

circumstances, we fail to dilate the pupil with atropine, and if the tension of the eyeball is either increased or diminished, the prognosis cannot but be unfavourable; iridectomy may improve matters, but the chances are that the choroid, and probably the retina also, will have become implicated in the disease.

Causes.

Rheumatism.

Leprosy.

Syphilis.

Injuries.

The Causes of Iritis are often veiled in considerable obscurity. Plastic iritis was formerly supposed, in the majority of instances, to occur among rheumatic patients; but the truth is, we frequently meet with this form of disease in cases where no suspicion of rheumatism exists; nevertheless, we freely admit that this form of iritis is often produced by exposure to sudden changes of temperature, to damp and cold draughts of air: we hardly ever see an instance of advanced leprosy in which plastic iritis is not present. Syphilitic patients again are subject to this form of iritis; we see it also following blows or injuries to the eye; in fact it is absolutely impossible to assign any constant cause for this disease. The same remark applies to parenchymatous iritis: we are no doubt justified in attributing it to a special cause, if the patient has had primary syphilis, and if the excrescences on the iris are particularly well defined; but we shall, in practice, meet with cases which cannot be thus accounted for.* Serous inflammation of the iris

* Mr. Hutchinson makes the following remark regarding inherited syphilitic iritis:—"Respecting the frequency of iritis in infants, there can be no difficulty in admitting that it is among the rarest of the symptoms of hereditary syphilis. I am sure, however, that it often escapes notice. The absence of the sclerotic zone, and the very small amount of local symptoms which it causes, taken with the fact that infants usually keep their eyes shut, will account for this. In proof of it I may mention that, in 1852, I showed to a friend of mine, who had then for fifteen years held a surgical appointment, which brought under his notice vast numbers of the poor, the first case of syphilitic iritis in an infant which he had seen. The disease was new to him, and he was much interested in it. Since then he has had, in exactly the same field of observation, no fewer than five cases. Yet in proof, that however carefully looked for, it is really very rare, I may mention, that during four years' practice at the Metropolitan Free Hospital I have never treated a single case, although numbers of congenito-syphilitic patients present themselves, and I have scrupulously looked at the eyes in all."—*Ophthalmic Hospital Reports*, vol. i. p. 229.

is often complicated with choroiditis; for, as I shall subsequently explain, the diseased action not unfrequently commences in the choroid and spreads to the iris. Independently of any such complications, this description of iritis is most apt to occur among persons in a debilitated state of health. Debility.

It is, however, well to bear in mind that no form of iritis is absolutely characteristic of any particular constitutional dyscrasia; consequently, it is an error to describe one form of iritis as rheumatic, another syphilitic, and so on; these and other influences, such as malaria, gout, and the like, are equally frequent causes of iritis. It is necessary, therefore, in every instance to inquire carefully into all the circumstances of the case; then, and not till then, shall we be prepared with correct principles upon which to base our treatment. Malaria.
Gout.

Treatment of Iritis and its Consequences.—After what has just been said, as to the variety of conditions which may give rise to iritis, I need hardly repeat that, before commencing the treatment of any particular case, we must endeavour, if possible, to arrive at a definite conclusion as to its origin, otherwise our efforts to cure are likely to fall wide of the mark. There is usually no difficulty in recognising the presence of a well-marked rheumatic, syphilitic, or malarious diathesis; but it is a far more troublesome matter to ascertain the nature of the case if a patient be suffering from any of those less definite ailments, induced by functional derangement of the secreting organs, which, by altering the character of the blood, interfere with the nutrition of the various tissues of the body. We must, nevertheless, attempt to do so, and also to right matters by the use of such remedial agents as we have at our command. It would, however, be quite beyond the scope of this work to enter upon any consideration of these measures, embracing, as they must, a knowledge of the influence of drugs, hygiene, and dietary on the organism, and being almost co-extensive with the whole range of practical medicine. I shall therefore confine myself to the consideration of certain drugs, and other means, which have the reputation of a peculiar efficacy in the treatment of inflammation of the iris. Treatment,
will vary
with the
cause.

