I.—GLAUCOMA


The early diagnosis of chronic glaucoma is a matter of difficulty and no means should be neglected to assist in making a true finding. It has been suggested that the change in intra-ocular tension which follows the subcutaneous injection of caffein might be used as a means of diagnosis. Federici has tested this in a number of cases and concludes that it has little diagnostic value and may even be dangerous on account of the increase in blood pressure which not infrequently follows.

Harold Grimsdale.


Friedenwald gives an interesting justification in this article for pre-operative retro-orbital injection of adrenalin. Briefly the argument is this:—In the normal eye, the intra-ocular capillary pressure exceeds the intra-ocular pressure by some 20-30 mm. Hg. The walls of the capillaries are able to sustain this pressure, and hold back the protein content of the blood plasma. When the anterior chamber is evacuated, the pressure on the capillary walls is suddenly increased by an amount equal to the pre-existing intra-ocular pressure and brings about the passage of protein molecules and the occurrence of oedema, particularly in the ciliary body. As a result of this, the intra-ocular pressure after simple puncture of the cornea may rise to a height greater than it was before operation. Duke-Elder has shown that if adrenalin be injected retro-orbitally, the aqueous formed after puncture of the anterior chamber contains a percentage of protein which is only slightly above the normal concentration. This is borne out clinically by some experiments the author made on dogs, in which he found that the previous injection with adrenalin abolished the secondary rise of intra-ocular pressure after drainage of the anterior chamber and also caused a much more gradual restoration of the intra-ocular pressure to normal. In the human being 1,cc. of 1 per cent. novocaine is mixed with 0.2—0.3 c.c. of 1/1,000 adrenalin and injected retro-orbitally, the needle being passed through the lower lid near the inferior temporal angle of the
orbit. The operation is begun between five and ten minutes after the injection. The only contra-indications are severe hypertension or advanced arterial disease.

F. A. W-N.


(3) Marlow finds that the effect of reducing the illumination of the tangent screen when examining cases of chronic glaucoma, increases the sensitiveness of the test. His method is to reduce the illumination to about 0.2 foot candles and after allowing time for adaptation to take place, to plot the patient’s field with a 1 mm. object at a distance of 1 metre. In this way, he was able to demonstrate in one case a sickle-shaped scotoma and in another, a nasal step which was not evident in light of ordinary intensity. In the discussion of his paper, Luther Peter pointed out that the reduction of the light sense in glaucoma would account for the field defects and Mark Schoenberg suggested the employment of dark glasses instead of reduced illumination.

F. A. W-N.

II.—RETINA

(1) Gonin, J. (Lausanne).—Thermo-puncture or chemical cauterisation in the treatment of detachment of the retina. (Thermoponctions ou cautérisations chimiques dans le traitement du décollement rétinien). *Arch. d’Ophthal.*, May, 1932.

(1) In this article, after a reference to criticisms by some of his professional brethren, Gonin discusses at some length the relative merits of the two methods of treatment indicated in the title, and concludes by a brief statement of his opinion thereon.

The idea of creating choroido-retinal adhesions by chemical irritants applied to the outer surface of the choroid, after exposure by scleral trephining, occurred to the author in 1921, as being less dangerous than Schoeler’s plan of injecting tincture of iodine. As a result of experiments on rabbits Guist concluded that potash, in the form of a pencil, is preferable to other caustics, and that it may be applied to the choroid without untoward results was shown by Guist and Lindner.

Gonin originally employed the thermo-cautery because it seemed an easy matter to limit its application to the desired spot, and because it proved capable of creating adhesions between the vitreous,
Retina, choroid and sclera, sufficiently firm to resist the traction of the vitreous which, in his opinion, is the usual if not invariable cause of the retinal rent. He adopted this method in a sufficient number of cases to determine its potentialities. In three consecutive series of 100, he decided that the use of the thermo-cauterity was advisable in 221 of the 300 cases. Complete recovery was obtained in approximately 40 per cent., generally by one cauterisation. In 103 cases some improvement ensued, and 78 cases were unsuccessful.

