

In treating septic conditions of the eye, either after operation or from injury, other treatment such as cauterization of an infected wound, paracentesis of the cornea and washing out the anterior chamber, antiseptic dressings, etc., should be combined with subconjunctival injections.

The cases in which I have found the method of treatment to do the most good are syphilitic diseases of the choroid and septic ulcers of the cornea. It seems usually to exert a salutary influence on most syphilitic processes of the uveal tract except in the acute stage of iritis. In some subacute and late stages of acute iritis I have had prompt improvement from the administration. It often seems to help in a marked manner cases of choroiditis of rheumatic origin, and in recent vitreous opacities from syphilitic retinitis good results may be expected.

When there is great danger of infection after operation Dr. Darier recommends injections previous to the operation as a prophylactic against sepsis. Such cases are those in which we are obliged to operate when disease of the lachrymal apparatus or conjunctiva exists. In septic infection after cataract extraction Dr. Darier has found the injections to act well.

Dr. Darier has laid down this rule, that in case improvement is not manifest by the tenth injection that we need not expect good from the method. This conforms to my experience as we generally get perceptible improvement in from four to ten injections.

Case 1.—R. H. S., age 28. He had suffered for three weeks from iritis of the left eye due to syphilis. Posterior synechia were so firm that a 2 per cent. solution of atropin had little effect on the pupil in twenty-four hours. The pain and inflammation being of a moderate degree subconjunctival sublimate injections of 1 to 2000 were made daily for three days when the adhesions were mostly broken up. The injections were kept up every other day for ten days longer. Mercurial inunctions were also administered. The iris was entirely freed from the lens and vision was nearly normal at the end of two weeks' treatment.

Case 2.—Mrs. L., age 48. Had been suffering with rhinitis and vitreous opacities for three weeks. Vision reduced to 1-8. Patient was placed on mercurial inunctions and subconjunctival injections were made every other day for five treatments, then twice a week for two weeks more. Vision was then two-thirds normal and retinal exudate had nearly disappeared.

Case 3.—E. N. W., age 32, single, contracted syphilis seven years previously. He had been treated constantly for two years and believed himself "cured." For ten days previous to consulting me he had noticed dimness of vision which increased rapidly. Extensive choroiditis disseminata was found. Vision in right eye 1-8, in left 1-6. Patient was given mercurial inunctions daily and subconjunctival injections every other day for two weeks; at that time vision was found to have improved in right eye to 1-2 and in left to 2-3. The choroidal inflammation had greatly improved.

Case 4.—D., age 42. Physician. Had never had syphilis. Patient had noticed his vision getting blurred for a couple of weeks. When examined inflamed patches of choroid were seen in both eyes. Patient was given pretty large doses of iodid of potash and subconjunctival injections. The injections were made twice a week for a few injections and every week or two weeks for six weeks from the beginning of treatment. The vision was then found to be perfect in both eyes. The choroidal patches of inflammation had almost entirely faded.

Case 5.—G. B., age 55. Patient denied ever having had syphilis. He had noticed increasing dimness of vision for past three weeks. Extensive disseminate choroiditis was found in both eyes. Vision was equal to counting fingers at fifteen feet. Patient had been treated with blisters to temples and some eye drops. He was put on mercury and iodid of potash and subconjunctival injections in each eye every other day for five injections when vision was found to be two-thirds normal.

Case 6.—M. C. R., age 35. Patient had the right eye injured by a piece of rock in a mine. A small wound was

made just below the center of the cornea but as little irritation or pain resulted from the wound the patient continued to work for two days when he consulted me. The conjunctiva was found quite swollen and red with a free muco-purulent secretion. The corneal wound was about three millimeters long and ulcerating. The anterior chamber was half full of pus. The eye was intensely painful. Cocain solution was applied and four drops of 1 to 2000 bichlorid solution was injected. Iodoform was dusted into eye and dressed with antiseptic dressing. The next morning the eye was markedly improved. The same treatment was continued for three days when the hypopion had entirely disappeared and the eye was nearly well.

DISCUSSION.

THE CHAIRMAN—The method has not commended itself very strongly to my judgment and I have been slow about adopting it, but have noted this one interesting fact that it seemed very promptly to relieve pain especially in cases of keratitis, where pain has been very severe. I think that has been noted by every observer. It is a striking fact and one that seems rather anomalous that such effect should be produced without any apparent effect on the course of the disease.

DR. PISCHL—I wish to say that I tried it only in one case but the patient was so frightened by the swelling that I did not venture to continue it, and I am afraid that many patients will revolt against the injection.

DR. BRIGGS—Mr. Chairman, I have nothing particular to add. I am sorry that there is no more discussion on the subject. I think if Dr. Pischl tried it in cases of keratitis or some such trouble, he will continue to use it. My experience has been in certain cases quite favorable, and I am thoroughly convinced in my own mind that it acted very beneficially in quite a number of cases. A number that I have tried it in found no benefit, but I have not found the severe reaction that Dr. Pischl mentioned, and I have no patients who revolted or objected seriously to the treatment.

OPTICO-CILIARY NEUROTOMY, WITH EXHIBITION OF SCISSORS.

Read in the Section on Ophthalmology, at the Forty-fifth Annual Meeting of the American Medical Association held at San Francisco, June 5-8, 1894.

BY WM. ELLERY BRIGGS, M.D.

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I wish to present for the consideration of this Society a modification of my ablation scissors: Scissors for performing optico-ciliary neurotomy. The original instrument was described in the *Archives of Ophthalmology*, Vol. xvi, No. 1. It consisted of two curved scissors placed parallel so as to enable one to cut a section of the optic and ciliary nerves without cutting any of the ocular muscles. The modifications consist in the addition of a pair of claws between the two scissors to insure the removal of the cut section of the nerves.