Mercury is considered by most surgeons as an in- Must be
based on
general
principles. *Mercury*:

its high reputation.

Mode of administration.

valuable drug, which should be administered in almost all cases of iritis; other authorities consider, and I coincide in their opinion, that it is seldom necessary to resort to the use of mercury unless in cases of iritis having a syphilitic origin. It may be administered in the form of blue pill, or calomel combined with opium, or by inunction; for an adult half a drachm, or a drachm of the strong mercurial ointment being rubbed into the inside of the arms and thighs two or three times daily until the gums are affected. The latter, I believe, in the majority of instances, is the best plan of administering mercury, in the class of cases now under our consideration. If it appears advisable to affect the system rapidly, on account of the severity of the case, two grains of calomel with the eighth of a grain of opium may be given by the mouth every three hours, for two days. It will be necessary, although lessening the quantity of mercury employed after the iritis has begun to subside, to continue its use for some time in small doses, our object being, if possible, to destroy the active principle of the disease, and thus prevent the return of the inflammation. Subsequently the patient may with advantage be put on a course of iodide of potassium.

To be limited to syphilitic cases;

As a general rule, it may be affirmed that mercury is rarely to be employed in iritis, unless in cases arising from syphilis; in other instances of iritis this drug is seldom required. In cases, however, of inflammation of the iris, apparently originating in an injury to the part, if the patient be labouring under a syphilitic diathesis, the mercurial inunction may be employed; in complicated cases of this description its beneficial effects are very marked. I would repeat that it is seldom necessary to give the drug by the mouth, unless in rapidly advancing cases, mercury being more under control when used in the form of inunction or as a vapour-bath; and if the drug does not appear to check the progress of the disease before salivation is induced, it is useless continuing its employment—that is, the treatment should not be pushed to such an extent that the harmful influence of the drug on the system becomes developed.*

and never pushed to salivation.

* Langston Parker "On Syphilitic Diseases," 4th edit. p. 23.

Iodide of Potassium has for many years been employed with such marked success in certain cases of syphilitic and rheumatic affections of the iris, of the periosteum, and of almost every other fibrous tissue of the body, that it deservedly holds a high position among the remedial agents at our command. In cases of inflammation of the iris of syphilitic origin, the iodide of potassium should be administered in ten grain doses three times a day; and in cases depending on a rheumatic diathesis, it may be given, in similar quantities before meals, and in addition, these cases will generally be improved by lime juice taken two hours after breakfast.

Iodide of potassium.

Turpentine has been extolled by surgeons of high repute as an invaluable remedy in cases of iritis occurring among persons of a rheumatic diathesis. Its administration is sometimes attended with advantage, after the pupil has been dilated with atropine, the patient complaining of pain in the eye, and the sclerotic and conjunctival congestion continuing. A drachm of the oil of turpentine, given three times a day, apparently tends to allay these symptoms; but as turpentine is apt to cause strangury, I have lately prescribed the balsam of copaiba with advantage instead. A drachm may be given every six hours; but if the symptoms do not yield to this remedy within forty-eight hours, there is nothing to be gained by continuing its use; like turpentine, it is apt to induce derangement of the stomach.

Turpentine a reputed specific.

Copaiba.

Opium is probably one of the most powerful, and, at the same time, beneficial medicines at our command in the treatment of iritis. In acute cases of inflammation of the iris, whatever may be their origin, it should be administered in full doses; probably for an adult, one grain of opium, to be taken twice a day, would be about the dose required, to be continued until the patient is brought under its influence. Should he be in great pain when first seen, a subcutaneous injection of a quarter of a grain of morphia beneath the skin of the temple will be of service in procuring rest—a point which cannot be too strongly insisted on in the treatment of all severe forms of iritis. The effects of the opium should be kept up until the pain and other symptoms of inflammation have begun to subside. Among younger patients, and in less urgent cases, it

Opium invaluable in acute cases.

