OCULAR ASPECTS OF PITUITARY DISORDERS.

BOWMAN LECTURE BY DR. DE SCHWEINITZ.

THE Bowman lecture to the recent annual congress of the Ophthalmological Society of the United Kingdom was delivered by Dr. G. de SCHWEINITZ, of Philadelphia, President of the American Medical Association. The lecture consisted of a discussion of certain ocular aspects of pituitary body disorders mainly exclusive of the usual central and peripheral hemianopic field defects.

The lecturer opened with a tribute to the memory of Sir William Bowman, and spoke also of his distinguished predecessors in the lectureship. He thought that although the disorders of the pituitary body had received much attention in this country and elsewhere, certain aspects were still worthy of further consideration.

Anatomy.

The first part of the lecture dealt closely with the anatomy of the pituitary region, and detailed the results of investigations made by Dr. Parsons Schaeffer, Professor of Anatomy at the Jefferson Medical College, Philadelphia. Elaborate *post-mortem* examinations and dissections, studied and discussed with the lecturer, led them to the conclusion that many misstatements had been made, particularly with regard to the relation of the optic chiasma to the chiasmatic sulcus. They found direct relation to hold in but 5 cases in the 125 bodies examined. The relations of the chiasma to the sphenoidal sinus, the diaphragma sellae, and the hypophysis itself were examined, and it was evident that in the large majority of cases the chiasma lay so directly over the diaphragma that pressure from growth of the pituitary body of sufficient size would bear upon the crossing chiasmatic fibres. The distance between the chiasma and the diaphragma was found, however, to vary from a potential space to several millimetres, and this factor, combined with the variable thickness of the diaphragma, made it apparent that very considerable enlargement of the pituitary body might be necessary before pressure could be assigned as the cause of visual field changes.

Finally, the vessels of the arterial circle of Willis were considered, and the lecturer showed how the anterior cerebral arteries may become "pressure cords" on the chiasma or optic nerves as the result of crowding from below. Pressure from these or other vessels might account for the production of field defects.

Possible Production of Toxins.

While the anatomical conditions might thus readily account for many of the visual field changes, through pressure or traction, or both, upon the optic chiasma, some changes, more especially the scotomata, central or paracentral, seemed to need some other explanation. The lecturer suggested as a more likely factor the elaboration of toxins from the enlarging gland; if they did exist they might reasonably be expected to attack primarily the more highly specialized fibres of the macular bundle. The possible line of attack of such toxins was considered and the lecturer then turned to the many observations made on the visual field changes, emphasizing how frequently the "typical" defects varied. The absence of bitemporal hemianopsia too often diverted attention from the pituitary region, more especially as lateral homonymous hemianopsia was far from "very rare" in disorders of the hypophysis. The various forms of scotomata were reviewed and the similarity between them and those resulting from such lesions as toxic amblyopia and tabes dorsalis was pointed out. Careful plotting of these defects was necessary in differential diagnosis, though the possible association of tabes dorsalis with pituitary disorder had to be borne in mind. The patient often applied for relief from failing vision only in the later stages of the disease, when the visual acuity of one or both eyes had much declined.

Pituitary Headache.

Dr. de Schweinitz drew attention to the "pituitary headache" as a conspicuous symptom, showing how it was often less intense than that of other intracranial lesions and less associated with nausea and vomiting. The varying

structure of the diaphragma sellae must play a part in the intensity of the headache, but the lecturer urged the necessity for more general recognition of the pituitary headache as an aid to early diagnosis. Such headache might exist for a long time before any other change, and much time might be lost if the headache were treated along wrong lines, being readily attributed to an error of refraction, gastric disturbance, etc. The possible association between migraine and pituitary disorder was not held to be likely.

Pregnancy and Menstruation.

Dr. de Schweinitz spoke next of the physiological enlargement of the pituitary body in pregnancy, and showed from his own observations and those of others that it frequently gave rise to contractions in the temporal visual field. With the return of the pituitary body to its normal size the full field was regained, but repeated pregnancies might leave a permanent defect. In no case had a scotoma been found with or without hemianopsia, and the lecturer suggested that this gave support to the theory of a toxin causing scotomata, no toxin being produced in association with the physiological enlargement of the gland in pregnancy. Objections might, he said, readily be raised to such a suggestion, but they did not eliminate it from consideration as one of the possible causes. After double oophorectomy similar changes took place in the visual fields but were permanent. No changes in pituitary function were found, and it was suggested that, as in pregnancy, the enlargement was sufficient to cause pressure or traction upon the optic chiasma but insufficient to produce general signs of changed function. The recognized tumefaction of the pituitary body at the menstrual periods could be assigned as the cause of the hemicranias, scintillating scotomata, and transient hemianopsias sometimes observed.