Gonin asks:—Would cauterisation by potash have shown any definite advantage in the cases cured by the other method; would it have given better results in the unsuccessful cases, or have increased the chances of success in conditions which appeared to contra-indicate the use of the thermo-cauterity? He expresses great doubt that the operative failures which he has recorded are attributable, at least in the majority of them, to the method of operating.

Lindner has alleged that the thermo-cauterity produces a condition allied to necrosis in the adjoining part of the retina, leading frequently to secondary rents; and also that it induces a shortening of the retina which results in traction towards the cicatrix. Gonin’s experience is that the first complication is very exceptional and occurs only in conditions which appear to be independent of the cauterisation. In nearly 500 cases treated by the Paquetin cautery, not more than ten showed a secondary retinal tear. He has not had a single instance of traction on the retina after the retina has become well applied to the choroid. Folds radiating from the cicatrix result from imperfect re-application.

Haemorrhage from the choroid following thermo-puncture is, as the author pointed out long since, the chief complication to dread. If chemical cauterisation minimises or avoids this danger it will prove a notable advantage of this method.

Large or multiple retinal rents call for more thermo-punctures than can be made at one sitting. Here chemical caustics will prove preferable, as also in cases in which the site of the rent cannot be precisely determined.

The author’s view is that, at present, the treatment of retinal detachment by chemical cauterisation cannot supplant that by thermo-cauterisation, but that it may prove a valuable alternative in cases in which the application of the thermo-cauterity is difficult. When a rent in the retina can be obliterated by one, or if necessary two, thermo-punctures it would be unjustifiable to abandon this procedure for one much more difficult of application. On the other hand, when it is desirable to establish a long line of barrage in relation to rents difficult to localise or to surround a large rent by a semicircle of adhesions, failing which it would be impossible to make any attempt towards cure, no operator should hesitate to adopt the Guist-Lindner method until some simpler procedure, attaining similar results, is brought forward.

J. B. Lawford.

(2) Reports of the treatment of detachment of the retina by Gonin's method are now numerous, but further records are desirable, especially of cases observed over a prolonged period. Information on the question of recurrence of detachment is also important.

In a previous communication (Arch. d'Ophtal., June, 1931,) Veil and Dollfus recorded 11 cases: they now report their further experience. Clinical notes with numerous charts of fields of vision, of the hitherto unreported examples, are given, followed by a summary of the results.

Of 32 cases operated upon, 14, i.e., 43.7 per cent, were "completely cured." Four of these were under observation over 12 months. Including the cases of "amelioration" the positive results equalled 39.3 per cent. In 10 cases, only one thermo-puncture was required; in three instances 2, and in one instance 3 applications were necessary. These repeated interventions were called for in patients in whom a large rent or multiple rents had occurred. Thirteen of the 14 cases were myopic. In no instance was recurrence of detachment noted: in this respect the writers' experience has been more fortunate than that of some earlier observers. The cases in which the operative prognosis is least favourable are those with a large retinal rent, multiple rents or hypertonus.

J. B. Lawford.

III.—MISCELLANEOUS


(1) Bulson reports the case of a lady who had noticed blurring of the vision in one eye, the left, 11 days previous to the first consultation. During the last three days the vision had depreciated to counting fingers on the temporal side only. The pupil was dilated and sluggish in reaction to light. Ophthalmoscopically there was swelling of the nerve head estimated at between 3 and 4 dioptries, with marked turgescence of the veins, blurring of the disc margins, and a few punctate haemorrhages on the disc. X-ray examination showed marked dullness of the left sphenoidal sinus. The left sphenoidal sinus was opened and found to be completely filled with pus, which seemed to be under pressure. Two days
after the operation the turgescence of the nerve head had considerably diminished. Three weeks after the operation the vision had returned to normal, and this was retained during the next five years while she was under observation.

The author reports the case because statements, which he instances, have been made that suppurative processes in the posterior paranasal sinuses cannot produce papilloedema.