In full and sustained doses.

would, of course, be inadvisable to administer so large a quantity of opium as that above recommended; the dose, in fact, must vary according to the circumstances of the case, its beneficial effects being more marked in acute forms of iritis than in chronic or subacute cases. A dose of the hydrate of chloral given at bedtime has a good effect on some patients, procuring them a night's rest; but as a general rule it is hardly likely to supersede opium.

Parsen-
tosis of the
cornea.

Paracentesis of the Cornea.—As a means of relieving the intra-ocular tension and pain, from which some patients attacked with iritis suffer, it is occasionally necessary to puncture the cornea, and allow some of the aqueous humour to escape. The point of a broad needle is to be thrust through the cornea into the anterior chamber, a small quantity of the aqueous humour is thus allowed to escape; on withdrawing the needle the wound in the cornea closes, preventing any further escape of aqueous; after this operation, a pad and bandage should be carefully applied over the eyelids.

Precan-
tions in
operating.

It is not advisable that the whole of the aqueous humour be allowed to flow out of the anterior chamber, in which case the lens and inflamed iris would run the risk of being thrust forwards against the cornea, and anterior synechia might result. When making the puncture, care must be taken that only the point of the needle is allowed to pass through the cornea; otherwise, as the aqueous escapes, the iris or even the lens might be wounded.

Relieves
tension.

This proceeding is sometimes followed by marked relief, but it is a measure hardly to be resorted to unless by surgeons who have devoted much of their time to diseases of the eye. It may be necessary to puncture the cornea on two or three occasions, at intervals of about thirty-six hours, the indications for a repetition of the operation being augmentation of the tension of the eyeball and increased pain in the eye.

Leeches:
relieve pain.

Leeches applied to the temple, and over the brow of an eye affected with iritis, will often exercise a marked influence on the progress of the disease; it is by no means advisable, however, to apply leeches simply because a patient is suffering from an attack of iritis, although he may have great pain in the eye and other symptoms of acute inflammation. Should the general

condition of the patient's health be such as to lead us to suppose he could bear loss of blood, half a dozen leeches may be applied over the affected eye, and the part should subsequently be well fomented with hot water, so as to encourage the flow of blood from the leech-bites. If this treatment appear to exercise a beneficial action on the disease, we may repeat it on the following day, often to the great relief of the symptoms. Cases of this description are likely to be much benefited by a dose or two of blue pill and colocynth, followed by a black draught in the morning, low diet at the same time being strictly enjoined; in fact, the leeches will form a part of an antiphlogistic plan of treatment.

Seldom
necessary.

Purgatives
and low
diet.

In the instance of a patient already weakened by pain, and perhaps mercury, leeches might be positively injurious; they should consequently be used with caution, being like all such powerful means, as useful in suitable cases as they are harmful in instances not requiring their employment.

Atropine is invaluable in the treatment of all cases of iritis, for if we can only manage to keep the pupil dilated, it is impossible for synechia to form; besides which, when the iris is well contracted on itself, forming a narrow rim round the anterior chamber, it follows that its blood-vessels can hardly remain in a state of congestion; they must, in fact, be pretty well emptied of their contents under these circumstances. The inflamed tissue is also kept at perfect rest when under the influence of mydriatics—a most important point in the treatment of all kinds of inflammation. I know, indeed, of no remedial agent which directly places an inflamed structure in a more favourable position for recovery than atropine does in cases of iritis: it enables us to secure the inflamed part rest, it lessens the calibre of its congested vessels, and it prevents the injurious adhesions which otherwise follow an attack of plastic or parenchymatous iritis, by keeping the iris well away from the lens; and lastly, by lessening the vascular supply, and diminishing the amount of the secreting surface of the iris, it controls the secretion of the aqueous humour, and in this way lessens the intra-ocular pressure.

