stressed by Dederding. There are certainly clinical resemblances, and the association of the two disorders in the same patient is not uncommon. Allergy may in some cases be a common basis (Balyeat, 1933).

The recent valuable observations of Cairns and Hallpike (1938), who have demonstrated a gross dilatation of the endolymph system in two cases, have made it easy to understand how changes in the osmotic tension of the blood reflected in the distended endolymph channels might cause variation in the symptoms and so explain the periodicity of the vertigo and also the fluctuations in the hearing noted by Dederding (1929). It seems unlikely, however, that disturbed water metabolism is the primary cause of the disorder, though it may well be a contributory factor. Here there are suggestive analogies with glaucoma. In the present state of our knowledge it seems best to regard Ménière's syndrome as the end-result of a toxic or toxi-infective process in the labyrinth—Wright's "focal labyrinthitis."

Treatment

If this view is right it follows that the eradication of any source of infection is the most radical form of treatment. Tobacco must be included among the exogenous poisons to which the labyrinth may be unusually susceptible in some individuals. When the intake of fluid can be shown to be excessive its restriction may be helpful, though few patients will tolerate the heroic measures sometimes recommended. Restriction to one and a half pints of fluid daily should not involve hardship. Striking improvement sometimes follows lumbar puncture, possibly as a result of its indirect effect upon water metabolism. Phenobarbital in $\frac{1}{2}$ -grain doses two or three times a day is most valuable. Cooper (1938) and Starr (1936) claim good results from certain choline compounds in a small series of patients. Most patients respond well to medical treatment if it is sufficiently thorough and comprehensive. Resistant and incapacitating vertigo, however, will rightly force the physician's hand, and surgical measures must then be contemplated. As in trigeminal neuralgia the choice lies between alcoholic injection and nerve division. Alcoholic injection of the labyrinth has its advocates (Mollison, 1936; Peacock, 1938; Wright, 1938b), but I have no personal experience of it. Surgical division of the eighth nerve limited to its vestibular fibres is practically free from risk and gives excellent results (Crowe, 1938).

REFERENCES

- Balyeat, R. M. (1933). *Migraine*, Philadelphia.
Cairns, H., and Brain, W. R. (1933). *Lancet*, 1, 946.
— and Hallpike, C. S. (1938). *Ibid.*, 1, 1163.
Cooper, M. J. (1938). *Amer. J. med. Sci.*, 195, 83.
Crowe, S. J. (1938). *Medicine*, 17, 1.
Dandy, W. E. (1937). *J. Amer. med. Ass.*, 108, 931.
Dederding, D. (1929). *Acta Oto-laryng.* (Suppl. x), 1, 1.
— (1931). *Ibid.*, 16, 404.
Foerster, O. (1936). *Brain*, 59, 135.
Furstenberg, A. C., Lashmet, F. H., and Lathrop, F. (1934). *Ann. Otol. Rhinol. Laryng.*, 43, 1035.
Gowers, W. (1907). *Borderland of Epilepsy*, p. 52, Philadelphia.
Hartmann, G. W. (1935). *Gestalt Psychology*, p. 249.
Head, H. (1920). *Studies in Neurology*, 2, 605, London.
Holmes, G. (1924). *Proc. roy. Soc. Med.* (Sects. Med., Neurol., Ophth., and Otol.), 17, 7.
Jackson, John Hughlings (1932). *Selected Writings*, 2, 302.
Ménière, M. (1860-1). *Bull. Acad. Méd.*, 26, 241.
— (1861). *Gaz. méd. Paris*, 16, 597.
Mollison, W. M. (1936). *J. Laryng.*, 51, 38.
Mygind, S. H., and Dederding, D. (1928-9). *Acta Oto-laryng.*, 13, 474.
Nielsen, S. F. (1931). *Ibid.*, 16, 415.
Peacock, J. R. (1938). *Lancet*, 1, 421.
Starr, I. (1936). *Trans. Ass. Amer. Phys.*, 51, 326.
Symonds, C. P. (1933). *Lancet*, 2, 959.
Wright, A. J. (1938a). *J. Laryng.*, 53, 97.
— (1938b). *British Medical Journal*, 1, 668.

