

irritates the inflamed and sensitive conjunctiva; and, again, the injected fluid, mixed with contagious matter, may be reflected back, and strike the eye of the attendant or fall upon the opposite eye of the patient. Several cases are recorded in which this accident has occurred. For these reasons a soft rag is to be preferred, and this, again, is better than a sponge, because it is more cleanly and may be frequently changed. By squeezing the fluid from the rag upon the adherent portions of the discharge, or by gently touching them with a free fold of the cloth projecting beyond the fingers, they can readily be detached. Simple tepid water may be used for these ablutions, but I prefer a solution of alum, of the strength of a drachm to the pint. The nurse should be directed to repeat them every hour or every half hour, according to the severity of the case, and the patient may be furnished with a cupful of the solution to bathe the external surface of the eye and wash away the discharge, still more frequently. Cleanliness may be still further promoted by smearing the edges of the lids and ciliae with simple cerate, so as to prevent their becoming incrustated with matter.

The strong solution of nitrate of silver, already mentioned, may be reapplied by the surgeon twice a day when he makes his visits. The frequency, however, of the application should depend upon the condition of the parts and the effect produced. No routine practice is admissible. The patient must not be deprived of sleep by too frequent repetition of these measures during the night, but he should be provided with a watcher, who will cleanse the eye and apply the solution of the nitrate of silver every few hours. If necessary, sleep must be promoted by the administration of an opiate.

The time has gone by when mercurials were thought requisite in this disease, on account of its supposed syphilitic origin. The only circumstances which can justify their employment is the presence of a firm, fleshy cheraosis, which, owing to its consistency, cannot be relieved by incisions. In such cases mercurials may perhaps hasten the absorption of the fibrinous deposit; but they should be used with great caution, especially when ulceration of the cornea has already commenced, and should never be pushed to salivation. An excellent formula, combining the "gray powder" with quinine, is the following:

R. Hydrarg. cum Cretâ, gr. ij . . . 12
 Quiniæ Sulphatis, gr. j-iv . . . 106-125
 Misce et ft. pulv.

One to be taken morning and night.

When only one eye is affected, the greatest care should be taken to avoid inoculation of the other by allowing the discharge to come in contact with it. On the slightest indication of inflammation in the latter, a weaker solution of nitrate of silver should be applied to it, as frequently as to the eye first affected.

When there is excessive œdema of the lids, it may interfere with opening the eye, and cause pressure upon the globe, in which case re-

lief may be given by puncturing the skin in several places with a lancet. Division of the external canthus, already mentioned, in order to facilitate the exposure of the inflamed conjunctiva, was first recommended by Mr. France.¹

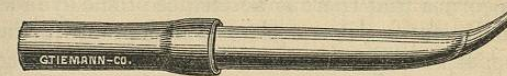
As the symptoms improve, the stronger solution of nitrate of silver may be omitted, and the weaker applied less frequently. When the chief danger is passed, the collyrium may often be changed with benefit, and one of the following substituted:

R. Zinci Sulphatis, gr. ij 012
 Glycerinæ, ℥ij 1000
 Vini Opii, ℥j 400
 Aquæ, ℥v 2000
 M.

R. Acidi Gallici, gr. x 060
 Glycerinæ, ℥ij 1570
 Vini Opii, ℥j 800
 Aquæ Camphoræ, q. s. ad ℥iv 12500
 M.

By far the most convenient way of applying collyria to the eye, either in the affection under consideration, or in iritis when instillations of a solution of atropine are required, is by means of a very simple instrument, consisting of a glass tube with a piece of closed india-rubber tubing attached. Compression of the india-rubber

FIG. 48.



A simple instrument for applying drops to the eye.

tubing enables the operator to take up a few drops of the wash, and in a similar manner to inject it into the eye. With children and timid persons this is specially of value.

I have met with cases, in which a solution of nitrate of silver appeared to irritate the eye, and in which the above collyria were found preferable, even in the acute stage of the disease.

The occurrence of an ulcer upon the cornea is of serious moment, and the friends of the patient should be informed of the danger to vision.

