led to a trial of the latter from observing an improved circulation in the choroid, after its performance in cases where the pupil had been partially obstructed from the effects of an irido-choroiditis.

Mr. Dixon's experience has led him to the conclusion that some instances of acute glaucoma recover after a paracentesis of the cornea (Wardrop's operation)—a fact admitted by Gräfe; while others require, for permanent reduction of tension, a more compound operation, namely, the removal of a small bit of iris. (*Holmes's Surgery*, vol. ii, p. 855.)

Unhappily, a very large proportion of persons affected with glaucoma present the chronic or subacute variety of the disease. In such, let who may operate, the benefit in the greater number of cases is limited to a reduction of the intraocular pressure, and an extension of the lateral field of vision. The patient "does not see better, but in a different manner". As a rule, the sight endures during a longer period; but it is rare for the defining power to become more acute. In this class, the recurrence of an excess of tension, which may be quite independent of inflammation, is not infrequent, and may generally be completely overcome without a resort to a second or third iridectomy, as advised by Dr. Gräfe. Of the truth of this my own practice has afforded several examples. In some cases, in consequence of the advanced stage to which atrophy of the optic nerve has attained *before* surgical treatment was employed, or the increase *afterwards* of an effusion between the choroid and retina—states which may occur singly or combined—blindness creeps on, notwithstanding the intraocular pressure may be reduced to the normal standard.

I have seen the progress of idiopathic senile cataract complicated by a subacute glaucoma—a fact of the highest importance in regard to prognosis and treatment.

[To be continued.]

PRACTICAL OBSERVATIONS ON THE TREATMENT OF THE PURULENT OPHTHALMIA OF INFANTS.

By J. C. WORDSWORTH, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital; lately Assistant-Surgeon to the London Hospital; etc.

So many sad instances of the destructive tendency of purulent ophthalmia in the infant have lately come under my notice at the Royal London Ophthalmic Hospital, that I am induced to offer a few practical remarks on the treatment usually adopted in this disease.

My own experience leads me to the conclusion that no disease is more amenable to treatment than this form of purulent ophthalmia; and I hope that consequently some good is likely to be produced by calling the attention of the profession to this subject.

At this time, I have under treatment at the hospital several cases that aptly illustrate and enforce the importance of the plan traditionally adopted by us, from the days of Saunders, Travers, Lawrence, Tyrrell, etc. It is recorded by them that, in their hands, a disastrous result was almost unknown, if cases came early under their care; and I believe the present staff of the hospital would unhesitatingly endorse this dictum, and bear testimony to the efficiency of the plan of treatment almost always adopted there.

long just behind the corneo-sclerotic union, and then removing one-sixth of the iris close to its ciliary attachment. By this proceeding, the pupil is made to extend to the ciliary ring, the zonula and the lens alone (it is presumed) intervening between the vitreous and aqueous chambers.

It, therefore, follows that the cases to which I referred were either very inefficiently treated, or that the remedies used were not applied in time. One, now attending the hospital, is an example of that very uncommon condition technically termed xeroma—"dry conjunctiva" or "cuticular conjunctiva"; and so far as I can learn, seems to have been a case of purulent ophthalmia, in which a very caustic solution of nitrate of silver was frequently applied, and has produced such a change in the condition of the conjunctiva, and apparently also in that of the lacrimal gland, that no fluid is poured on its surface.

In some others, the cornea has been perforated by ulceration or sloughing, and closure of the pupil, or a worse condition, has followed. Here, again, I believe, the error has been on the side of too vigorous use of stimulants during the active condition of the disease. There can be no doubt that, when the affection is early recognised, and before the ocular conjunctiva is much involved, it may be cut short by the use of stimulating and astringent applications, as in analogous cases of disease of the mucous surfaces in other parts; but that, as soon as the case has made some progress and an acute condition of inflammation is established, which has produced some symptomatic fever, it is irrational to attempt its cure by the irritant plan, while the febrile condition continues. It seems probable that the case is considered of no importance very frequently, till it has passed its incipient stage, and the opportunity for ectrotic treatment is gone.