CO-OPERATION BETWEEN OPHTHALMOLOGIST AND PHYSICIAN IN CERTAIN CASES OF VISUAL LOSS*

BY

C. B. F. TIVY, M.Ch., M.B.

Senior Surgeon, Plymouth Royal Eye Infirmary

Under our present system of medical practice the patients who come to an ophthalmologist are by no means all sent by their family doctor—a good many of them have not even seen him for years, and the first intimation he gets that all is not well with them is a letter from the specialist. Others who have seen their own doctor do not always take him fully into their confidence and do not realize that the condition of their eyes has any connexion with their health, and the family doctor himself does not always realize the connexion between the eye condition and the general condition of the patient.

It was with these ideas in my head that I suggested that a few remarks on collaboration between the ophthalmologist and the general practitioner, the physician and the neurologist, etc., might be of some value. As an example of what often happens I should like to read to you the letters which passed between me and one of my colleagues quite recently:

MY DEAR L.,—Mrs. A. came to see me yesterday complaining that her vision seemed to be slightly defective. She has worn glasses for some years and has a fair degree of hypermetropia and astigmatism, and the glasses did need some alteration. I could not get the vision of either eye up to full normal, the right one being slightly worse than the left. There is some slight pallor of both optic disks, especially the right, and, moreover, there is some rather vague limitation of the field of vision in the right eye. She says that her general health has not been very good, but I could not get any history which would connect up with early optic atrophy.

Have you had a Wassermann done? If it is positive, that would be a reason. The only other suggestion I can make is the possibility of a pituitary tumour, and I must confess that the fields of vision are not at all typical of that.

I am sorry to be so vague, but I feel that there is something wrong with the woman, but that is all I am certain of.

Yours sincerely,

C. B. F. Tivy.

DEAR TIVY,—Many thanks for your letter *re* Mrs. A. I believe you are seeing her again in a few weeks. You are quite right—there is something wrong. At your suggestion I got W—to do a Wassermann and a Kahn test. Both are strongly positive, though she has not had any symptoms which would suggest this.

Going into her history, I find that her husband died some years ago of what appears to be G.P.I., and as she asked me point-blank if I thought she had had syphilis I saw no point in hedging.

I am starting treatment right away. She had her gall-stones, gall-bladder, and appendix out four years ago. I had her radiographed last year for digestive symptoms—a case of visceroptosis.

Yours sincerely,

L—.

* Read in opening a discussion in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Plymouth, 1938.

Types of Cases likely to Benefit

I have to a large extent chosen types of cases that are likely to benefit by treatment which is within the scope of the general practitioner. I claim no originality in this paper, my object being to suggest and describe briefly some of the types of cases that pass through the hands of the ophthalmic surgeon and of which ultimate treatment lies with the general practitioner, the physician, or the neurologist. I am therefore making no reference to diseases that are wholly or mainly eye diseases, although I might really find it hard to say that any such disease is not an affair which has a direct connexion with the general health of the patient.

I need not refer at all to injuries of the eyes, and only to refractive errors to point out that many cases of apparent sudden failure of vision in one eye can be explained by the existence of amblyopia or a high error of refraction which has remained undiscovered by the patient until some quite irrelevant accident has put the other eye out of action long enough for him to be made dependent on the defective eye. Real sudden loss of vision in one eye is sometimes difficult to date accurately for exactly the same reason, an example of which I can give by mentioning the case of a young man who came to me with an injury to his right eye from a football. Before this he was only vaguely aware that his left eye was not very good, but he now discovered that he could not see with it at all. I found that he had a large detachment of the retina in his left eye, and on searching his memory he said that he had been struck in that eye by a tennis ball six months before.

Apart from injury, sudden complete loss of vision in one eye in young people is most commonly due to one of two causes—disseminated sclerosis or vitreous haemorrhage—but some cases of retrobulbar neuritis from other causes may bring about such a rapid deterioration of vision that the loss may be described as sudden; and of course large retinal haemorrhages do occur in young people, and even embolism of the retinal artery. It will be interesting to hear from the physician and the neurologist where we stand with regard to disseminated sclerosis and why it should so often attack the optic nerve or the third, fourth, and sixth nerves, and one would like to know why large vitreous haemorrhages do occur in young people who are apparently otherwise healthy; also, what is the best line of treatment.

In middle-aged people sudden failure of vision is most often due to some failure of the vascular system, either in the eye itself or in the optic tracts or visual centres. If the eye itself is affected this will take the form of retinal haemorrhage of some kind, or of embolism of the retinal arteries or thrombosis of the veins.