Any one who has to perform the operation of removing a section of the nerves by first dividing the internal rectus and then uniting the muscle with sutures, as is done by some operators, has found it quite a formidable operation if it has to be done without the aid of trained assistants. These operators, I think, will find these scissors of great convenience. In a few cases where I have been able to trace the condition of the patient for a few years I have found no return of pain in the eye, and as far as I could tell, the result has been as permanent and satisfactory as it could have been had the much more formidable operation of cutting the internal rectus been performed.

I believe the operation of optico-ciliary neurotomy deserves more attention than it receives from the profession. It should be done in many poor people who are unable to purchase artificial eyes, in preference to enucleation. A deformed eye if free from pain and danger of producing sympathetic ophthalmia is greatly preferable to an empty socket. In very young children it should usually be selected in preference to enucleation. It should be performed also in a very large class of cases which would require enucleation on account of pain or danger of sympathetic ophthalmia and in which the diseased eye looks better than an artificial eye can, or when the patient will not submit to an enucleation. In case of ocular tumors, enucleation is the only operation to be considered.

PURULENT OPHTHALMIA. AND ITS TREATMENT.

Read in the Section on Ophthalmology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

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In speaking of purulent ophthalmology I embrace under the one name all forms of this disease as described in most text-books, under the name of purulent ophthalmia, gonorrheal ophthalmia and ophthalmia neonatorum. It has always been a mystery to me why authors persist in making this unnecessary division, unless it is to mystify the general practitioner or increase the number of pages in their books. It seems much more simple to designate all three forms of this disease under simply purulent ophthalmia or conjunctivitis blennorrhea, for the parts involved are the conjunctiva and subconjunctiva, with a serous effusion into their tissues and also into the stroma of the lids. The only difference that can be found is the presence of the gonococcus of Neisser in cases of gonorrhea, but these gonococci are not always present, and even their presence I am unwilling to admit renders the disease more dangerous if properly treated. Every one agrees that purulent conjunctivitis in any form is one of the most serious and dangerous diseases of the eye. I shared this opinion in common with others until within a few years, when I adopted a plan of treatment which has robbed this disease of all its terrors, whether it occurs in infancy, childhood or adult life, provided the cornea has not become dangerously complicated.

These cases have been cured within a week or ten days in every instance, instead of running, as the books say, a course of four or five weeks in the most favorable cases. It is not necessary for me to describe the ordinary course of a case of purulent ophthalmia, as you are all conversant with it. You well know the great source of danger is the corneal complications which may arise from the swollen chemotic condition of the conjunctiva, cutting off the blood supply for its necessary nutrition; 2, the swollen hot lids and the cornea being continually bathed with pus causes a continual fomentation of the corneal tissue, and thus favors ulceration and destruction of this membrane; 3, the corrosive effects of the pus itself.

The great question that concerns us is how can we overcome or prevent these three important, dangerous and injurious factors which have caused such terrible havoc with so many eyes of mankind? By

what treatment, or what is the best treatment, to cause these cases to run a short course and with a favorable ending without injury to the cornea?

You can not open any text-book but that you will find advocated, that in the formative stage of this disease, the conjunctival sac should be frequently cleansed of pus, at the same time using some imaginary antiseptic, but that it is extremely dangerous to apply any astringent remedies; that cold applications should be made continually to the lids until the conjunctival membrane becomes soft and succulent. This cleanliness and these cold applications are proper and certainly indicated, but in many cases if you wait until the conjunctiva becomes soft and succulent before making any applications to the surface of this membrane, changes will have taken place in the corneal tissue which can not be controlled and may finally end in the destruction of the eye affected.

Instead of a do-nothing and an expectant plan, in addition to trying to have perfect cleanliness and cold applications made continuously, I commence the use of the following prescription from the very beginning:

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| R Hydrastia sulphatis | grains 5 | 30 |
| Acidi boraci | grains 5 | 30 |
| Sodae biboratis | grains 5 | 30 |
| Tinct. opii. deodorate | drachm ½ | 2 |
| Aquae distillata | ounce 1 | 32 |
| Mix and filter. | | |

The attendant or nurse is instructed to cleanse the eyes every fifteen or twenty minutes day and night, by opening the lids and wiping away all the secretions possible; to make cold applications to lids by means of compresses which have laid on ice, and from four to six times a day with a long nozzled dropper and hot water to wash out all the pus held in the conjunctival sac under the lids, and afterwards to inject up and into the conjunctival sac of both the upper and lower lids an ordinary medicine dropper full of the above prescription. The nozzle of the dropper should be long and smooth and of sufficient length that it may be easily introduced without breaking under the upper lid.

The above mentioned solution seems to have a most beneficial influence on all acutely inflamed mucous membranes where there is a secretion of pus. I have used it in cases of other acutely inflamed mucous membranes with the same benign results and effects that have been experienced in the mucous membrane of the eye. When this solution is properly used in cases of purulent ophthalmia, there will be a marked improvement in the case within twenty-four hours, and within forty-eight hours there will be a remarkable diminution of the secretion of the pus, chemosis of the conjunctiva and swelling of the lids.

Once a day I turn the lids, and having cleansed away the pus apply a 1 per cent. solution of nitrate of silver to the palpebral conjunctiva by means of a large camel's-hair brush. Now you may say that this is falling back on the old treatment and that all the good comes from the employment of the silver salt. If this is true why did or do we not have the same benign results in the treatment of this disease from nitrate of silver, as it is the treatment recommended by all authorities as soon as the conjunctiva becomes succulent? I do not believe that the nitrate of silver has anything, to any great extent, to do with the aborting of the disease and the rapid