

It follows that we are far from having devised a thoroughly satisfactory method of extra-capsular extraction. Under the circumstances, I think it not unreasonable here to draw attention to a sound method of intra-capsular extraction.

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TWO CASES OF QUININE AMBLYOPIA WITH UNUSUAL OPHTHALMOSCOPIC PICTURE

BY

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Two cases of quinine amblyopia which came under our observation at the Sir C. J. Ophthalmic Hospital, Bombay, are reported below with a view to bring out prominently the unusual ophthalmoscopic picture in both of them, namely marked oedema of retinae with normal discs and retinal blood vessels, as contrasted with the usual classical fundal appearance of quinine amblyopia.

Case No. 1.—Miss M. R., a Goanese girl, aged 9 years, had an acute attack of malaria for which she was given two and a half grains of quinine sulphate four times a day at four-hourly intervals. The next day, on taking the second dose the patient suddenly went blind in both eyes, so the remaining doses were not given. She was given a smart saline purge by her family doctor who brought her to the Sir C. J. Ophthalmic Hospital on September 3, 1927, about 20 hours after the onset of blindness. On inquiry no history of headache, nausea or tinnitus aurium could be obtained.

Clinical Examination.—The little patient had a vacant look. The eyes were totally blind, there being absence of even perception of light. The pupils were widely dilated and immobile. Fundal examination of each eye showed an absolutely normal disc and retinal blood vessels, but there was oedema of the retina extending right to the periphery of the fundus which looked yellowish white in colour. A red spot, though not of bright red tint, marked the

site of the macula in each eye. Several attempts were made to elicit perception of light from the patient, but she could not make out light from darkness. The case was diagnosed as one of quinine amblyopia and a guarded prognosis given.

Treatment.—For the first three days she received amyl nitrite inhalations, one strychnine injection daily in the temple and a diuretic mixture. On September 6 she was given half a drachm of dilute hydrobromic acid in syrup and chloroform water thrice a day. On the 10th instead of hydrobromic acid she received a mixture of potassium iodide and nux vomica and a cup of strong coffee four times a day and these were continued up to the day of her discharge from the hospital. Plasmochin was given whenever she had fever.

Subsequent Observations.—The fundus was daily examined in anticipation of a change in the ophthalmoscopic picture. On September 7, 1927, the disc of each eye looked decidedly pale with slightly contracted blood vessels and the fundal pallor was much less marked. On the 8th the disc looked white and the retinal blood vessels much contracted with white lines along them, but the surrounding fundus had regained its normal tint in each eye. For the first time both the macular regions showed glistening yellowish white dots arranged irregularly round the maculae. She was still unable to see anything. Her pupils were still widely dilated and fixed. On the 14th the pupils were semidilated and fixed. Only perception of light was present. Blood vessels were much more contracted and the dots at the maculae were fewer and less prominent. On September 17 for the first time she could make out hand movements. Pupils were semi-dilated and a hippus reaction was obtained. No further changes in the fundus were noted. As she got an attack of malaria she was put on plasmochin, half a grain tablet morning and evening. On the 20th vision of right eye and left eye was fingers at three feet and six feet respectively. Size of pupils was nearly normal. Reaction was still like hippus, but contraction of pupils on stimulation with light was maintained for a longer time than before. Fundal condition remained unchanged. Her temperature was normal.

The vision began to improve very rapidly and on the 22nd she was able to count dots of 6/24 line with each eye. On the 25th, 27th and 30th, it was 6/18, 6/12, and 6/9 respectively. On October 1, 1927, it was 6/6. Even when her vision was 6/12 she was not moving about freely but required somebody to guide her, specially at night. On the 24th the plasmochin was omitted, but as she got another attack of fever, she was given half a tablet twice a day from 10th to 15th, the latter date being the day of her discharge from the hospital.

When her vision was 6/12 an attempt was made to take her field

of vision, but it failed. Later on when her vision was 6/6, a definite concentric contraction of each field of vision to 10° circle with 0.5° white object was mapped out. But 11 months after the onset of quinine amblyopia her fields had enlarged nearly to the 20° circle. On the day of her discharge the pupils were nearly normal in size, but the reaction was still sluggish. Her vision was 6/6 dots. There was pallor of both the discs. The blood vessels were still contracted and white lines along them were present. Only a few glistening yellowish white dots could be seen in the macular region. Except for the disappearance of the glistening dots the fundal picture was the same 11 months after the onset.

Case No. 2.—A young Anglo-Indian male, aged 20 years, had been suffering from chronic malaria for which he had been taking three quinine hydrochloride tabloids of two grains each thrice a day for a period of three weeks without missing a single dose. At the end of that period, *i.e.*, on June 25, 1928, he found himself totally blind on waking up in the morning. However, on the night of the 24th the patient had all the signs and symptoms of cinchonism and some blurring of vision.

