A NOTE ON THE DIRECT OBSERVATION OF THE FUNDUS OCULI DURING A PERIOD OF TEMPORARY BLINDNESS*

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It is possible that the fundus has not infrequently been watched during a period of temporary blindness, although it must happen very rarely to any individual observer, as the necessary combination of the patient, the attack, the ophthalmic surgeon, and the means of observation make it extremely improbable that it can happen often.

On Wednesday evening, January 9, Major P., of the French Army, came to consult me; he is at present engaged in engineering work in connection with the war. It had been an intensely cold day, and the patient, who was a little late and hurried, arrived, with the remark that my consulting room was very warm. He divested himself of his great coat and sat down to tell me about his trouble. On the previous Friday, January 4, during the evening, he had noticed that his right eye suddenly became blind; the attack lasted about a minute, and since then he had had seven or eight of about the same duration. It was not associated with any subsequent headache or pain and had occurred on one occasion when in a darkened room. He thought the attacks had some association with movement, as one followed the action of stretching his arms after sitting for a long time in a cramped position. He told me that he had lived for some years in the French Gaboon and had suffered very badly from lumbago. Whilst he was relating these things, he suddenly broke off and remarked that there was an attack coming on; I was therefore able to examine his eye during the attack.

The pupil of the right eye enlarged to about 7 mm. in diameter. The optic disc was blanched and also the retina immediately around it. I could see some blood-vessels, but the veins alone appeared to be present, the superior and inferior retinal veins being the ones immediately under my notice. What particularly arrested my attention was that the inferior retinal vein showed distinct notching on its side, four or five notches being evident in the area under observation, and these were of different shapes and at irregular intervals; they were all on one side. I was watching these notches carefully, when suddenly they disappeared, the vein resuming a normal appearance and the patient remarking "it is coming back." In a few seconds he could see again and the pupil contracted to a size equal to the other. The optic disc afterwards looked redder

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and more suffused than normal and the arteries showed their position; the superior artery twisting round the superior vein and so giving rise to the appearance I first saw on looking at his eye, and which I was at a loss to interpret. I did not, at first glance, realize the relative position of the artery and vein, and I was under the impression that both artery and vein were involved in a white exudation; I saw at a glance that the disc and also the fundus in its immediate neighbourhood were white, but it appeared to me that both artery and vein were involved until I looked at the inferior vessels, where I could make out the vein only. It was then I noticed the notching, and whilst I was looking at that the attack passed off. I have no doubt that I had observed a contraction of the central retinal artery, resulting in a temporary blanching of the disc and retina in the immediate neighbourhood with a gradual lessening of the blood in the veins, so that the endothelial lining became ruffled into horizontal folds, as the vein had emptied.

Subsequently on pressing on the globe with my finger, and watching the vessels, I could almost empty the artery and considerably depress the patient's vision.

Dr. John Fawcett very kindly examined the patient for me a day or two later and his note to me reads as follows:

"I could not detect any signs of organic disease to explain his temporary attacks of "amblyopia." His B.P. is 130 mm. Max. systolic pressure; he has good radial arteries. The heart and urine are normal. Thus the condition of contraction of retinal arteries would appear to be similar to what one supposes takes place in the temporary "amblyopia of migraine." I think one would scarcely call it an intermittent claudication, if by such a name, one implies, as is usual, that there are signs of arterial degeneration, for no such evidence is available in Major P's. case so far. No doubt the change in his present sedentary and intensive life and work may have something to do with it, as also that he has been smoking far too many cigarettes. I think it must be the effect of some toxic product of which he has not been getting rid, and the effects of his sedentary life is evidenced by the attack of lumbago he has had in the last two years."

I saw Major P. a month later and he told me that the attacks had gradually yielded to treatment. For the first fortnight they continued, although they became less frequent, but he had not had any attack at all for the last fortnight. He had been in the habit of taking quinine in small doses for many years whilst in the Gaboon, but recently he had almost entirely ceased to take it.

In the *Ophthalmic Review* of 1906, Mr. R. A. Lundie published the notes of a case in which he was able to watch the condition of the retinal vessels during and after a spasm of part of the walls, and in the same volume, the notes of a case observed by Harbridge, of

Philadelphia, are also recorded. This last case is very similar to mine, but was apparently slower in onset and lasted longer. The notching of the vein observed by me does not seem to have been present in either of these cases.

A CASE OF SECONDARY PUPIL*

BY

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Miss E. K., aged 23, was seen by me as an out-patient in the Free Eye Hospital, Southampton, on January 30, 1917. She came to the hospital because her friends told her she was becoming "boss-eyed."

In this case careful examination brings to light the following interesting condition:

R.E.—The pupil is ectopic, smaller than the left, almond-shaped, and placed with its long axis extending up and in and down and out, somewhat up and more nasally than usual. Almost in a line with its long axis and about 1 mm. external to it, is seen a pigmented dot which at first sight looks like an ordinary naevus of the iris. If in the dark room, the iris is observed under strong magnification, while the intensity of illumination of the eye is suddenly and markedly varied by bringing the ophthalmic lamp rapidly close up to the eye and then taking it away so as to produce a strong reaction of the pupil, the pigmented spot will be seen to expand and contract with the dilation and contraction of the pupil. When the pupil is dilated by means of a mydriatic, the spot in question presents a circular lumen about 1.5 mm. in diameter, through which a second red reflex is obtained. Like a normal pupil, this aperture has a pigmented border, and there is a suggestion of sphincter-like arrangement of fibres round it; from between it and the pupil, the iris fibres run down and in and up and out as the rays in a pencil of light or the hair in a painting brush. The pupil recedes most up and in; down and out, out and up and out, a broad area of iris tissue remains unretracted.

R.V. 6/5. No Hm. L.V. 6/5. No Hm.

There is about 0.5D. of latent hypermetropia in each eye. B.E. pupils active. Fundi normal. T.n. No squint.

The left pupil is normal in shape and position, and dilates uniformly and fully under mydriasis.

*Case shown at the Oxford Ophthalmological Congress, 1917. It was examined by most of the members present, both before and after the instillation of homatropin. No exception was taken to my view that it was an instance of genuine secondary pupil and not of diplochoria.