Retinal Haemorrhage

In working-class patients failure of vision due to a large retinal haemorrhage or to a thrombosis of one of the retinal veins is very often the first symptom of advanced arteriosclerosis, or even of chronic Bright's disease and sometimes of diabetes. In case any physician may hereby conclude that I am talking at random I must explain that by "first symptom" I mean the first thing that the patient complains of to a doctor; and the eye doctor is commonly the first to become aware of the patient's grave condition. And lest my general practitioner friends should think that I am casting aspersions on them I must go further and say that in my experience the average working-class patient (woman especially) will

carry on bravely and steadily, with all the signs of advanced arteriosclerosis, without even thinking of consulting her doctor until some outstanding feature such as loss of vision makes it essential for her to wake up and take notice of herself.

When such a patient comes before the attention of the ophthalmologist he can make *his* diagnosis fairly easily because he can see the haemorrhage or haemorrhages and he can observe the tortuous and irregular vessels. He can sometimes form a shrewd idea as to whether it is a case of primary arteriosclerosis, or one of Bright's disease or diabetes; but, of course, he must pass the patient on to the family doctor or physician for the real investigation and for treatment. As to the treatment, there is one small point that I should like to lay stress on: it is this:

Cases of thrombosis of one of the tributaries of the retinal vein should be taken in hand urgently, as there is quite a fair chance that a good deal of vision can be restored by measures aimed at lowering the arterial blood pressure and quieting the action of the heart. The thrombosis itself is generally situated distal to a spot where the vein is crossed and pressed upon by an artery, and the loss of vision is largely due to oedema of the retina as well as to haemorrhages. Even if the block in the vein is not relieved or canalized, the haemorrhages and oedema do sometimes disappear with rest in bed and treatment—and if this is done early a larger area of retina is saved from destruction.

If failure of vision is due to retinal haemorrhages its significance of course varies according to the underlying general condition, and it is in diabetes that I think the haemorrhages are of most importance, as fresh ones are a certain indication that all is not well. The physician who gets a note to say that the fundus condition is getting worse should take this as an indication for reassessment of his patient, and especially he should not be reassured by finding that the urine is sugar-free.

So far as cases of simple hyperpiesis are concerned I do not think the occurrence of occasional fresh haemorrhages is any valuable indication of the general state of the patient; but of course I am open to correction by my physician colleagues, and I should be very glad to hear from them why in some cases the retina is seriously affected and in others very little or not at all. I have notes of a number of cases where the retinal haemorrhages were numerous and large and the arteries looked very bad, but where the patient has kept alive and even enjoyed a fairly active life for many years. These cases of loss of vision from simple hyperpiesis are not very satisfactory to either the ophthalmologist or the physician, because the vision does not often improve much under treatment and the patients are generally of the active type who resent the restrictions put on them when they do not feel really ill. It is almost impossible to get them to realize that they are being saved from some major disaster. I sometimes wonder if it is worth while to take a woman who is keen on gardening or some man who is busily and fairly happily engaged in some active occupation and force him or her to lead a very quiet life in the hope of prolonging that sort of existence when if left alone he or she might carry on until everything was suddenly ended by a cerebral haemorrhage.

By no means all cases of arteriosclerosis show these extreme symptoms, and one which might be included under my heading of "loss of vision" is diplopia caused by a paralysis of the third, fourth, or sixth nerve. Paralysis of the external rectus is by far the most common, and I am not at all clear what the exact pathology of this condition is. Recovery generally takes place, but

the association of double vision with a report of wiry or tortuous retinal arteries should be regarded by the medical attendant as a well-marked danger sign.

In addition to the three great classes of haemorrhagic retinal conditions which I have mentioned, there are, of course, various blood diseases in which retinal haemorrhages occur, such as pernicious anaemia, leukaemia, and purpura, but in these cases the loss of vision is very seldom an early feature, and the physician is usually well aware of the disease before the ophthalmologist sees it.

Defects in the Fields of Vision

These form a very important item in the matter of liaison between the ophthalmologist and the physician, the neurologist and the surgeon. The elderly patient who has had a blockage of his posterior cerebral artery, causing a loss of either the right or left field of vision, will commonly assert that he has lost the vision of one eye, and can only be convinced that that eye still sees when he is made to cover the other and observe objects held at the unaffected side of his field. A purely vascular lesion in the occipital region leaves the macula of each eye unaffected owing to the anastomosis or overlapping of the blood supply from the posterior and middle cerebral regions, and the patient can still see to read slowly. It is seldom that any improvement takes place in the fields, but the patient does learn to carry his head to one side so as to make better use of his unaffected eye. Beyond demonstrating the defect in the field of vision and suggesting that the cerebral arteries are degenerating, the ophthalmologist is of little help.