He was admitted to the Sir C. J. Ophthalmic Hospital, Bombay, on the 26th, and on examination it was found that perception of light was absent and the pupils were widely dilated and fixed. In each eye the disc and retinal blood vessels were normal, the fundus surrounding the papilla looked grayish white and the macula was seen as a dark red spot. No glistening dots could be made out in any part of the fundus. Two days later, *i.e.*, on the 28th he could make out hand movements. The discs looked paler than before and the arteries more contracted than the veins. On the 30th there was definite improvement in vision which was fingers at 18 feet. There was marked pallor of the discs and the retinal blood vessels, which had white lines along them, were very much contracted. The retinal oedema had almost disappeared without causing any change in the macular colour. The vision continued to improve rapidly, so much so that on July 6 it was 6/9 with each eye separately. The pupils were still dilated but not so widely as before and a hippus reaction was obtained. The fundal appearance remained unchanged. On July 12 the vision was 6/6 letters with each eye. Ophthalmoscopic picture remained the same as before. The reaction of each pupil was still sluggish though the contraction was maintained a little longer than before. The concentric contraction of field of vision of the right eye was between the 10° and 15° circles with 0.5° white object and that of left eye was between 15° and 20° . In spite of 6/6 vision he complained of night blindness.

The treatment given to him was administration of dilute hydro-

bromic acid in one drachm doses, strychnine hypodermically, strong coffee, salines and amyl nitrite inhalations.

Comments.—In Case No. 1 the little patient had a small quantity of quinine sulphate by mouth, namely 15 grains in 2·5 grain doses in 32 hours before the onset of quinine amblyopia, showing that she was susceptible to the toxic effect of quinine. The blindness was sudden and total. The point of great interest was the unusual fundal picture, namely oedema of retina with normal disc and blood vessels. On this point several standard books on ophthalmology by various authors like Parsons, Fuchs, Swanzy, Sym and de Schweinitz were consulted but in none of them was it mentioned. Not getting any help even from the *Tropical Ophthalmology* by Elliot, the subject was searched in *Modern Ophthalmology* by Ball in which a similar case was found recorded by him as having been reported by Muntedam¹ in which pallor of disc was noted on the 22nd day and light perception four days later, while in the above mentioned Case No. 1, the former was seen on the 6th day after the onset of blindness and the latter noted six days later. Yellowish white dots seen by us in the macular region were noted by Zanotti who attributed these lesions to chorio-retinal punctiform haemorrhages. The vivid cherry red spot at the macula was not noticed in either of these cases, possibly due to ischaemia of the choroid².

We were anxiously waiting for the phenomenon of "Paradox of Quinine Amaurosis," namely, the improvement of vision with the contraction of blood vessels and appearance of white lines along them. The white lines were first noticed on the 8th day but the vision of hand movements 9 days after their appearance and the sight has continued to improve ever since. In our opinion administration of strong coffee had helped in regaining vision. The malarial attacks were easily controlled by plasmochin without any retardation of progress in vision.

Case No. 2 was that of a young man of 20 years. He had taken quinine which amounted to 378 grains in all in 2 grain doses spread over a period of three weeks without omitting a single dose. Here too the onset was sudden and in the morning, though some dimness of vision was complained of on the night previous to its onset. Like Case No. 1 there was retinal oedema with normal discs and blood vessels but without glistening spots for which search was made repeatedly. The recovery was pretty rapid. In spite of absence of perception of light in the beginning, hand movements were first noticed three days after the onset and the vision rapidly improved to 6/6 in about a fortnight. In this case we had not to wait long for the "Paradox of Quinine Amaurosis."

Though there was an unusual fundal appearance, there was nothing unusual about the fields of vision in both the cases. The

central seeing areas were circular in shape and not elliptical and there were no islands of preserved vision in the periphery of the fields as reported by de Schweinitz³.

Before concluding we would like to express our opinion that since malaria is so common in the tropics and quinine is so freely used, some of the cases of optic atrophy in which no definite cause can be found might be due to toxicity of quinine.

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A CASE OF QUININE AMBLYOPIA WITH A CENTRAL COLOUR SCOTOMA OF ONE EYE AND TOTAL BLINDNESS OF THE OTHER

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SINCE total blindness of one eye and a central colour scotoma of the seeing eye are unusual features in quinine amblyopia we consider such a case worthy of publication. We had come across two cases of quinine amblyopia with unusual fundal appearance and a paper on the subject was read at the 13th International Ophthalmological Congress, but in these interesting cases the above mentioned features did not exist, hence we take the opportunity of adding this one to those two, an abstract of which will be found published in the Transactions of the 13th Ophthalmological Congress. In case the Transactions are not available for reference we mention here that in the early stage, *i.e.*, during the first three days, the disc and blood vessels remained normal and then the fundi showed the classical picture of quinine amblyopia. In both the paradox of quinine amaurosis, *i.e.*, improvement of vision with contraction of blood vessels and appearance of white lines along them was noted. In one case both the fundi showed small yellowish white glistening dots arranged irregularly round the maculae.