GLAUCOMA AND GLAUCOMA OPERATIONS.


(1) McGuire describes a case of hydrophthalmos in a boy, aged four years, which followed a perforating wound of the cornea and lens capsule by a piece of wire. The lens matter gradually absorbed, but, at the end of six months, before the pupillary area had become quite clear, the eye showed signs of developing hydrophthalmos, with atrophy of the iris which became tremulous, but no opacity of cornea and no congestion or pain in the eye. Two and a half years after the accident the tonometric reading was 43 to 54. Vision: doubtful P.L. An iridectomy gave temporary relief of tension, which, however, soon rose again and trephining was tried with similar results. The eye became painful, ectatic, and very much enlarged, and a year later it was excised.

J. Jameson Evans.


(2) Böhm gives a minute description of four eyes in which iridectomy had been performed for congenital hydrophthalmos. In all four no proper Schlemm's canal could be discovered, ruptures of Descemet's membrane were present, the lens was cataractous, and the retina and choroid were more or less atrophic, and the optic disc was cupped. Iridectomy had failed in all four cases, although in two no stump had been left and the angle of the anterior chamber had been freed. In the other two short stumps had remained, in one case blocking the previously free angle, in the other adherent to the cornea by lateral anterior synechiae. On the question of iridectomy versus sclerostomy the author has no definite opinion to offer, but appears to incline towards the former.

H. M. Traquair.


(3) Morax has made a careful study of five cases of optic atrophy with excavation of the optic nerve, but with normal or slightly subnormal tension, with a view to discovering whether such
cases are essentially optic atrophies or simple glaucomas in eyes where normal tension is unusually low. As a result of his investigation he concludes that, both from their clinical course and their therapeutic indications, these cases should be differentiated from those of simple glaucoma with slight hypertension, as they run a slow progressive course which is not influenced by pilocarpin or tension-reducing operations such as sclerecto-iridectomy.

R. J. Coulter.


(4) Gifford, encouraged by “the admirable results of Elliot’s trephining in chronic glaucoma, began at once to look eagerly for a case of buphthalmos to try it on.” He was disappointed to get a poor result in each of two cases of buphthalmos on which he tried it. In both the operation was easy, but the reaction was somewhat prolonged, and the final result was nil. He has had similar reports from other surgeons. Gifford rejects the view that the failure of trephining in this condition is to be ascribed to a tendency to plastic exudation, and thinks it “more probable that on account of the excessive enlargement of the eye, the conjunctiva, especially at the limbus, must be applied abnormally tightly to the globe; hence, when after trephining, healing is complete, there must be unusual resistance to the formation of a bleb, and an abnormal tendency for the conjunctiva to block the trephine hole.” He, therefore, suggests that instead of putting the hole as far forward as the abnormally wide limbus will allow, one ought to put it as far back as possible, and still keep the inner side of the hole within the chamber. This suggestion is in accordance with the reviewer’s experience, and carries out the first principle of a successful sclerocorneal trephining, which is to tap and subconjunctivally to drain the anterior chamber, whilst placing the opening so far forward as to avoid danger of uveal impaction. An opening placed too far back might involve such a danger, but it is certainly not necessary to split the cornea, as is done in cases of ordinary glaucoma.

R. H. Elliot.


(5) Prince secures a more permanent drainage through the trephine hole by the insertion into it of his gold “mule shoe” drain. The conjunctival flap is made by making an incision parallel to the corneal margin and 6 mm. from it. The reflection of the flap, the corneal splitting and trephining (1.5 mm. trephine) with iridectomy are carried out in the ordinary way. The drain, which consists of a gold ring with a solid toe, is then placed so that the
toe rests vertically in the trephine opening, while the position of the ring conforms to the surface of the sclera. The conjunctiva is then replaced in position over the drain, and stitched in position by an overcast suture. The eye is kept closed and bandaged for three days to permit a clot to fill the trephine opening and hold the drain in position.

J. Jameson Evans.


(6) Knapp, of New York, draws attention to the disposition shown in recent years to look for the cause of glaucoma in one or another of the wide-spread conditions which affect the body as a whole. He first reviews some of the literature, which deals with the relationship between an increase in general systemic pressure and a rise in the tension of the eye, and appears to accept the view now generally adopted, that in this case it is very hard to trace cause and effect. His own statistics of 50 cases support such a position. He next deals with the ophthalmoscopic changes found in the retinal vessels of glaucomatous patients; he has been “particularly struck by the frequent and very marked changes found in the acute glaucomas after the attacks were passed; some of the arteries were nearly obliterated and sheathed with broad white lines, and the discs were pale.” He then passes on to consider the possible rôles of nephritis, nasal empyema, and nervous disturbances, and seems to share the general opinion as to the unsatisfactory nature of the results of such study up to the present, but thinks that the available evidence suggests an involvement of the sympathetic nervous system in glaucoma. He would tentatively adopt a classification of cases of primary glaucoma into (1) the circulatory and (2) the nervous. In the former group he would include all those cases which are “characterised by congestive attacks, by retinal vascular changes and by the local changes in the eye, which favour an increased tension.” In the latter he would place those “which show dys-glandular disturbances, no arterio-sclerosis, and which affect any type of eye. . . . The treatment in the first group is operative, and of the greatest importance is the attention to the general health; in the second group, operation is indicated in some; our efforts at general treatment must await further knowledge of dys-glandular affections.”