It is in other cases of defects in the field of vision that the eye examination can really be of some help: for instance, in a case of middle-ear disease with symptoms of abscess in the brain the localization can sometimes be clinched between an abscess in the temporo-sphenoidal region and one in the cerebellum. The optic radiations spread out in the temporal lobe on their way from the geniculate body to the occipital cortex and can be interrupted by pressure. The hemianopia in cases involving the temporal lobe is not so completely congruous as if the occipital lobe or optic tract is affected, because the crossed and uncrossed fibres are not in such close apposition, and this incongruity is a valuable localizing sign.

Again, in suspected tumours of the pituitary the charting of the fields of vision is invaluable. The loss of the field of vision may be the first symptom of disease, or it may only be found when the patient is referred by a physician; but the alterations in the fields are of first-class importance in estimating the progress or recession of the disease. In other tumours of the brain the localization is sometimes greatly helped, if not finally determined, by examination of the fields of vision.

Injury to the Head

There is another type of case in which I think the ophthalmologist can often be a help—I mean in cases of injury to the head where there are no definite signs of fracture, but just vague complaints of headache, associated with inability to use the eyes for near work for any length of time. I have seen more than one case where the symptoms could be explained by the supposition that any use of the eyes is associated with an increased blood supply to the visual cortex, and that this in turn adds to or reproduces oedema of that portion of the brain. Where these symptoms are present there is definite indication that the patient must still be treated with care, and of course the medico-legal side must be borne in mind.

I might go on indefinitely mentioning cases where the paths of the ophthalmologist and the physician cross one another or converge.

Conclusion

My main idea is to emphasize the fact that loss of vision in the types of case that I have mentioned, and in many others, can be sorted out and diagnosed to some extent by the ophthalmologist and that he can also help in keeping a watch on the progress of the case; but the treatment is almost entirely in the hands of the family doctor, and I hope I have made it clear that loss of vision is generally only one symptom of something with wide-reaching consequences to the patient.

One does sometimes see the other side of the picture, when a patient who is suffering from neurasthenia or even mild mental disorder is found to be developing cataract. A successful operation with restoration of easy reading vision will sometimes change the whole outlook on life. I have two examples of this in mind.

The first case was that of a printer who had got so irritable and nervy that his wife had serious fears that he would do away with himself. I found that he had nuclear cataract in both eyes, and after a lot of coaxing he allowed me to operate on one eye. This was seven years ago. I had a most grateful letter from him last Christmas in which he enclosed a specimen of the minute printing that he was working at, and he has many more happy years of life before him.

The other case was that of a country gentleman who had given up his shooting and fishing, had lost all interest in his property, and had become a nervous wreck who spent most of his time drinking at his club. He was dragged to see me by a worn-out daughter, and both he and she assured me that he could never face an operation. I coaxed and bullied him, and his doctor doped him with sedatives, and then I operated on him; he nearly broke the hearts of the matron of the nursing home and her nurses. He knocked his eye and had a haemorrhage, and he did everything possible to ruin his eye, but eventually we got him home. In due course he sent me a brace of pheasants which he had shot, and he lived for several years, a more or less reformed character.

I am therefore pleading for a better understanding and collaboration between the general practitioner and the ophthalmologist, so that when the former gets the latter's report he should read it not as something which is to be pigeon-holed and only referred to again if the patient complains about some eye symptom, but as a description of the patient's morbid anatomy which has been seen by the ophthalmologist in a way that is seldom possible in any other part of the body or by any other means of examination.

It may well be, on the other hand, that the family physician feels that he does not always get the help he expects or needs from the ophthalmologist, and I hope that some of the other speakers will point out his shortcomings and give us an opportunity of trying to do better.

Under the name of Journées du Rhumatisme a meeting will be held at the Hôpital Cochin, 47, Faubourg Saint-Jacques, Paris, on October 8. The morning from 10 a.m. will be devoted to a demonstration of patients exhibiting the remote results of operations for chronic arthritis of the hip and gonorrhoeal rheumatism. In the afternoon a discussion will be held on prolonged and chronic forms of gonorrhoeal rheumatism at the Faculté de Médecine. Further information can be obtained from the Ligue Française contre le Rhumatisme, 23, Rue du Cherche-Midi, Paris, 6e.