Atropine
invaluable.

Insures
rest.

Lessens
congestion.
Prevents
adhesions,

and ten-
sion.

If a case of iritis is fortunately brought under our notice before adhesions have formed, or the structure

If early,
may suffice
for the
cure.

Strength of solution.

of the iris has been irreparably damaged, we may with safety rely upon atropine as being the most efficient curative means at our disposal; a few drops of a solution of atropine, of the strength of one grain to two drachms of water, should be allowed to run into the eye every hour, until the pupil is fully dilated. If the pupil once become dilated under this treatment, we may confidently hope to cure our patient in the course of a short time. In the more acute forms of the disease it is often a difficult matter to bring the pupil under the influence of atropine, and it may be necessary to continue its instillation every six hours, for a period of five or six days. In some instances the atropine is unable to act, on account of the swollen and congested state of the iris; in these cases the prognosis will be less favourable, but we should endeavour to reduce the inflammatory action by mercury or iodide of potassium, and above all by the application of leeches to the temple, and then set to work again with the atropine.

Keep pupil dilated.

It is advisable not only to dilate the pupil, but to keep it dilated for some time after all acute symptoms have passed away; in fact, till the subconjunctival zone of vessels has disappeared, and the balance of circulation in the iris has been restored.

Limited adhesions broken down.

In many cases of iritis, the synechia is only partial, bands of adhesion existing between the iris and the capsule at certain spots, the remainder of the iris being sufficiently healthy to respond to the action of atropine. Under these circumstances, the pupil, in dilating, assumes all manner of shapes, expanding in one direction, and being prevented doing so in another by the adhesions. Atropine should be steadily and freely employed in cases of this description; the connecting bands are often broken through under its influence, and the existing iritis speedily subsides; and, moreover, the synechia being destroyed, subsequent attacks of iritis will probably be prevented.

While, therefore, employing the various means at our command for improving our patient's health, and, if possible, acting on the cause which has induced the iritis, we should invariably endeavour to dilate the pupil to its fullest extent with atropine, without any consideration as to the form of the disease or the progress it may have made. The prolonged use of atropine

may induce an attack of acute granular conjunctivitis, and if we observe any symptoms indicating the commencement of an attack of this kind, the instillation of atropine must be at once stopped, but we may apply the extract of belladonna mixed with atropine over the patient's eyelids and temple. I have seen alarming symptoms of poisoning by atropine follow the application of a strong solution of this drug to the eye, but they were cases in which only a small quantity of atropine had been used, being instances of a peculiar and uncommon idiosyncrasy on the part of the patient to the poisonous influences of atropine. Exceptional cases of this kind should not for an instant prevent our using atropine as I have above advised in all cases of iritis.

Granular conjunctivitis from long use.

Poisonous effects.

Atropine may be conveniently applied in some instances mixed with gelatine, so as to form small tablets; or upon pieces of paper saturated with a solution of it, and then dried. A tablet or a piece of paper thus prepared is placed on the conjunctiva of the everted eyelid; the eye may then be closed, and the lachrymal secretion dissolving the atropine, it becomes absorbed, as it would be if dropped into the eye as an aqueous solution.*

Gelatine tablets.

Extract of belladonna is a less potent remedy than atropine, and is not to be relied on for dilating the pupil in iritis. Equal parts of extract of belladonna, Indian hemp and glycerine, to which atropine has been added, form a useful mixture, which may be smeared over the affected eye to relieve ciliary neurosis.

Belladonna.

Fomentations, Shades, etc.—Poppy-head fomentations are often soothing to the patient, and whenever this is the case, they may be used with advantage five or six times a day; if they do not relieve the pain, it is advisable to discontinue them. M. Wecker employs hot water compresses of as high a temperature as the patient can bear, to be changed every ten minutes, in cases of parenchymatous iritis. The hot compresses must be continued day and night; there can be no question as to compresses of this kind being most useful in many cases of parenchymatous iritis.