A. F. MacCallan.


(2) Doherty and Trubek had opportunities of examining the fundi of ten cases of sub-acute bacterial endocarditis, in two of which their observations were important in arriving at a diagnosis of the conditions. This disease is of unusual interest to physicians because of the variety of constitutional symptoms and changes which it presents. Early recognition is often difficult even by those familiar with its manifestations, and one must search closely for the remarkable phenomena which may give a clue to the diagnosis. The embolic phenomena resulting from pieces of the vegetations or, perhaps, from clumps of the bacteria themselves lodging within vessels in the viscera, skin or mucous membranes, are particularly important in the differential diagnosis. The finding of the retinal lesion is of considerable value when the cutaneous petechiae are few or not distinctive, because of the presence of other varieties of skin lesions.

The daily examination of the fundus may at any time reward the persistent observer with a retinal lesion which often makes its appearance between examinations and may be quite transitory, often completely vanishing within a few days. The authors have encountered a variety of retinal lesions in this disease but the one which they consider as particularly pathognomonic is that which they have termed a ‘canoe-shaped’ linear haemorrhagic spot with a light central area appearing most often from 1 to 2 disc diameters away from the nerve head but at times only in the periphery. The lesion appears in the most superficial portion of the nerve fibre layer; its shape is dependent on the arrangement of the fibres of this layer, the long axis of the haemorrhage coinciding with the direction of the emerging fibres.

These retinal lesions were described by von Roth in 1872 and again by Litten in 1902, and are reported in Marcus Gunn’s edition of Gowers’s Medical Ophthalmoscopy (Churchill, 1904) where as good a description as that given in the paper under review will be found.

A. F. MacCallan.

As a form of protein shock treatment Whalman reports the value of intravenous administration of typhoid-paratyphoid vaccine. The adult dose given was 25,000,000 organisms and though this produced typical systemic reaction any focal reaction was absent or practically so.

Many forms of inflammation of all parts of the eye were treated with favourable results—in some cases after much other treatment had produced no improvement. It is pointed out that local treatment and the elimination of foci of infection must be carried out as usual.

R. C. Davenport.


Cecchetto and Papagno report a case in which a severe blow on the right upper orbital margin was followed immediately by great reduction of vision of the right eye. There was, when the patient was seen, a contused and lacerated wound at the junction of the outer and middle thirds of the orbital margin; the fundus showed a haemorrhage covering the fovea; when this absorbed, a typical “hole” was visible. The authors regard this case as of more than usual interest since it shows that an indirect injury is able to produce in some cases, a hole at the macula.

A similar cause was recorded in one of the cases which were collected by Ogilvie and published in a paper in 1900 in the Transactions of the Ophthalmological Society, U.K. The authors, who add a considerable list of previous investigators, do not seem to be acquainted with this paper.

Harold Grimsdale.


In this long paper Santonastaso gives a detailed account of the various forms in which leprosy may attack the eye. Since blindness is comparatively common in the first years of the disease, it is important to recognize ocular symptoms early in order that treatment may be begun promptly.

Leprosy is so rare in this country that few ophthalmic surgeons have seen cases, but this paper which is fully illustrated, is a mine of information on the subject.

Harold Grimsdale.

Laricchia has examined thoroughly 150 deaf-mutes. Beyond errors of refraction, he has observed various changes in the fundus; optic atrophy, retinitis pigmentosa, disturbance of retinal pigment, etc.: "the visual fields," the light and the colour sense showed no "abnormality worthy of note." Having regard to the finding of retinitis pigmentosa, this last statement is rather astonishing.

HAROLD GRIMSDALE.


The value of visual acuity is purely experimental; it is not possible to correlate the power of resolution of the eye with the anatomical arrangement of the cones at the macula. Vision is not simply the formation of an image on the retina; there are many other psychological factors, varying with the individual, which make it impossible to formulate purely physiological laws for its estimation.

HAROLD GRIMSDALE.

(8) Leonardi (Rome).—Removal of non-magnetic foreign bodies from the anterior chamber. (L'estrazione di corpi non magnetizzabili dalla camera anteriore). *Boll. d'Ocul.*, May, 1932.

Leonardi points out the difficulty of removing foreign bodies which are lying in the angle of the chamber by the usual incision unless an iridectomy is performed at the same time, and to save the eye this mutilation he suggests the following method. He makes with a keratome a very small opening at the limbus, allows the aqueous to escape very gradually, and then enlarges the opening by repeated small cuts with a Graefe's knife. In this way he divides about a third of the circumference. Then lifting up the flap in a pair of forceps, he lays bare the surface of the iris and can remove the foreign body.