It cannot, therefore, be too much impressed how important is an early recognition of this dangerous malady—a disease that has been computed to produce at least half the cases of hopeless blindness that exist in this country.

The surgeon would do well always to give a guarded opinion when he is consulted about "a slight cold in the eye" of a newly-born infant, remembering that the disease often commences very slowly; and that, so long as it is confined to the palpebral conjunctiva and the caruncle, it may be safely and efficiently treated with almost infallible success; but that, if neglected, it will probably soon pass into a very dangerous and tedious affection.

It is absolutely impossible to say of a given case that has proceeded to destruction of the eye, that it had a stage when the abortive plan of treatment might have been put into practice; for sometimes the disease makes such rapid progress that there is reason to doubt that this opportunity ever occurred, or if so, it was of so short duration that it was impossible to take advantage of it. I have seen cases in which the lids were swollen and tense to such a degree, within a few hours after birth, that it was practically impossible to gain an accurate view of the condition of the cornea. Here it is manifestly idle to suppose that the adoption of any treatment would have stopped the disease at once. On the other hand, it is also impossible to declare that all cases, if neglected, will pass into the second stage.

For myself, I may state that I believe that the disease is often of so mild a character, that only injudicious treatment can make it dangerous, and that little is required to be done; that the disease would subside if left alone even, and is aggravated by officious and unnecessary interference. However this may be, it is the safest and the only proper course to adopt the mild preventive measures which so ample experience has ratified.

Suppose, then, a case of the disease, in which it is confined to redness of the conjunctiva, especially of the lower lid, the mucous membrane being somewhat villous and prominent, and attended by some discharge of mucus or pus, and tears. This is the first stage. How may such be best treated? I should be content to have the eyes bathed frequently with warm water, by means of a small piece of linen cloth, to wash away the dis-

charge; and afterwards, with an astringent lotion, containing four grains of alum in an ounce of water, and then wiped dry, and a little spermaceti-ointment smeared on the edge of the lower lid, and the child put back to bed. A teaspoonful of castor-oil may be given, if it have not already taken some aperient. If in a few days this does not terminate the treatment, I usually drop a solution of two grains of nitrate of silver in an ounce of distilled water on the conjunctiva twice a day. This rarely fails to produce a marked improvement in a few hours, especially if the discharge have become thin; the child opens its eyes and bears the light without inconvenience.

If the case have passed into the second stage—the lids being red, swollen, tense, and *shining*; the conjunctiva of the globe swollen, and raised round the cornea; the discharge profuse; and the child being hot, fretful, and restless—I apply a leech to each upper lid, and administer a grain of calomel at once. By means of the leech, the swelling is soon reduced, so that the cornea may be examined; and, independently of the antiphlogistic effect of loss of blood which is thus gained, the application of remedies to the conjunctiva can be more easily effected.

Fomentation of the lid is continued for some time, to encourage bleeding and soothe the inflamed structures. The child will usually be considerably reduced by the bleeding; and, being also relieved of pain, soon falls asleep. If the calomel do not soon open the bowels, a small dose of castor oil may be given. The fomentation is renewed at short intervals; and, as soon as the case approaches the conditions of the first stage, the weak alum-lotion is substituted for the warm water; and this again supplemented by the nitrate of silver drop, as this ceases to effect a cure.

I constantly find that the subjects of this affection are immature children of seven or eight months; and that the mothers are feeble and delicate women, incapable of providing a full supply of good milk. Under these circumstances, I prescribe quinine and iron for the mother, and thus indirectly influence the child.

The late Mr. Tyrrell introduced the practice of dividing the chemotic swelling by a series of radiating incisions round the cornea—a practice that since his time has, I believe, fallen into disuse. It is long since I have known it employed; but in his practice it seems to have been so satisfactory, that one could scarcely reconcile the disuse of it with one's duty, if a suitable case were presented. Yet I have no reason to think the practice of his successors at the hospital is less successful than that adopted by this excellent surgeon.