The pupil should be dilated by dropping a solution of atropine upon the globe several times a day, or by smearing extract of belladonna, moistened with glycerine, around the orbit. The former is much more cleanly. The usual strength of the solution employed is from two to four grains to the ounce. The object of thus dilating the pupil is to diminish the prolapse of the iris if the ulcer should penetrate through the cornea, and, if possible, to prevent the pupil's becoming involved in the resulting synechia. The chances of ac-

¹ Guy's Hospital Reports, third series, vol. iii.

completing this are not very great, for a pupil dilated by mydriatics contracts as soon as the aqueous humor escapes, as is seen during the operation of extraction for cataract, still, as the evacuation of the contents of the anterior chamber in perforating ulcer of the cornea is often sudden, some hope may be entertained of limiting the prolapse. I would again remind the reader of the importance of avoiding anti-phlogistic remedies, and of the necessity of supporting the strength, when the cornea, a tissue of low vitality, is attacked by the ulcerative process. Cupping, leeching, low diet, and mercurialization will be sure to hasten destruction of the eye, which can only be saved, if saved at all, by generous living, stimulants, and tonics.

A granular condition of the palpebral conjunctiva is frequently left after an attack of gonorrhœal ophthalmia, and may keep up a slight discharge and irritation of the eye for a considerable time. The best means for its removal consists in the application of a crystal of sulphate of copper to the everted lids every second or third day, and the general system should at the same time be supported.

When a staphyloma has formed, its friction against the lids is often a source of irritation to the affected eye, and, through sympathy, to its fellow. If it is small, there may be hope of its contracting and being less prominent, as the fibrin covering it becomes more firmly organized, and it may be pencilled over daily with a strong solution of nitrate of silver with a view of favoring this result. When, however, it has already attained considerable size, and covers so large a portion of the cornea that there is no chance of the eye serving as an organ of vision in future, it is useless to make any further attempts to save the eye, especially as its inflamed condition endangers the integrity of its fellow, and the intraocular pressure will probably still further increase the size of the staphyloma, until it bursts of itself, or is relieved by art. Two operations are available under these circumstances: one, the ordinary excision of the staphylomatous projection and sinking of the eye; the other, enucleation of the globe by the modern or Bonnet's method.

The former is to be preferred, as a general rule, in cases of staphylomata following gonorrhœal ophthalmia, because the staphyloma is usually limited to the cornea, and the deeper tissues of the eye are commonly, though not always, sound. Moreover, the mobility of an artificial eye is greater when worn upon a sunken globe, than when the latter is removed; and, again, patients, through ignorance of the simple modern operation for extirpation, are very averse to its performance. At the same time, it should be recollected that a sunken eye, especially when irritated by wearing a glass substitute, may at any future period become inflamed and endanger the integrity of its fellow through sympathy. After the removal of a staphyloma, therefore, patients should always be warned of this danger, and cautioned to seek advice at once, if ever the stump should become inflamed, or the sight of the fellow eye should begin to fail.¹

¹ Calcareous deposit is very liable to take place in sunken globes which have become the seat of chronic inflammation, and in such cases it is impossible to relieve

The operation for removing a staphyloma is too well known to require description here. There is only one point to which I desire to call attention. After the operation, the lids should be closed by strips of isinglass plaster and remain so until the wound has entirely healed; otherwise the friction of the lids and the exposure of the hyaloid membrane to the air, will be likely to set up inflammation in the deeper tissues of the eye and cause much suffering.

Enucleation of the globe should be preferred, when internal or general ophthalmia has supervened; when the staphyloma includes not only the cornea but a portion of the sclerotica; or when hæmorrhage has taken place from the bottom of the eye, either on the perforation of the anterior chamber, on the bursting of the staphyloma, or during an operation for its removal. The blood, in these cases, comes chiefly from the choroidal vessels; its flow may be arrested, but the clot can only be eliminated by the slow and tedious process of suppuration, and it is better to remove the eye at once.

The modern operation for enucleation of the globe is exceedingly simple. The ball of the eye is alone removed, while the remaining contents of the orbit are left. The instruments required are a pair of toothed forceps, blunt-pointed straight scissors, and a strabismus hook. The eye should be kept open with a wire speculum. The conjunctiva and underlying fascia are divided close around the margin of the cornea, and the tendons of the four recti muscles hooked up and severed as in an operation for strabismus. The scissors are then passed in behind the globe and the optic nerve cut at its point of entrance, when the ball may be readily removed, after dividing the oblique muscles and any remaining points of attachment. There is no danger of subsequent hæmorrhage. The lids may be allowed to close, and the clot which forms within them is the best hæmostatic for such cases. If the operation has been well performed, without extending the incisions beyond the ocular fascia, the wound will heal with great rapidity. I have frequently been able to insert an artificial eye on the third or fourth day after the operation.¹

The remedies recommended in the preceding pages for gonorrhœal ophthalmia may be recapitulated as follows: cleanliness, frequent application of an astringent solution, nourishment, and, in most cases, stimulants and tonics, incisions of the chemosed conjunctiva, cathartics, and local depletion. This plan of treatment differs widely from the copious and repeated venesections, the low diet, and the free administration of mercurials and tartar emetic, prescribed by nearly all writers on this affection until within a few years.

the irritation except by extirpation. I have removed the stump of an eye, destroyed by granular conjunctivitis, in a boy aged 16, in which I found a plate of calcareous matter the size of a three-cent piece.