Fomentations.

Hot compresses.

In all instances of iritis the affected eye should be

Pad and bandage.

* *Brit. and For. Med.-Chir. Rev.*, Jan 1st, 1864.

Shades.

shaded from the light; I find it very convenient in many cases to cover the eye with a light pad and bandage, our object being not to apply pressure over the eye, but simply to keep the eyelids closed and the parts at rest; if at the same time the sound eye be protected by a shade or green spectacles, the patient is often able to leave his dark room and enjoy the society of his friends, or even attend in part to his business. These are apparently trivial matters, but are nevertheless well worthy of consideration, as they tend to relieve the irksomeness of solitary confinement, which is too often the patient's doom if he remains in a dark room; by keeping up his spirits, we do much towards preventing his falling into a low state of health, which would certainly react on the local inflammation and probably impede his recovery.

Counter-irritation, in later stages.

Counter-irritation, in the form of blisters to the temple, is comparatively useless in the active stages of iritis, but subsequently it is beneficial, especially when the patient suffers from dimness of vision, depending on haziness of the posterior layer of the cornea.

Scarification in chemosis.

The conjunctivitis, which is always present in iritis to a greater or less extent, may, as a general rule, be allowed to run its course; if it should be excessive, it may be well to scarify the swollen tissue, and thus relieve the chemosis. A strong solution of nitrate of silver should be painted over the skin of the lids, if they are puffy and swollen, but it is not advisable to drop astringent lotions into the patient's eyes in these cases.

Iridectomy;

only after other means have failed.

Supposing the case of iritis is one which has resisted all the means of treatment described in the foregoing sections, and rather grows worse, that the pupil will not dilate by atropine, and that the patient's sight is growing more and more dim, the intra-ocular tension being increased—we are no doubt justified as a last resource in performing an iridectomy. This operation in fact holds out the best and probably only hope for the patient; nevertheless, iridectomy in cases of iritis is, be it remembered, our last hope: we have no right to fall back upon it until every other means of cure has been attempted, for according to my experience, it is by no means so successful in cases where active changes are going on in the iris, especially if due to syphilis, as it is in some other forms of disease. Sub-

sequently, when the signs of irritation or inflammation have passed away, and the patient applies to us suffering from synechia, we may, as I shall presently notice, without hesitation resort to the operation of iridectomy. The only question is, may we operate during the attack of iritis? I think we are only justified in doing so under the circumstances above detailed.

Treatment of fever.

The Treatment of Constitutional Symptoms, such as intermittent fever, will consist partly in the employment of hot baths and sudorifics, but the administration of opium tends towards allaying fever of this kind, as well as relieving the troublesome vomiting occasionally met with among patients suffering from iritis. The state of the bowels must be attended to, but to administer purgatives indiscriminately, because an individual is suffering from inflammation of the iris, is a most unphilosophical proceeding, and may complicate matters by disordering the digestive organs, which have frequently nothing to do with the disease of the eye.

Alteratives.

In numerous cases of iritis, especially in a malarious country like Bengal, we shall have to resort freely to the use of quinine, arsenic, aconite, strychnine, and iron, for the cure of the disease; but, as I have before observed (p. 311), it would be impossible for me in a work of this kind to attempt to describe the peculiar circumstances under which either one or other of these drugs are called for. I can only as it were sketch out the plan of the building upon which our work is to be raised.

Various drugs.

With regard to the use or withdrawal of stimulants and food, these are doubtless powerful agents in the treatment of disease. In a case of iritis occurring in a plethoric individual, purgatives, starvation, and in fact depleting treatment are called for; but a vast number of cases of iritis are of an asthenic type, and require a moderate amount of stimulants, good wholesome food, and fresh air; in some cases we shall have to administer bark and ammonia, together with wine and beef-tea. It is impossible to lay down absolute rules on these matters which shall be applicable to all cases; nothing but observation and experience can guide us to a right conclusion; and as one man's powers differ from those of another in appreciating these circum-

Food and stimulants with discretion.

stances, so will the one differ from the other in his success in practice.