From considerable opportunities, I am persuaded that the plan above sketched is most satisfactory and efficient for the treatment of this important disease. I do not doubt that, if more generally employed, it would conduce to diminish materially, if not to entirely check, the sad and irremediable consequences of purulent ophthalmia. It also has, to my mind, a great advantage over the cruel and unnecessary practice of applying stimulants to the tender and acutely sensitive little patients; and assuredly, in the cause of humanity, we should endeavour to avoid the infliction of an unnecessary pang, especially when we remember how acutely a sympathising mother suffers in witnessing these painful cases; and how heroic she must be, or neglect to apply the painful remedy that has been prescribed, when she sees the agony that its employment causes to her babe. Who can wonder, then, that such painful treatment is not fully carried into effect; and that, consequently, much risk is incurred by the attendants for the sake of saving the child's sufferings? Nor should we forget that the mother's health materially reacts on the child's; and, consequently, how necessary it is that she should be spared these painful emotions.

Transactions of Branches.

SHROPSHIRE SCIENTIFIC BRANCH.

PROTRUSION OF THE EYEBALL, WITH BLINDNESS: DISEASE OF THE KIDNEYS, WITH HÆMORRHAGIC DIATHESIS.

By T. WHARTON JONES, F.R.S., Professor of Ophthalmic Medicine and Surgery in University College, London.

[Read February 13th, 1863.]

IN the following case of disease of the kidneys, with hæmorrhagic diathesis, the patient died with symptoms of pectoral disturbance; but the most striking phenomena at first were protrusion of the left eyeball from extravasation of blood into the ocular capsule, and amaurosis from intraocular extravasation and serous effusion.

M. A. C., aged 19, a sempstress, was admitted into University College Hospital, under Mr. Wharton Jones, on January 8th, 1863. There was great protrusion of the left eyeball, over which the upper lid, livid from ecchymosis, was tensely stretched. The ocular conjunctiva was raised up in the form of chemosis by extravasated blood and protruded between the eyelids. The sight was totally lost. The protrusion of the eyeball and loss of sight came on two days before admission. The right eye was not affected. The patient was very pale looking.

Past History of the Case, drawn up by Mr. Ringrose, Ophthalmic Surgeon's Assistant. About two months ago, both eyes became bloodshot. The left was the first affected; but whilst it got well, the vision of the right remained dim. For this the patient was treated at a public institution, but without benefit.

She had been subject to bleeding from the nose since childhood, and about a month ago lost a great deal of blood in this manner. The menstrual discharge first appeared when she was between 16 and 17 years old and was very profuse; but latterly it had not been nearly so much. She had suffered from headaches for the last three or four years, chiefly over the brow; but lately the pain had extended to the back of the head. She had been subject to cold feet, and has sometimes fainted at her occupation. Has complained of pain across the loins. The urine had been very high coloured with a thick sediment at the bottom of the utensil. Her parents were both healthy.

January 9th. The left eye continued in about the same condition. The right eye seemed slightly affected. She felt pain over the brow. Mr. Wharton Jones incised the chemosed and protruding ocular conjunctiva, and likewise slit up the tensely stretched upper eyelid, to relieve the eyeball from the pressure to which it was subjected. This immediately gave the patient considerable relief. Water-dressing was applied over the eye.

January 10th. The patient did not suffer so much pain. She now complained of dimness of sight in the right eye.

January 11th. Last night she was seized with a feeling of suffocation, which still continued. Pulse 146, and very weak. Respiration 34. She had slight cough. She brought up a rather large amount of frothy fluid like saliva—not muco-purulent nor tenacious. The chest on percussion was extra-resonant. At the apex of the right lung was an abundance of fine crepitation, limited to inspiration, and most abundant at the termination. Slight crepitation, but coarser, was heard at the base. The left lung, just above the heart and by the side of the sternum, was also the seat of crepitation, but coarser than at the apex of the right lung. The patient was now quite blind on both sides.

10 P.M. The patient lay on her back moaning, but