Some persistent types of headache, associated with various physical signs, at about the age of puberty suggested a pituitary disorder, and though such cases showed no contraction on the temporal sides of the visual fields the lecturer considered it worthy of note that relative central scotomata could be demonstrated. The optic nerve head showed congestion, and this again suggested the presence of a toxin, the change differing from that in which only physiological enlargement was presumed.

The Pituitary in Toxic Conditions.

The state of the pituitary body in various toxic conditions was discussed, and though the lecturer disagreed with the suggestion that methyl alcohol blindness depended on any pituitary lesion he made some interesting remarks upon tuberculous lesions of the gland, which he said are not infrequent and might have a bearing upon such manifestations in the eye. The interesting condition of hereditary optic nerve atrophy (Leber's disease) might, he thought, be the result of a temporary disturbance in the pituitary, whereby a toxin might be formed which damaged the nerve as a whole or its most delicate part—the papillo-macular bundle.

Diagnosis.

Dr. de Schweinitz called attention to the infrequency with which papilloedema was found, and to the peculiar waxy pallor of the nerve head, which had often been described. The x-ray appearances of the sella turcica were considered, and the lecturer laid stress on the fact that the pituitary body might be considerably enlarged without x-ray evidence of change in the sella turcica.

Treatment.

The treatment he considered under three heads—glandular therapy and medicinal treatment; radiation (with x rays and radium); and operative treatment. Striking results were shown of glandular therapy with thyroid and pituitary extract, alone or combined with mercurial treatment. Even when syphilis could be reasonably excluded the mercurial treatment appeared to give valuable help to the gland extract. He believed that radiation, held in high esteem by some, aided in the control of recurrence after operative treatment.

It might be a nice point to decide how long such measures should be used before resort to surgical treatment.

The lecturer spoke strongly of the necessity for frequent charting of the visual fields; it was a far surer guide to the state of affairs than repeated x-ray examination of the sella turcica.

Throughout Dr. de Schweinitz illustrated his findings and statements with excellent plates, both of the anatomical relations and of the visual field changes.

VOLUNTARY HOSPITALS AND MEDICAL STAFF FUNDS.

THE part of the hospital policy of the British Medical Association which seems to promote most discussion, and may perhaps find most difficulty of acceptance by the staffs of certain hospitals, is that dealing with the formation of medical staff funds. It seems well, therefore, that an attempt should be made to set forth the origin and development of the proposal, to describe the present position of the matter, and to summarize the views of the various parties in the controversy.

There can be little doubt that the question of the payment of members of the staffs of voluntary hospitals arose in consequence of the increasing intervention of the State in the treatment of disease. Thus in 1908 the Representative Meeting adopted the principle that "the services of the profession should not be given gratuitously to patients who are maintained by public funds." In 1914 the Association's model scheme for the treatment of tuberculosis was approved by the Representative Meeting, and in that scheme a suggestion for the formation of a special fund, with hints regarding mode of distribution, was included. As a result of the Report of the Royal Commission on Venereal Disease in 1915, the Council of the Association formulated a series of recommendations, including the following: that the services of all members of the medical staffs of hospitals engaged in carrying out the treatment should be paid for by the State or local authority; that special staff funds should be formed; and that certain methods enumerated might be used in the disposal of these funds. These recommendations were passed at the Annual Representative Meeting in 1916.

In the meantime the war was increasing enormously the responsibility of the State for medical treatment; and the voluntary hospitals had undertaken the treatment of soldiers and sailors suffering from diseases or injuries connected with the war. In 1917 the Report of Council extended the recommendations with regard to payment to a staff fund in connexion with tuberculosis and venereal disease, and advised their application to voluntary hospitals treating patients maintained by public funds, leaving to the staffs their voluntary status as regards purely charitable work. At the Representative Meeting at which these proposals were approved it was agreed that the question of payment for the treatment of discharged sailors and soldiers should be referred to the Council.