Synechia.

First use atropine.

Management of Synechia.—Supposing the patient's sight to be impaired by synechia, or bands of adhesion which have formed in the pupil, we must, in the first instance, endeavour to dilate the pupil by a persevering use of atropine, as I have already described; but in case the adhesions cannot thus be broken down, and provided the acute inflammatory symptoms have passed away, it will be necessary to resort to one of two operations, Corelysis or Iridectomy, our choice depending on the nature of the case.

Corelysis in partial synechia.

To break down adhesions.

In instances where the pupil is only partially closed, or when the synechia binds the iris down to the lens at one or more points, a portion of its margin remaining free, if atropine, after a persistent trial, fails to dilate the pupil and break down the bands of adhesion, we must proceed to perform the operation of corelysis, as recommended by Mr. Streatfeild.* For adhesions involving more than the margin of the pupil, and when the iris is completely tied down to the lens, we must resort to iridectomy.

Preparatory steps.

Corelysis.—The steps to be taken in performing the operation of corelysis are as follows:—A solution of atropine must first be dropped into the patient's eye three or four times a day, for a week prior to the operation; we shall thus be able to discover those parts of the margin of the pupil which are still free from adhesions, by the pupil dilating at those points; and as our object is to insert a small spatula through an opening of this kind, between the lens and iris, and then carefully to break down the synechia with the instrument, so as to free the iris from the capsule, this careful study of the condition of the parts, before we attempt to operate, is very necessary.

Details of the operation.

This done, the patient is placed in the recumbent position, and chloroform having been administered, a stop-speculum is adjusted, and the surgeon, standing behind his patient, secures with a pair of fixing forceps a fold of conjunctiva close to the margin of the cornea, so as to steady the eyeball. A sufficiently large puncture is then made in the cornea, as nearly as possible

* *Ophthalmic Hospital Reports*, vol. ii. p. 309.

opposite to the principal adhesion; a Streatfeild hooked spatula is inserted through the wound into the anterior chamber, and the blunt extremity of the instrument is passed under the margin of the pupil, and between the iris and lens (its point being carefully directed away from the latter) and far enough beneath the iris, to enable us, by a slight lateral and traction movement, to lift the iris away from the lens and break through the synechia. The hook near the extremity of the instrument is very useful, enabling us to tear through any tough bands of adhesion, which might otherwise become elongated when force is applied, and so elude our best efforts to reinstate the pupil.

It is necessary to be careful not to wound the capsule of the lens during this operation; but if the patient is fully under the influence of chloroform, and if too much is not attempted at a time, it usually escapes uninjured. Those parts of the synechia only, which are opposite the point of puncture in the cornea, should be broken through during one operation: for instance, if the adhesions we propose dividing are situated on the inner side of the pupil, but if there are also others above and below the pupil, we should make our puncture in the outer part of the cornea, and passing the spatula through it, insert the point of the instrument beneath the inner margin of the pupil; breaking down the adhesions in this situation, and leaving those above and below for a future operation. For the division of these the punctures must be made in the lower and upper part of the cornea respectively.

Caution as to lens.

Successive operations required.

It is a point of some importance in operating, to take care that the aqueous humour be prevented from escaping till after the synechia is broken through. This may generally be managed by having a spatula just large enough to fill the puncture made in the cornea. It is impossible to lay down any precise rules as to the distance from the margin of the cornea at which the opening should be made. Our aim should be to select a spot which will most readily admit of our passing the spatula through it, in such a direction as to avoid the lens, and enable us to break through the adhesions at the greatest advantage.

