RETINOPATHY DURING CHLOROQUINE THERAPY*

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ANTIMALARIAL drugs are used in the treatment of lupus erythematosus and have been used in the treatment of rheumatoid arthritis following the observation by Page (1951) of the beneficial effect on the joint symptoms of two patients who were taking mepacrine for chronic lupus erythematosus. Mepacrine was found to cause discoloration of the skin and agranulocytosis, so that chloroquine is now preferred. This too is not without danger as the following case illustrates.

Case Report

A saleswoman aged 22 years had been having treatment for light sensitization dermatitis over a period of 10 years. From June, 1953, until January, 1959, she had been taking "Avlocor" in doses of 250–750 mg. per day.

In April, 1956, it was observed that the skin condition resembled lupus erythematosus and in September, 1957, she was admitted to a medical ward for investigation because of loss of weight, gastric upset, and nervousness. She had also observed that during chloroquine therapy her hair, normally light brown in colour, had become very fair and varied in colour with the dosage of drug being taken at any particular time.

In January, 1959, the patient first complained of deterioration of vision which was causing her to bump into obstacles and occasionally to fall. She admitted that the vision had been failing for 6 months but that she had not told the dermatologist.

Examination.—The visual acuity in the right eye, with 1 D sph., +0.5 D cyl., axis 90°, was 6/6 and N5, and in the left eye, with -1 D cyl., axis 15°, 6/6 and N5. External examination including slit-lamp examination of the cornea showed nothing abnormal. At no time were the corneal epithelial deposits seen as described by Calkins (1958) and Zeller and Deering (1958). The ocular tension was normal.

On fundus examination the choroidal vessels were clearly seen, the retinal arteries were straight and narrow, the optic discs were pale, and there was macular oedema. There was also irregular mottled pigmentation in both fundi but no aggregation of pigment around the retinal vessels (Fig. 1, opposite).

The visual fields (Fig. 2, opposite) were restricted to 5 degrees around the fixation spot with larger islands of vision mainly below, to a 1/330 mm. white target.

The blood pressure was 120/70, and a blood examination and liver function tests were normal.

Treatment.—It was considered that the chloroquine might be responsible for the visual upset, so the drug was stopped and the patient was given a course of Vitamin B therapy.

Result.—Almost immediately the patient put on weight, gaining 5 lb. in the first month and a further 5 lb. during the next 4 months, but there was no improvement in the visual fields. After her summer holiday in August it was noticed that the condition of her skin was worse due to the increased exposure to sunlight.

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FIG. 1.—Fundus photographs.

FIG. 2.—Visual fields 1/330 mm. White target.

She has been observed at regular intervals over the past 2 years and while the skin condition has varied in severity there has been no change in the visual acuity or visual fields, and the fundal picture is unchanged except that the macular oedema has resolved.

She was unable to continue work as a saleswoman and is now doing clerical work.

Discussion

In the treatment of lupus erythematosus and rheumatoid arthritis the dose of chloroquine is frequently in excess of that used in malaria and is continued over much longer periods. It is, therefore, not surprising that toxic effects have been frequently described.

The most common symptoms have been nausea, vomiting, headache, nervousness, and vague blurring of vision (Gramiccia, 1947; Coatney, Ruhe, Cooper, Josephson, and Young, 1949; Wilkinson, 1953), and in retrospect it is obvious that those were the symptoms which caused this patient to be admitted to hospital in 1957.

Loss of weight was also described by Wilkinson (1953) and bleaching of the hair by Christiansen and Brodthagen (1956) and Dall and Keane (1959).

The fundus picture in this girl resembled that of retinitis pigmentosa with atypical pigment distribution, as did the case reported by Hobbs, Sorsby, and Freedman (1959).

Withdrawal of the drug has not been followed by improvement in vision over the past 2 years. During this time the skin condition has varied in severity, suggesting that the visual upset is not a manifestation of lupus erythematosus.

The long duration of the treatment, over 5 years in this case, followed by a relatively sudden onset of symptoms suggests that the retinal effect is due to an idiosyncrasy occurring in only occasional cases. The ocular damage appears to be permanent.

Summary

A case of retinopathy developing during prolonged chloroquine treatment is described. The visual fields were grossly contracted and the fundus appearances resembled those of retinitis pigmentosa. The changes are permanent.

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