Between 1917 and 1918 negotiations took place with Mr. Barnes, the Pensions Minister, and three members of the British Medical Association were appointed to the Advisory Committee formed by the Ministry of Pensions. The British Hospitals Association practically adopted the policy of the British Medical Association; and in January, 1918, as the result of discussion between the Ministry of Pensions and London hospital staffs, a memorandum of arrangements was issued in which financial acknowledgement of the work done by hospital staffs for the Ministry was agreed to. The Representative Meeting in 1918 adopted the recommendation of the Council that the financial acknowledgement in the respect of discharged sailors and soldiers should be two guineas a case, or 10 per cent. of the amount paid to the institution for the maintenance and treatment of the patient. A proposal of the Council in 1919 that this remuneration should not be less than 25 per cent. of the payments to the larger hospitals, and not less than 15 per cent. of the payments to the smaller hospitals, was rejected by the Representative Meeting, which passed a resolution that when the treatment of soldiers and sailors for diseases or injuries connected with the war was undertaken at voluntary hospitals, the medical staff should be adequately remunerated. In 1920 the Council again advised that not

less than 25 per cent. of the payments to hospitals should be handed over to the staff, this time in the case of all hospitals; and on this occasion the Representative Meeting adopted the recommendation.

So far we have indicated the effect of Government assumption of responsibility for treatment upon opinion in the British Medical Association and amongst hospital staffs. But at this point another factor comes into prominence. As pointed out in the Cave report, until the year 1913 the voluntary hospitals in London were able for the most part to meet their expenditure out of their receipts. With the war came a steady increase in the cost of provisions, fuel, drugs, etc., and a growing demand for an increase in salaries and wages, so that expenditure grew faster than income. The withdrawal in 1919 of many military patients, for whom a Government grant had been received, accentuated the difficulties of the hospitals. Consequently, in 1920 the governing bodies of many of the voluntary hospitals, in searching for means to increase their income, had adopted various methods for obtaining from patients, either individually or through their societies or otherwise, contributions towards their maintenance in hospital. These contributions were the more easily forthcoming owing to the high rate of wages which had prevailed during and after the war, and the consequent disappearance of a large number of the necessitous poor.

Other and less important factors in raising the demand for staff funds were the difficulty experienced by the younger members of the staffs of hospitals in making both ends meet (especially when hospital work was coming to occupy more and more of their time), and the fact that in many districts in England representatives of the working classes had obtained seats on the governing boards of voluntary hospitals, and had promoted contributory schemes in which a definite return in the way of hospital treatment was expected as a result of these money contributions.

In consequence of these developments the Council of the British Medical Association called a conference of the honorary medical staffs of voluntary hospitals with more than 50 beds, at the house of the Royal Society of Medicine on December 21st, 1920. It was attended by 138 representatives. At this conference it was agreed that persons who were not necessitous should make contributions towards their maintenance in hospital; that paying patients, who paid more than full maintenance, should arrange their fees for treatment with their medical attendants in the hospital; and that in connexion with certain classes of patients "staff funds" should be established. Thus it was at this conference apparently that the resolution with regard to staff funds which has come to be known as the Leicester resolution was carried. The terms of this resolution are:

"That in the event of decisions being taken which would lead to patients paying in part or in whole the hospital maintenance fees, either individually or by some contributory method, or with the addition of rate aid or State aid, or by a combination of two or more of these methods, a percentage of all such payments should be passed into a fund which can be allocated in any manner which each honorary medical staff may determine."

At the Representative Meeting held in Newcastle in 1921 the Council, after calling attention to the final report of the Cave Committee appointed by the Minister of Health to inquire into the financial position of the voluntary hospitals, advised the adoption of the Leicester resolution. This was carried with the addition of a sentence excluding from the scope of the resolution those patients for whom voluntary hospitals may happen to provide accommodation as paying patients, who therefore pay more than their actual maintenance charges, and by whom fees for professional services should be payable directly to the doctor. The Representative Meeting disagreed with paragraph 50 of the final report of the Cave Committee on Staff Funds, passing the following resolution:

"That this meeting disagrees with the following paragraph 50 (pp. 31-2) of the Report of the Government Committee on Voluntary Hospitals, and maintains that the essence of the voluntary hospital system is the independent and voluntary management and that this is in no way related to the conditions of service of the medical staff:

"50. In connexion with the grants by public authorities it appears desirable to refer to the practice which obtains in some hospitals of carrying a proportion (from 10 per cent. to