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SULPHATE OF ESERINE IN THE TREATMENT OF ACUTE GLAUCOMA

BY

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SULPHATE OF ESERINE IN THE TREATMENT OF ACUTE GLAUCOMA.*

By T. R. POOLEY, M. D.,

OF NEW YORK.

ABOUT two years ago, Prof. Laquener, of Strassburg, published the results of his experience in the use of the sulphate of eserine in the treatment of acute glaucoma. To him belongs the merit of the discovery of its "anti-glaucomatous" effects.

Since the publication of his paper, Wecker, Landesberg, Knapp and others have also written on the same subject. I have lately employed eserine in all the cases of glaucoma coming under my observation, and beg to offer the results of my experience, especially in acute glaucoma, to this Society. The publications which have hitherto been made are mainly to be found in the special journals of ophthalmology, and are therefore more or less inaccessible to the general practitioner.

Within the last year I have employed eserine in four cases of acute glaucoma. In two of them it was too late to expect any restoration to sight, as the disease had already progressed so far as to hopelessly compromise it—glaucoma absolutum—but as acute symptoms, circumcorneal in-

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jection and intense pain were still present, I classify them under this category.

I will briefly enumerate the history of these cases, and then offer some remarks upon them, with special reference to the indication for the use of this most valuable remedy.

CASE 1.—Mrs. G., of Saratoga, aged 71, came to consult me July 10th, in the absence of Dr. Knapp from the city. Three years ago she had an attack of acute glaucoma in the left eye, which ran its painful course unrecognized. Since that time she was totally blind on this side, but the eye was not painful. Last April she was suddenly seized with a severe pain in the right eye, which was also very much inflamed. She had a great deal of constitutional disturbance, and was under treatment for bilious fever, remaining in bed for three weeks. On account of the pain in the eye and dimness of vision, her physician called in an oculist, who made the diagnosis of immature cataract, and advised her to have it removed when it became ripe. But at the expiration of three or four weeks she was blind, and as the pain in the eye continued, she came to New York for advice. The left eye presented the typical appearance of absolute glaucoma. The pupil was wide and immovable, the lens cataractous, the globe hard, + *T.* 2, and all perception of light was gone, but the eye was quite free from pain or inflammatory symptoms. In the right eye there was still circumcorneal injection, fulness of the scleral veins, a wide, immovable pupil, + *T.* 3, deep excavation of the optic disc, the cornea anesthetic, and no perception of light. I ordered six leeches to the temple of right side, an aperient, a one per cent. solution of eserine, and advised an iridectomy for the relief of pain. About a week later, after the daily use of eserine in the meantime, she was admitted to the New York Ophthalmic and Aural Institute. The eserine had very materially diminished the pain, and the tension was lessened. The pupil was also now only middle-wide, but there was no restoration of sight. I made a broad iridectomy upwards. On cutting the iris the anterior chamber completely filled with blood. The blood absorbed in three days. Since the operation no pain; *Tn.* Discharged July 20, 1878. I heard from the patient once since her return home. The eye was again painful, but resort to the use of eserine soon freed her again from pain.

CASE 2.—John Connolly, aged 60, was admitted to the New

York Ophthalmic and Aural Institute June 27, 1878, He had several attacks of glaucoma in the right eye, which is perfectly blind. The eye was injected, pupil wide, immovable; anterior chamber almost gone, + *T.* 2, and no perception of light. Sclerotomy was made the same day to relieve his pain, with Graefe's knife. A single drop of vitreous escaped by opening the zonula, on account of a sudden movement of the patient, The following night he slept well; pain all gone, vitreous in wound. Eserine was used daily, and seemed to aid materially the closing of the wound. He was discharged July 1st. After leaving the hospital he had recurrences of pain in the eye, which was always relieved by the use ot eserine. At each period of pain the eye was hard, but always regained normal tension under the use of eserine.

CASE 3.—Mary Fuchs, aged 50, admitted to the Institute Dec. 9, 1878. The right eye became affected only a day or two before admission. Counts fingers at six inches, anterior chamber shallow, pupil moderately wide. Field contracted on the nasal side and below; media hazy; inability to see the back-ground of the eye, + *T.* 2. She was given a one-half per cent. solution of eserine to instill in the eye every two hours; six leeches ordered to the temple, and a cathartic. The following day the anterior chamber was deeper, pupil somewhat contracted, tension reduced to + *T.* 1, and fingers were counted at ten feet. An upward iridectomy was now made, without accident, under ether. 11th.—No reaction; wound closed; eye free from pain. 12th.—Had pain in the left eye during the night; pupil dilated + *T.* 1; circumcorneal injection; rainbow colors around the light, *V.* $\frac{10}{200}$. Acute glaucoma diagnosed and eserine ordered, with leeches to temple. Eserine was instilled every two hours the following day, and on the 14th the eye was almost well; the pupil was contracted, *Tn.*, and the eyeball only slightly red. Nevertheless, it was thought to be safest to make an iridectomy, which was easily done, and resulted favorably. A few days later. the patient was discharged. A week later she came to the Dispensary, and her vision was found to be $\frac{20}{30}$ in the right and $\frac{20}{20}$ in the left eye. There was a large coloboma in both, normal tension, and ophthalmoscopy showed no excavation of the optic disc in either eye. In short a complete cure.