Further directions.

Preserve aqueous.

The operation of corelysis is equally applicable to

cases where the pupil is partially closed by organized plastic formations; the false membrane may be broken through as above described. The same remark applies to instances of anterior synechia.

Atropine afterwards.

The after-treatment is very simple. Atropine must be dropped into the eye three times a day, so as to dilate the pupil as far as possible, and the eye is to be kept closed with a pad and bandage for ten or twelve days; we may then proceed to break through any remaining adhesions, if the irritation caused by the former operation has subsided.

Iridectomy in closed pupil.

Iridectomy.—As I before remarked, in cases where the pupil is entirely closed by false membranes, or its margin wholly bound down to the lens by synechia, should we even desire to do so, it is impossible to perform the operation of corelysis, and it becomes necessary to resort to iridectomy. If this proceeding is neglected in cases of this description the communication between the chambers of the eye being closed, an accumulation of fluid takes place in the posterior and vitreous chambers which is certain in time to produce destructive changes in the retina. In these cases of closed pupil, the outer part of the iris often bulges forwards towards the cornea, from the pressure of the aqueous fluid behind it; but its pupillary border, being bound down to the lens, cannot be thrust forward in this way, and appears, as it were, in a pit, the iris being funnel-shaped.

Prevents posterior tension.

Numerous proceedings have been advocated for the relief of this state of things, among which operations for the formation of an artificial pupil hold a prominent place; but it may now be safely affirmed that an iridectomy is the most satisfactory practice. Iridectomy embraces all the advantages of an artificial pupil, and, in addition, has many of its own to offer, not the least of which is, that it tends greatly to lessen the chances of recurrent iritis. It may therefore be stated generally, that in instances of synechia, or closed pupil, which cannot be broken through by the aid of mydriatics or the operation of corelysis, we must resort to iridectomy, excising about one-fourth of the upper section of the iris.

Restores sight.

Prevents recurrent iritis.

Should not be delayed.

In this class of cases the operation should be performed as soon as the active symptoms of iritis have passed away, seldom before: it is not necessary, how-

ever, to wait till all pain and irritation in the eye have subsided; for these symptoms are perhaps kept up by the synechia, and, if we wait till the irritation has entirely passed away, it may be that the integrity of the deeper tissues of the eye will have been destroyed in the meantime.

The amount of sight a patient may possess is hardly a safe guide as to the necessity for iridectomy; the central portion of the pupil may be clear, and yet no communication may exist between the chambers of the eye; and under these circumstances, although the patient may see tolerably well, we must not hesitate to perform iridectomy. On the other hand, if the patient has no perception of light, it is almost useless operating with an idea of improving the sight; for it is more than probable that detachment, or other destructive changes in the retina, which iridectomy cannot possibly influence, have taken place.

Indications for and against.

Amount of sight;

In cases where the iris bulges prominently forwards towards the cornea, indicating the collection of a considerable quantity of fluid in the posterior chamber, iridectomy is less likely to be successful than if the iris is in its normal position. These chances are still further reduced if we can make out a central opacity in the capsule of the lens, a condition often indicative of detachment of the retina.*

Bulging iris;

Capsular opacity.

There may be some little difficulty in removing a portion of the iris, in cases where it is swollen from the pressure of the products of inflammation, or has undergone atrophy. Under these circumstances, Von Graefe remarks:—

“I employ straight, pupillary forceps, with sharp teeth, which, instead of following the ordinary direction, I apply to the iris somewhat perpendicularly; according to my experience, such an instrument is of very great service under these circumstances.”†

Graefe's forceps.

TRAUMATIC IRITIS.—The general principles upon which we should conduct the treatment of a case of traumatic iritis, differ in no respect from those already

TRAUMATIC IRITIS.

* Professor A. von Graefe “On Iridectomy,” p. 266. (New Sydenham Society.)

† Idem, p. 284.

