able to accept engagements at concerts and entertainments. Knitting, netting, fine needlework, household duties, such as cooking, washing-up, bed-making, etc., all such occupations are a healthy change to a large number of blinded persons, who may be making some other subject their special walk in life.

Success for the Blinded

If a full success is to be achieved by any blinded man, then he must be very careful to guard against a false conceit, for the kindly sympathy of the general public may be apt to upset the true position, unless a man has seen something of the world, and can steady himself to appreciate the truth. Healthy independence is the keynote to success, intimately associated with ability, perseverance, environment, and a love for the work. Always encourage a man to take up the life for which he has the greatest inclination and place him in a position to be able easily to make good use of his powers.

May it be hoped that this short paper will to some extent help the ophthalmic surgeon to get in touch with a practical power to help his patients to happy self-reliance. Should, however, further information be required, then it is hoped that all who may wish to do so, will write to Captain Peirson-Webber, of Ettington Manor, Stratford-on-Avon.

DISEASES OF THE OPTIC NERVE AS MET WITH IN THE GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS

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FOR the past few years it has been the custom at the Madras Ophthalmic Hospital to take notes of a routine character on most of the cases of fundus disease which come for treatment.

The first thing which must strike an ophthalmic surgeon new to the country is the very high proportion of optic nerve disease met with, especially atrophic conditions. Such disease represents nearly half the total of all fundus cases seen at this hospital.

The attached table shows that the diseases have been divided into four groups. First, those which are suffering from an active inflammatory condition associated with hyperaemia and swelling; second, those in which the inflammatory stage has passed away

but has been succeeded by atrophy of the nerve, traces of the organised inflammatory exudate being readily distinguished around the entrance of the nerve and along the walls of the larger retinal vessels. The third variety is a pure primary atrophy with no trace whatever of any previous inflammation but atrophic cupping of the nerve in its place. The fourth class is the most numerous and in some ways the most interesting. In this the nerves are atrophic, but the only signs of a previous inflammation are, in most cases, a very slight thickening of the nasal branches of the retinal artery and the fact that though the nerve is atrophic yet it shows no sign of cupping. The atrophy is evidently secondary to an inflammation which is of the mildest possible type, or which probably is mostly situated behind the globe. It is not very uncommon to find an apparently true primary atrophy in one eye and an atrophy of the above type in the other.

The special points noticed in the record are active constitutional disease, heredity, signs or history of venereal disease, blood changes, and urine abnormalities. A history of headache or headache combined with vomiting in connection with the disease was also inquired into.

The column of consanguinity of parents means that either the parents of the patient were first cousins or uncle and niece, or that such marriages were the ordinary custom in his family, although his own parents were not so related. It will be seen that there is a very high percentage of such consanguineous taint (71·8 per cent.). This is distinctly higher than that of the general population, which may be taken at about 60 per cent., but it would be rather rash to assert that it had the same bearing on the aetiology of disease of the optic nerve as it has on disease of the internal layers of the choroid and external layers of the retina. A table of diseases of the choroid and retina constructed on the same lines shows an almost identical percentage of consanguinity.

The amount of in-breeding in the South of India (and possibly in other parts of India) is extraordinary, and, even if it has no effect on diseases of the optic nerve, must inevitably produce a race degeneration. Many of the cases recorded show five and six generations of in-breeding.

Pyorrhoea was present in nearly 41 per cent. of the total, with a slightly increased ratio in cases of primary atrophy. The latter is possibly accounted for by the figures being small. This does not seem an unduly high percentage when the rate of infection of the general population is considered. Diseases of the choroid and retina show a rate of 54 per cent.

Malarial and dysenteric infections have been noted if there has been an attack within twelve months of the onset of eye symptoms. The figures are not remarkable except in the case of optic

neuritis, in which the dysentery rate is more than double that of the normal and is accompanied by a low rate of venereal infection. Two cases of neuritis came on immediately after severe dysentery and appeared to have a direct connection with the attack. One of these was syphilitic in addition. One case of atrophy secondary to neuritis appeared to have a connection with dysentery, and two came on after childbirth. The first of these had albumen in her urine, and vision was completely lost on the day the child was born. Her optic discs were greyish white and slightly swollen. The retinal vessels were much thickened, and some were partly obliterated. The second patient noticed pain in her eyes, back, and shoulders twenty days after delivery. Dimness of vision accompanied the pain, and the sight was completely lost in three days. The ophthalmoscopic picture was that of a pure atrophy, secondary to neuritis. One case of primary atrophy was a long standing one which had followed an attack of enteric 15 years before, at the age of 16. Vision was not completely lost, but reduced to finger counting near his face. One patient suffering from the fourth type of disease had been working in a chrome mine, and attributed his disease to this. Another had an attack of beri-beri just before the onset of the disease.

