmune disorders. Its use has been associated with ocular side effects; the most concerning is toxic maculopathy.

CASE REPORT: A 71-year-old arthritic white woman requested a second opinion regarding retinal Plaquenil toxicity. The patient's history was significant for seronegative rheumatoid arthritis diagnosed 6 years prior. She had taken Plaquenil 400 mg a day for about 5 years but had discontinued the drug 6 months before when bilateral central scotomas were first noted. At the consultation visit, her visual acuities were 20/20 in both eyes. SITA-Standard 10-2 disclosed a dense scotoma with 4° of central sparing in each eye. Fundus examination found retinal pigment epithelium changes bilaterally; no "bull's eye" retinopathy was observed.

CONCLUSION: Withdrawal of the medication is the only effective treatment for Plaquenil toxicity and, even then, the toxic effects may progress because of the slow clearance of the drug. Though controversy exists regarding screening recommendations, a baseline ophthalmic examination should be performed on all patients before initiating Plaquenil. If a patient is considered low risk, examinations can be scheduled annually. For high-risk patients, 6-month progress visits are strongly recommended.

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Hydroxychloroquine sulfate (Plaquenil; Sanofi-Aventis, Bridgewater, New Jersey) is an antimalarial drug commonly used in the treatment of systemic lupus erythematosus, rheumatoid arthritis, and other connective tissue diseases. Its use has been associated with ocular side effects; the most concerning is retinal toxicity. This toxicity can cause visual field scotomas, changes in color vision, and, when advanced, bilateral bull's eye maculopathy. Because of these possible effects on patients, it is vital to properly screen patients who are taking this medication.

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Case report

A 71-year-old arthritic white woman, weighing 110 pounds, presented with a feared complaint of retinal hydroxychloroquine sulfate (Plaquenil) toxicity. She reported a light fog, just right of her central vision, worse in the right eye than the left. She first noticed this visual distortion approximately 1 year before and stated that it had progressed slightly since onset. The patient's history was significant for seronegative rheumatoid arthritis diagnosed 6 years earlier. She was initially treated with methotrexate, which was discontinued after 4 months because of elevated liver enzymes. She was then prescribed Plaquenil, 400 mg per day, and reported having eye examinations every 6 months for the last 5.5 years. At her last ophthalmologic visit 6 months prior, the patient was found to have bilateral central scoto-

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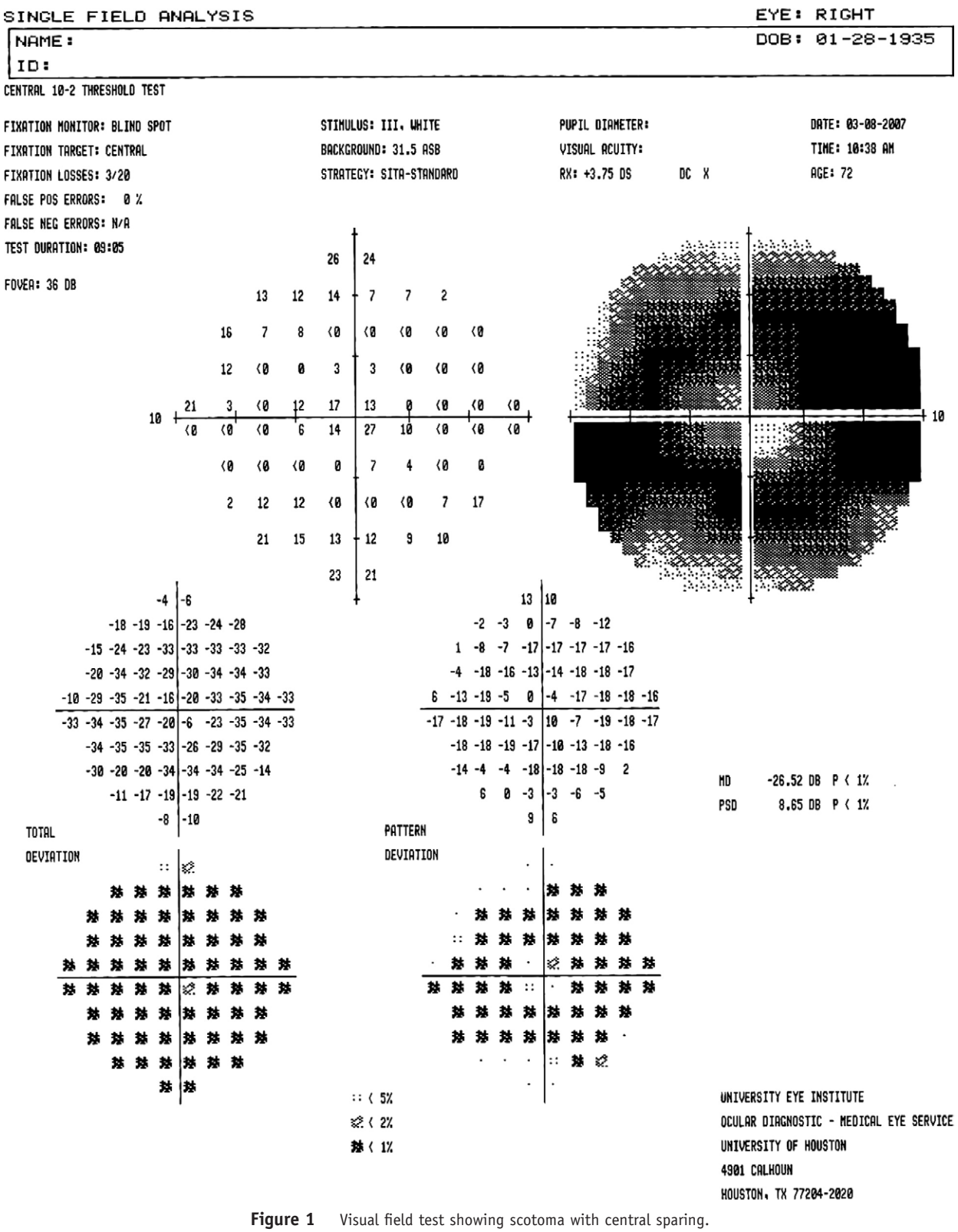

Figure 1 Visual field test showing scotoma with central sparing.

mas, at which time she discontinued the use of Plaquenil. Her medical history was also remarkable for a subacute infarct in the right occipital cortex 15 years before, a distal basilar artery occlusion 2 years earlier, and osteoporosis for the previous 3 years.

Her medications included aspirin with dipyridamole (Aggrenox; Boehringer-Ingelheim, Ridgefield, Connecticut), alendronate sodium (Fosamax; Merck and Co., West Point, Pennsylvania), glucosamine, folic acid, calcium, and ocular vitamins with lutein. Her ocular history included cataract