Lens often wounded.

laid down for our guidance in other forms of inflammation of the iris; but we frequently meet with complications in these cases, arising from the lens having been injured, together with the iris. Under these circumstances, the capsule is often perforated, and the lens substance swells, becomes opaque, and by pressing upon the iris, keeps up violent irritation and inflammation of the part.

Excise the iris and remove the lens.

Whenever a case of this kind presents itself to our notice, it is well to remove the lens at once. The patient should be placed under the influence of chloroform, and a Weiss's stop-speculum having been adjusted, the surgeon should make an opening through the upper portion of the sclerotic as if for iridectomy; about a fourth of the iris should be excised, and the lens must then and there be removed, if necessary by aid of a scoop. A few drops of a strong solution of atropine are subsequently to be dropped into the eye, and the case treated as one of ordinary linear extraction.

Delay dangerous.

The success of this operation, in cases such as I have above described, depends upon the promptness with which it is undertaken. If the surgeon attempts palliatives, such as leeches and the like remedies, in the hope of reducing the inflammation, the chances are that his opportunity will slip away, and general inflammation, and perhaps abscess of the globe will supervene; whereas, if iridectomy is at once performed, and the lens removed, the patient will be saved much suffering, and with the aid of an artificial lens in the shape of spectacles, may regain a very fair amount of vision.

A foreign body in the iris,

to be removed.

Occasionally a chip of steel, or some such foreign body, gets lodged in the iris, causing violent inflammation. Supposing the lens has not been wounded, we may succeed in extracting the foreign body with a pair of cannula forceps; or, I do not hesitate to make a free opening in the cornea, and introduce a pair of iridectomy or other small forceps, to secure and remove the offending substance. Should the lens be also involved, a traumatic cataract being present, it is advisable to perform an iridectomy, including the foreign body in the portion of the iris excised, and then extract the opaque lens as above described.

I have already stated that degenerative changes in one eyeball may, by sympathetic irritation, affect the

other eye, causing an insidious form of iritis, or iridochoroiditis, which generally advances steadily, and ends in total blindness, unless we can remove the diseased eyeball, which is the primary source of irritation.

In sympathetic iritis, remove bad eye.

WOUNDS AND INJURIES OF THE IRIS.

INCISED WOUNDS.—I have given an account of the symptoms and treatment of prolapse of the iris following perforation of the cornea (page 268), it is consequently unnecessary for me to return to the subject.

INCISED WOUNDS.

A simple incised wound of the iris is a rare accident, Rarely simple. for in the majority of instances the lens is involved in the injury, and a traumatic cataract results. Incised wounds of the iris are always attended with more or less hæmorrhage into the anterior chamber, and temporary impairment of vision. Inflammation seldom follows clean incisions of the iris, as for instance those made in the formation of an artificial pupil, but the edges of the wound gape open, leaving a space through which the rays of light reach the retina. Occasionally the lips of an incised wound unite, a blood clot forming between them, its fibrine becoming organized, drawing the edges of the wound together; but in instances of this kind the contractile power of the iris has commonly been impaired by previous inflammation, which prevents the wound from gaping open as it does in the healthy tissue.

Not followed by inflammation. Apt to gape.

After an incised wound, the eye must be kept at rest until the blood in the anterior chamber has become absorbed. We can hardly venture on a prognosis till this has occurred.

FOREIGN BODIES sometimes become lodged in the iris without wounding the lens; they may be best seen on examining the eye by the oblique method of illumination. Having discovered the situation of the offending particle, the cornea should be punctured, and a pair of cannula forceps passed into the anterior chamber; the foreign body being seized, it may usually be withdrawn from the eye without difficulty. The pupil should subsequently be kept fully dilated, and the eye at perfect rest, till all signs of irritation have subsided.

FOREIGN BODY IN IRIS. Should be removed.

It will generally be necessary to administer chloroform, in order that we may command the eye during under chloroform.