HAROLD GRIMSDALE.

(9) Favaloro (Catania).—The value of exploratory puncture in cases of neoplasm of the eye or orbit. (Sull'importanza diagnostica della punctura esplorativa nelle affezionineoplastiche dell'occhio e dell'orbita). *Boll. d'Ocul.*, May, 1932.

Favaloro recommends the use of exploratory puncture in cases where orbital tumour is suspected. He finds that the needle
gives valuable information as to the size and consistency, and also as to the exact seat of the neoplasm. Using a needle with lumen 1 mm. in diameter, he is able to withdraw small fragments of the growth which may be examined microscopically to give information about the histological nature of the mass.

It is important to use a long needle, at least 50 mm. long, or the surgeon will be unable to reach the deeper part of the orbit.

Favaloro strongly recommends trans-scleral puncture in cases of suspected intra-ocular tumour. The withdrawal of some fluid from the aqueous or vitreous will sometimes give material in which the elements of the neoplasm may be recognized. He thinks the risk of metastasis by implantation has been exaggerated.

Harold Grimsdale.


Horniker and Salom describe the ocular findings in four subjects of this disease. They rarely come under the notice of ophthalmic surgeons, since the patients are, from the cerebral lesions, of feeble mind. One of the patients died, and the eye grounds were examined microscopically. The masses on the disc and in the retina resembled, in structure, the patches in the brain. The authors draw attention to the part played by the vessels in the production of the appearance, and compare the condition with that found in Lindau's disease.

Harold Grimsdale.


According to Sondermann the corneal endothelium is of ectodermal origin, and not mesodermal, as has been hitherto supposed.

The thickened surface ectoderm, lying in front of the lens vesicle, is invaded by scleral fibres which split it into two layers, so that these fibres are lined on both sides by epithelial cells; and it is from those cells lying on their inner side that the endothelium arises.

The formation of the anterior chamber begins in the periphery in connection with the development of the pupillary membrane, which usually commences about the end of the second month or the beginning of the third.
The aqueous fluid arises by filtration from the relatively wide capillaries of the tissue lying in front of the rim of the optic cup, and of the pupillary membrane.

The filtration is brought about by the gradually increasing pressure exerted by the sclera (as it undergoes more and more condensation) on the vena irido-scleralis in its passage through this layer, whereby the flow of blood is obstructed and the pressure within the vein is abnormally raised.

The formation of the anterior chamber and the pupillary membrane may not infrequently be delayed very considerably, even for several months.

**THOS. SNOWBALL.**

(12) Rossi (Modena).—The relation of primary glaucoma to the organic constitution. (Glaucocma primario e costituzione organica). Arch. di Ottal., January and February, 1932.

(12) In this long paper Rossi develops the thesis that glaucoma is not merely a local disease but depends on the condition of the whole organism. The older ophthalmic surgeons often regarded glaucoma as a manifestation of gout or some other diathesis. This view, in Rossi’s opinion, has more truth in it than the modern mechanical theory, or the theory which explains the affection by the supposed disturbance of the action of one or more endocrine glands.

The subject is discussed under several heads; after dealing with the factors of race, sex and age, the question of hereditary influence is taken up; there is some evidence that glaucoma tends to run in families, but there is nothing to show whether this is the expression of some anatomical abnormality, or whether it denotes some inherited disturbance of function. Individual biochemistry is too complicated a matter to allow us to select some one endocrine gland as causing by its faulty metabolism, pathological variations of the intra-ocular pressure. The body must be regarded as a whole. Rossi has made anthropological measurements of a number of glaucoma patients with the object of discovering whether any special type is more liable to glaucoma than another.

He concludes that the glaucoma patient corresponds nearly to the brachy-cephalic alpine race, and that this type is specially prone to glaucoma.

The brachytypes, as against the longitypes, at a certain period of life, that is to say when old age is beginning, with the special disturbances of all circulatory and other systems, with alterations in the exchange of water, and in the vascular tension, tend to show the premonitory signs of glaucoma.

**HAROLD GRIMSDALE.**