In view of papers by Lt.-Col. Elliot and others drawing attention to the danger of the irresponsible use of quinine, it is interesting to note that three cases of blindness due to this cause were noted during the past four years. The first of these was a man aged 30, who suffered from severe malarial fever one and a half years before coming to hospital. He treated himself with large doses of quinine for eight months, dimness of vision accompanying the treatment. When seen he could only tell the difference between light and dark. Both nerves were dead white, with clean edges. The lamina cribrosa in the right eye was visible, and that in the left obscured. There was no cupping of the nerve heads. The retinal arteries were markedly thickened. The second was a woman aged 23, who had been given a quinine injection three months previously for an attack of malaria. Her sight failed 10 minutes after the injection. Her vision was reduced to hand movements. The pupils were wide but reacted to light. All the branches of the retinal arteries were small and much thickened. The nerves were atrophic and slightly cupped, but the laminae were not apparent. The reflex was rather grey.

The third was a man aged 35 who, two years previously, had swallowed quinine by mistake for Epsom salts. He lost his sight and became unconscious. The unconsciousness lasted for 24 hours, and when he came round he found that he was blind. A short time after he began to regain his sight. The improvement continued for a year, after which the sight remained stationary. His vision was

	Total Number.	227	163	92	13	13	158	66	94	33	6	74	4	9	5	62	33
	Consanguinity.		71.8	40.79	5.72	5.72	69.6	29.07	41.4	14.53	2.64	32.6	1.76	3.96	2.2	27.31	14.53
	Pyorrhoea.																
	Malaria within 12 months of onset.																
	Dysentery within 12 months of onset.																
	Venereal Disease.																
	Mononuclears over 8 %.																
	Eosinophilia over 10 %.																
	Arterio-Sclerosis.																
	High Blood Pressure.																
	Indican.																
	Albuminuria.																
	Glycosuria.																
	Sugar and Indican.																
	Headache.																
	Headache and Vomiting.																
Acute Neuritis ...	60	42	21	3	8	31	21	28	3	5	17	1	1		13	12	
	70.		35.	5.	13.33	51.66	35.	46.66	5.		28.33	1.66	1.66		21.66	20.	
Optic Atrophy Secondary to Neuritis	61	47	25	4	1	45	20	31	15	4	20	2	2	2	21	13	
	77.04		40.98	6.55	1.63	73.77	32.78	50.81	24.59	6.55	32.78	3.27	3.27	3.27	34.42	21.31	
Primary Atrophy ...	20	14	11		1	14	5	7	4		7	1	1	1	4	1	
	70.		55.		5.	70.	25.	35.	20.		35.		5.	5.	20.	5.	
Optic Atrophy Secondary to Retro-bulbar Neuritis ...	86	60	35	6	3	68	20	28	11	2	30	1	5	2	24	7	
	69.78		40.69	6.97	3.48	79.06	23.35	32.55	12.79	2.35	34.88	1.16	5.81	2.35	27.9	8.13	

6/10 in each eye with a contracted field. Both nerves were waxy with slightly irregular edges. The retinal vessels were small and thickened for a considerable distance. The media were clear. There were some small spots of colloid, most numerous in the neighbourhood of the macula.

The venereal rate is high, being nearly 70 per cent. against 54 per cent. in cases of retino-choroidal disease. It is highest in the fourth class of disease, and there can be no doubt it is the most important factor in the causation of all diseases of the optic nerve seen here.

A differential leucocyte count showed, in a large number of cases, an undue increase in both mononuclears and eosinophiles. Eosinophilia is easy enough to account for, as the presence of intestinal parasites is the rule rather than the exception, but the cause of the mononuclear increase is not so clear. 23 per cent. of cases of retino-choroidal disease were found to have over 8 per cent. mononuclears.

The rate of indicanuria is unduly high for the Indian patient of the South of India, who is a rice eater, and when in good health does not commonly have any indican in his urine. I think it may be considered to be an indication of abnormal intestinal fermentation.

The high rate of increased blood-pressure found in secondary atrophy is associated with a corresponding high rate of albuminuria.

Headache was a common symptom in all varieties of the disease. Headache with vomiting, as might be expected, was most common in those in which a high intracranial pressure is not unusual.

It is to be regretted that the figures do not show any very striking facts in connection with the aetiology of the diseases, except that they accentuate the influence of syphilis. Possibly in many of the cases more than one factor is concerned. Pyorrhoea and gastro-intestinal sepsis are always with us in the tropics and are the cause of much eye disease even if they do not directly influence diseases of the optic nerve.

The figures in the series are few and only represent a small part of those seen. Many patients come to the hospital, and when they find their case is hopeless do not wait for their notes to be taken. The proportion of the different diseases is, however, about as stated.

About 65,000 out-patients attended the hospital during the period covered by the notes.

My thanks are due to the hospital staff, especially to the Registrar, Mr. Runganathan Rao, L.M.P., for their aid in making and in tabulating the notes.