R. H. Elliot.


(7) Hughes relates against himself an exceptionally interesting case of a female, aged 34 years, in whom he had diagnosed glaucoma simplex. This patient was under observation for correction of
refraction quite frequently. Doubtless no mydriatic was ever used on these occasions. Twelve years after the first occasion upon which the patient was seen, Hughes wished to take a tonometric reading, and, for the purpose instilled two drops of freshly prepared 1 per cent. holocain hydrochloride into each eye, and, later on, an extra drop into the right eye. Hughes then went out of town. Two hours after the visit the patient began to have severe pain and in two hours more she was semi-delirious. As the writer quaintly says, "When the long distance message reached me, I felt very much like staying out of town indefinitely." He ordered 1 per cent. eserin every hour, with hot fomentations. When the patient was seen eight hours after the attack "she had a most beautiful acute inflammatory glaucoma, particularly of the right eye." The symptoms subsided under energetic treatment, and iridectomy, hitherto refused, was duly performed. After excluding as causes mental impression from the use of the tonometer and the coincidence of an impending attack in any case, Hughes finds himself obliged to conclude that three drops of 1 per cent. holocain precipitated an attack of acute inflammatory glaucoma.

**Ernest Thomson.**

(8) **Ewing, A. E. (St. Louis).—Post-ciliary scleral trephining for glaucoma; the conjunctival flap; an improvised trephine. Amer. Jl. of Ophthal., February, 1917.**

(8) **Ewing** has already described (Am. Jl. of Ophth., July, 1917), his operation of post-ciliary trephining in which the method of forming the conjunctival flap was to make it with the first incision through the conjunctival and episcleral tissues down to the sclera. The method has not been uniformly successful, and he has now tried buttonholing the episcleral tissue down to the sclera at the location for the opening into the sclera at the base of the conjunctival flap. There has been no complication in the healing, but greater conjunctival swelling about the wound than in the previous cases and the soreness on pressure was more persistent. The continued soreness may mean that the thinner protection to the choroid is not desirable, although there is no intra-ocular evidence that the choroid is at all involved. In order to obtain a 2:5 mm. trephine (which was unobtainable from the instrument dealers) an improvised one was made by putting a very sharp edge on a tube made for punching eyelets, and fitting it with a rubber handle made from a laboratory rubber stooper trimmed down to the conical shape of the Elliot trephine handle.

**Ernest Thomson.**

(9) **Parker, Walter R. (Detroit, Michigan).—The present status of the sclero-corneal trephine operation for the relief of glaucoma. Arch. of Ophthal., Vol. XLVI, No. 1, p. 1, 1917.**
(9) **Parker** compares the results of 71 trephine operations with those of 47 iridectomies, and clearly lays down the conditions under which the comparison has been made. It is essential to understand these before proceeding any further. Leaving blind eyes aside, for they do not come into the comparison of the visual results obtained, "all eyes with useful vision, when the fields were not extremely contracted, were subjected to an iridectomy if the anterior chamber were of sufficient depth to permit of its easy performance. In all other cases, except the haemorrhagic type . . . a trephine operation was performed." In other words iridectomy was performed in all favourable cases, and trephining was reserved for the rest. Parker recognizes this clearly, for he says "when we remember that practically all these cases (i.e. the trephined ones) were unfit for iridectomy, a procedure that results, as the trephine operation did in this series, in a reduction of tension without disturbance of the integrity of the globe in 60.9 per cent. of the cases operated on, certainly commands our attention and careful consideration." The various interesting tables presented, together with the remarks thereon, deserve careful attention. The summary, which closes the article, recommends the selection of the procedure best suited for each individual case as being preferable to subjecting all eyes to the same operation. Parker has been surprised to find the results of iridectomy so good, and says "if 50 per cent. of the selected cases of simple glaucoma can be relieved by iridectomy, and 50 per cent. of the remaining cases by trephine operation, the results of 75 per cent. good would be better than most operators have been able to obtain." He suggests that "deep iridectomy should be the operation of choice, not only in the inflammatory cases, but also in selected cases of the simple type, reserving the trephine operation for those cases in which the iridectomy is contra-indicated, or having been performed has failed to relieve tension." The idea that naturally will occur to many surgeons is that it is exactly in these early simple cases that trephining is most easy, and most likely to yield good results. Moreover, to trephine, when an iridectomy has failed, entails either trephining right over the coloboma, a procedure which decidedly adds an element of risk, or seeking another and a less advantageous site for the operation. Parker's paper is so full of condensed interest that it is difficult to do justice to it in a review, and it should therefore be read carefully in the original.

R. H. Elliot.