¹ It would be out of place in this work to enter more fully into the details of this and other operations which may be required after gonorrhœal ophthalmia. For further particulars with reference to extirpation of the globe, the reader is referred to an essay by Mr. Critchett, in the London Lancet (Am. ed.), Jan., 1856; also to papers by Dr. C. R. Agnew and by the author, in the N. Y. Journal of Med., Jan. and May, 1859.

In the words of Mr. Dixon: "The student ought constantly to bear in mind that, although the disease termed purulent ophthalmia has received its name from that symptom which readily attracts notice, namely, the profuse conjunctival discharge, the real source of danger lies in the *cornea*; and that, even if it were possible so to drain the patient of blood as materially to lessen or even wholly arrest the discharge, we might still fail to save the eye. It is not the flow of pus or mucus, however abundant, that should make us anxious, but the uncertainty as to whether the vitality of the cornea be sufficient to resist the changes which threaten its transparency. These changes are twofold,—*rapid ulceration* and *sloughing*. Now, has any sound surgeon ever recommended excessive general bleeding and salivation as a means of averting these morbid changes from any other part of the body except the eye? And if not, why are all the principles which guide our treatment of other organs to be thrown aside as soon as it attacks the organ of vision?"

CHAPTER XXI.

GONORRHOËAL RHEUMATISM.

THE question, Who was the first discoverer of a relationship between gonorrhœa and rheumatism? is not of much importance, but has attracted considerable attention. The first mention of such connection, that I am aware of, is to be found in the "Antonii Störck Libellus quo demonstratur," etc., Viennæ, 1769. Swediaur (1781) described this affection under the name of "Arthrocele, Gonocœle, or Blennorrhagic Swelling of the Knee."¹ Hunter,² in 1786, said: "I knew one gentleman who never had a gonorrhœa but that he was immediately seized universally with rheumatic pains; this had happened to him several times. The blood, at such times, is generally free from the inflammatory appearance, and therefore we may suppose that the constitution is but little affected." Since that time, this disease has received particular attention from various writers on venereal diseases and diseases of the joints, among whom Sir Benjamin Brodie,³ Sir Astley Cooper,⁴ Ricord,⁵ Bonnet, of Lyon,⁶ Foucart,⁷ Brandes,⁸ Rollet,⁹ and Fournier,¹⁰ are especially worthy of mention. It has been the subject of lively discussion at the meetings of many learned societies, and notably before the Soc. méd. des hôpitaux de Paris, in 1866, a full account of which may be found in the *Gaz. hebdomadaire* and the *Union médicale* for 1866 and 1867. It has by no means been allowed to retain its place in the nosological system undisturbed, and there have been many who have attempted to explain it away on various hypotheses. Its claims to be considered a distinct complication of gonorrhœa will appear in the course of this chapter.

To an observer who had never heard of the connection between gonorrhœa and rheumatism, it might, indeed, appear a mere coincidence if a patient suffering from gonorrhœa should suddenly be seized with inflammation of the joints; but, should this same patient, after

¹ A Complete Treatise on the Symptoms, etc., of Syphilis, by F. Swediaur, M.D. Translated from the fourth French edition, by Thomas T. Hewson. Phila., 1815, p. 108.

² Ricord and Hunter on Venereal, Bumstead's 2d ed., p. 88.

³ Brodie's Select Surgical Works: Diseases of the Joints. Phila., 1847.

⁴ Lectures on the Principles and Practice of Surgery. London, 1835, p. 482.

⁵ Notes to Hunter, 2d ed. Phila., 1859, p. 275.

⁶ Traité des maladies articulaires. Paris, 1853, t. i., p. 376.

⁷ Quelques considerations pour servir à l'histoire de l'arthrite blennorrhagique; in 8vo., pp. 45. Bordeaux, 1846.

⁸ Arch. gén. de méd., September, 1854.

⁹ Annuaire de la syphilis; année 1858, Lyon.

¹⁰ Union med., Paris, Nos. 9 and 10, 1867; also, N. Dict. de méd. et de chir. prat. Paris, tome v., p. 224.