A CASE OF GLAUCOMA TREATED BY SCLERO-CORNEAL TREPHINING

Followed by hypotony; development of glaucoma later; secondary trephining; recovery; remarks on case and operative treatment of glaucoma generally

BY

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CHOTI KHAN, Mohammedan, aged 50 years, embroiderer, first attended the out-patient department King George's Medical College Hospital on February 6, 1916. On examination the left eye was found to have no vision as the result of glaucoma. Patient complained that the vision of the right eye had gradually diminished and that he was not able to do his work. I regret that the amount of the vision was not noted on the ticket, but, as explained later, it was probably 6/24 and 6/36. "Cupping of disc" and the diagnosis of glaucoma were noted. The tension was not measured by the tonometer, but it was definitely raised. The case, in short, was a typical case of chronic glaucoma, of which I see large numbers. He was advised to have an operation. He consented, but could not come into hospital at once as he had to wait for the arrival of a relative to look after him. Patients in the East often defer the most pressing operations on this account, as they cannot take food from the hospital on account of caste restrictions. He was, therefore, given eserine drops to use as a temporary measure. He was admitted to hospital on March 11, and next day sclero-corneal trephining was performed according to Elliot's later method. The operation was uneventful and the patient made an uninterrupted recovery and was discharged on March 17.

The vision was not noted on his discharge, but he was satisfied with the result of the operation, so it could not have been much altered, as patients always complain if there is any loss of acuteness of vision, as I find is often the case after iridectomy. The next day the patient came back complaining he could not see at night. The tension was very low, minus 2. Nothing else abnormal noted in the eye. March 25.—The tension was very low. March 27.—Complained of great diminution of vision by day, which he had not previously complained of. Vision only "Fingers counted at 4·5 metres."

March 28.—A 1 per cent. solution of atropine sulphate instilled, in the hope that it might raise the tension. Next attendance March 31.—Vision much improved, now 6/60.

Atropin repeated on April 4, 5, and 6. On April 7 tension was normal to the fingers and vision further improved.

On April 10 he came back, and tension was found to be raised. He complained of no pain; tension, measured by the Schiötz tonometer, was 55 mm. Hg. Vision not noted. Eserin instilled. April 11.—Note: "Says he sees better than yesterday. Vision 6/36. Readmitted to hospital. He could not come in before. 0.5 per cent. eserine drops ordered to be used every six hours. April 12.—Tension 43 mm. Hg. Vision 6/36. April 13.—Tension 43 mm. Hg. Vision 6/36, but says it is more misty. Complaints of slight pain. No signs of iritis." The tension did not diminish, and patient finally agreed to a second operation. A second sclero-corneal trephining was performed exactly as before, below and to the outer side of the other, on April 17. The patient made an uneventful recovery. I was not able to take the tension before he was discharged, as I went away on leave a few days after the operation. Vision was also not noted. I asked him to come to see me on my return, but he did not return till June 6. On that date his vision was 6/36. As he could not read, near vision was not noted. Tension 20 mm. Hg. June 7. Came for further examination as I was very busy on the previous day and could not finish my examination.

Note.—"No pitting of the conjunctiva on pressure with a lacrymal probe over the first trephine hole;" pitting obtained over the second trephine hole. "The iridectomy in both operations has resulted in a good clear coloboma." Patient did not attend again for a year. He next came on June 6, 1917. Vision was 6/36, tension 22 mm. Hg. Pitting of the conjunctiva was now present over both the trephine holes. As I found I had not noted his vision when he first came I asked him about it. He said it was now only very slightly worse than when he first came to see me. It must then have been about 6/24 to 6/36. He said it improved for about two months after operation, but since then has become a trifle worse. On examination, the lens was found to be a little hazy. This would account for the diminution in vision.

Remarks

It will be noticed that the notes of this case are not full, as compared with the notes of many cases taken in European clinics. On account of the war I have to carry on a large eye clinic, with the assistance of only one house surgeon, teach students ophthalmology, and in addition act as Professor of Physiology. One's notes, therefore, are necessarily of the scantiest.

I think, however, that any surgeon of experience will see that the essential facts of this very interesting case are quite clear. A case of typical chronic glaucoma was trephined by Elliot's method. As I am much indebted to Colonel Elliot for having shown me the

essential features of his operation on a pig's eye at an Oxford Ophthalmological Congress, I can vouch for it being done in the manner laid down. I should mention that atropin is instilled as a routine measure into every eye after Elliot's operation in my practice.

This patient, after a seemingly successful operation, developed "hypotony," and his vision was reduced to counting fingers at 4·5 meters, a most alarming state of affairs for a patient whose previous vision was about 6/36. After the use of atropin—I do not say it was due to the use of it, though it would appear to have some influence, as the tension rose after its use—his tension was raised to normal, and his vision increased to 6/60. Immediately afterwards, glaucoma supervened. This was completely relieved by a sclero-corneal trephining, done in precisely the same way as the previous operation. The apparent permanency of the relief is placed beyond doubt by the condition of the eye a year later. I am not clear as to the pathogeny of the case, and should like to hear the views of others on it. From the fact that there was no pitting on June 3, 1916, one might argue that blocking of the trephine hole had occurred, and I think it probably had. There were, however, no apparent local signs of inflammation, and no iritis was present. Had the wound been situated far back in the sclera, one might have thought that the dilatation of the pupil after the use of atropin might have approximated the root of the iris to the trephine hole, where it might have become adherent, and so caused blocking. This, however, is not possible, as I always split the cornea, and do an iridectomy in every case, taking great care to see there is no impaction of the iris in the trephine hole. Since I have adopted Elliot's plan of grasping the scleral disc and the iris together, I rarely have any trouble with the iris. Further, atropin is used after every operation as a routine measure.