CASE 4.—Mrs. H., aged 65, a lady of wealth, and who had, with the exception of her eye trouble, always enjoyed good health, consulted me Dec. 26th, on account of an attack of acute glaucoma of the right eye. For the past few months, but especially since

last July, she had suffered from prodromic symptoms of glaucoma; temporary obscuration of sight, rainbow colors around the light, and supraorbital neuralgia. She consulted an oculist last July, who found that she had incipient cataract in both eyes. The Sunday before coming to me she was awakened early in the morning with intense pain in and around the eye, which was found to be very much inflamed. When she came to my office I found the lids swollen, œdematous, chemosis of the ocular conjunctiva, circumcorneal injection, veins tortuous, cornea hazy, with central opacity, and insensible to the touch, pupil ad maximum dilated. Field of vision wanting above and to the inner side; fingers could with difficulty be seen in the outer part of the field at six inches, $+T.$ 2. No view of the interior could be obtained with the ophthalmoscope. The eye was very painful. The left eye had $H.$ $\frac{1}{16}$, $V.$ $\frac{20}{30}$, and showed no signs of glaucoma. I advised the use of eserine until the afternoon of the next day, and then iridectomy. A one per cent. solution of eserine was instilled every two hours, six leeches applied to the temple, and an aperient ordered. The following day, when I went to her residence to perform the operation, I was amazed at the change which had been made by the eserine. The eye was much less swollen and injected, the field of vision almost normal, fingers very readily seen at ten feet, and the pupil only middle wide. The anterior chamber was not very shallow.

Iridectomy was made under ether without any accident; but when the point of the knife had but slightly entered the anterior chamber, I was struck by the resistance which the sclerotic afforded to its further progress; it was almost like cutting through cartilage. Dec. 28th, the morning after the operation, there was some slight discharge on the lint and considerable serous chemosis, the lids were a little swollen, but there was not the slightest pain. The patient had enjoyed the best night's sleep for months. There was a good-sized coloboma, and no incarceration of the iris in the wound, which was closed, and the anterior chamber fully restored; some blood in the pupil. From this time forward there was a favorable healing, although the eye remained hard for some time. At the end of two weeks the patient could go down stairs, and by the third week after the operation she drove out.

Jan. 27, 1879, just one month after the operation, I examined the eye at my office, and found $V.$ $\frac{20}{70}$, with $+16$, while with $+9$ she reads *Sn.* 1½ quite fluently. The ophthalmoscope shows incipient cataract, and true excavation of the optic disc. The field of vision and tension normal.

I may mention here that at the time of operating upon the right eye, I made use of eserine in the healthy one as a prophylatic against the occurrence of glaucoma in it, as recommended by Wecker; and I regret that this was not done also in the third case.

These four cases, but especially the last two,—the one affected with acute glaucoma in both eyes, the other in one,—illustrate the remarkable effect, which has already been published by others, of eserine in reducing intra-ocular pressure.

Indeed, the immediate good results obtained by the use of this drug at once raise the question, whether we might not depend upon it to the exclusion of iridectomy. But I only know of one case reported by Knapp, in which a cure of acute glaucoma was produced by eserine. It is not my purpose to discuss this question here. So far as we know at present, eserine cures acute glaucoma permanently in exceptional cases only. But its great value is that it produces a temporary improvement, by which the patient is beneficially prepared for an operation. It is for this reason that its actions should be more widely known. And my reason for bringing the attention of those present to this point is obvious.

The cases of blindness from unrecognized glaucoma,—thanks to the increased facilities for acquiring a knowledge of eye diseases, is steadily diminishing. But there are a number of practitioners who, although they are quite competent to make the diagnosis of acute glaucoma, do not care to assume the responsibility of making iridectomy for its cure. The operation is certainly difficult, and should be done by skilled hands.

In eserine, we have a remedy which can be used until the patient is able to reach an oculist, which not only prevents the destruction of the eye, that would otherwise ensue, but also, makes the conditions for performing the operation more favorable. It is with the hope of introducing the sulphate of eserine into practice under such circumstances, that this paper is presented.