The result of such a case will, I think, serve to cheer the heart of an operator who encounters such a formidable complication in future, and may encourage him to repeat an operation which has apparently led to such bad results. Critics will no doubt say that if sclero-corneal trephining produces such results they would prefer some other operation, but the fact remains that a similar operation was successful. It appears to me that a careful study of the literature of the subject shows that each of the different methods of treating chronic glaucoma has its disadvantages and advantages. None is yet perfect, as is the case also with so many surgical proceedings in my experience. With regard to the treatment of glaucoma, my experience, which is now an extensive one, as glaucoma is very common in India, is as follows: I prefer iridectomy for acute glaucoma without question. For a subacute case I prefer to do an iridectomy, and record the tension carefully, and to watch the

patient. If the tension rises later, I do an Elliot's operation. I seldom find this is required, but many of my cases come from long distances, and one cannot be sure of the after-results. In the iridectomy I perform, the iris is seized by the forceps on the outer side first, and a cut made in a radial direction with the iris scissors. The iris is then torn away from its deeper attachments for the whole length of the wound by means of the forceps. A second radial cut is then made at the inner side and the portion of iris between the two radial cuts removed. It is really an iridodialysis, and is, I think, superior to an ordinary iridectomy in glaucoma. For simple glaucoma I am delighted with Elliot's operation as regards its immediate results, but the constantly recurring reports of late infections, make me anxious about the future of such cases, especially in the part of India in which I work, where all kinds of conjunctivitis are so common. I have not yet, however, seen a case of late infection in my own cases, but I cannot be sure it has not occurred. I have not yet made up my mind as to the best way of treating these cases, and I think the particular circumstances of each must be taken into consideration. In cases which I have been sure of being able to trust to come for observation, I have lately been doing an iridectomy first. If this relieves the condition, the patient has the great advantage of not having a danger spot in the eye. If it does not relieve the condition, I do Elliot's operation. Iridectomy, however, I find in many cases, owing to the coloboma of the iris, and the astigmatism which may result, makes the patient, who does not realize the danger of his condition, dissatisfied with what, to the surgeon, is a successful operation. This is particularly the case with uneducated patients in India, who only realize that their sight is bad and who come to the surgeon to have it made better. Even if it is not improved, in spite of the most careful previous explanation, they are, in my experience, almost always disappointed; if it is made even a trifle worse they are almost always disappointed in spite of their being told that their sight will not now be lost. Elliot's operation, if it does not improve the vision, as it sometimes does, in my experience seldom diminishes it much. This is a very important point in a patient whose vision is already poor, and especially if he has only one eye, as is so often the case in India, where patients, having lost one eye from glaucoma from treatment by unskilled practitioners, come to an eye hospital for treatment of the other eye. Patients in my experience are very satisfied with the results of Elliot's operation, unless very ignorant. I have seen patients who suffered a great deal of discomfort from large ectatic scars. These I have never had in my own practice, but I have seen them in patients operated on elsewhere, often, I think, as the result of poor *technique*. Late infection, in short, seems to me to be the only serious drawback to

Elliot's operation. This, however, appears to be a danger common to all sclerostomies, and of all such operations Elliot's operation, in my opinion, is by far the best.

I may mention that all the notes, tonometric and other, in this case were made by me personally, but I am much indebted to my house surgeon, Dr. Brahma Gupta, for his care of the cases and for looking up the records for me.

THE TREATMENT OF INTRA-OCULAR FOREIGN BODIES AT A BASE HOSPITAL IN FRANCE

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IN April, 1917, a ring magnet was installed at a Base Hospital in France, at the instigation of Colonel Lister, A.M.S., and we have felt that the outcome of our experience with it may be of some interest.

We have no detailed statistics with regard to our cases, for when they are most frequent we have little time for making full records, and are unable to keep the patients under observation for any long period. In fact, in times of pressure we are frequently compelled to transfer them to England within a few days of the extraction of a foreign body.

We have kept two principles before us throughout.

First, we have put up to the magnet every case in which there was the slightest possibility of the presence of an intra-ocular foreign body, and as a consequence the number of our negative cases has been considerably greater than if we had been less punctilious. This procedure has been fully justified, for not only have we sometimes been rewarded in recent injuries, but also on six or eight occasions we have removed fragments from eyes which had been wounded a year or more previously. These were, we think, always cases which had suffered from other wounds and had not passed through an ophthalmic centre.

The other principle which we have observed, has been to patch up every eye that seemed to hold out the slightest prospect of being of value. Our feeling has been that we were usually unable to keep these patients here long enough to decide whether the eye should be sacrificed, and under these circumstances it was clearly unjustifiable to remove an eye which might ultimately be of some use, seeing that its progress could be watched by competent