Orleans and other cities that lack many of our sanitary advantages."

The Army engineers in charge of the water supply are aware of the defects in the system, and have excellent plans for remedying them; but money is required to carry them to completion. Dr. Smart closed by urging the expenditure.

"Think of the 75 deaths from typhoid fever annually in every 100,000 of the population, 60 deaths more than in the city of Brooklyn, and more than we would have in this city if our water was as pure as that of Brooklyn. Putting our population at a quarter of a million, we have 150 unnecessary deaths every year. Ah! but the cases! To find the number of cases we must multiply the deaths by twenty! Three thousand cases of serious sickness, each lasting from two to six weeks. Three thousand cases of disease that might be prevented by the expenditure of a little money. Think of the suffering, anxiety and sorrow involved in the history of these three thousand cases, and then say whether an appropriation having in view the purification of the city water supply is a good investment or a bad one."

DESCENT OF THE TESTICLE IN ADULT LIFE.

BY ALBERT H. TUTTLE, M.D.

CAMBRIDGE, MASS.

As such cases as the following must be of extreme rarity, and as they shed a great amount of light on the phenomena of earlier and normal descent, and at the same time perhaps instruct us somewhat as to the manner in which we should deal with cases of undescended testicle; cases where the majority of opinion has been in favor of the complete removal of the organ when it interferes with the comfort of the patient, is caught in the inguinal rings, or complicates a hernia, I have deemed this instance one worthy of consideration.

Not long ago I operated for strangulated hernia complicated with undescended testicle, and after closing the hernial sac and rings, drew the testicle, which was enclosed in the sac, into the scrotum and fastened it there with the tunica by means of stitches. This procedure necessitated the invagination in part of the scrotum. The result was perfect, but after the operation the gentlemen present, some four members of the profession, expressed as their opinion that I should have sacrificed the testicle, and questioned the result. When they said such testicles do not prove of much practical value, I could only answer that I had been consulted by patients with one undescended testicle who were willing to undergo a surgical operation in order to satiate their desire for a second testicle in the scrotum. They simply echoed the general opinion of the profession. But the time has come when we must deal more rationally with these cases, and it is already heralded by various reports in our latest journals.

E. W. L., aged 31 years, was born with a congenital hernia on the right side and an undescended testicle on the left. He wore a truss on the right side until 12 years old; it was then discarded until the age of 21, when he put on a double truss and wore it until six months ago; since, he has employed simply a suspensory bandage to keep the bowel in place.

I saw him for the first time about two years ago; an examination showed an absence of the left testicle, and a dilated condition of the inguinal rings on both sides. In the standing position the abdominal wall bulged outward at the site of the rings, and an impulse was felt on coughing.

It was obvious that the sac was not a great one, and that the gut at that time would not descend far along the cord, although it had at an earlier date, according to the statement of the patient. He consulted me for an attack of gonorrhea at this time, and informed me that he had had a similar attack some six years previous. During his first attack he had a swollen testicle on the right side and sharp pain deep in the left groin. Since, he has had a swollen testicle on the right side without any apparent cause. I recognized the condition of the patient at the first visit, and recommended an operation for the radical cure of the hernia.

He went to Europe shortly afterwards, and I saw nothing of him until a few weeks ago. I now find the testicle on the left side of the scrotum, the inguinal rings smaller than when I first examined them, and, without artificial support, the gut does not distend the abdominal wall or give an impulse on coughing to the contents of the scrotum. The patient experiences no discomfort without the truss, and only about once a week a "lump" appears in the left groin "in the evening when the muscles are tired;" this disappears on lying down, or on pressure.

The following history of the descent of the testicle is given in the words of the patient as nearly as possible: About a year and three months ago a skin, like a bag full of water, came down, and kept getting larger toward evening; the bag became about egg-size, and could be emptied by pressure; in about three months—a year ago—he was sitting writing a letter in the evening, when something was suddenly felt below (in the scrotum); he looked and found the testicle had come down. It disappeared the same evening, but returned to the scrotum a week later, when he tied it down with a piece of tape. In this manner he kept it down for a week; it then returned to the abdomen, and remained concealed three days, and when it came down stayed longer. It has kept going up and coming down, each time staying longer in its normal condition, until now it has remained in the scrotum for about four months.

When the "bag of water" first appeared, it made the scrotum red and hot and somewhat uncomfortable; it disappeared during the night, and on lying down.

He has been married for about one year. Since the attack of gonorrhea two years ago, he has had at times bloody urethral discharges with the seminal ejaculations, or immediately after intercourse. Examination by the microscope shows nothing abnormal in the seminal fluid except the presence of blood, which probably mixes with it somewhere in the genital tract, external to the testicle. This bloody discharge, for which he recently consulted me, is a complication of the old gonorrhea, and in my opinion has nothing to do with the lately descended testicle.

It seems possible that by care this case will obtain a spontaneous cure of the hernia.

TRACHOMA.

Read before the South Kansas Medical Society at Wichita, Kan.,
Nov. 21, 1893.

BY FLAVEL B. TIFFANY, M.D.

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HOSPITALS, ETC.

Trachoma (from the Greek *τραχυς*, rough), is the term intended to designate a certain disease of the lining of the lids or palpebral conjunctiva; but it has been so indiscriminately used by physicians and some oculists when speaking of the different forms of conjunctivitis that there is much confusion as to its real signification. To most physicians, it means any form of granular conjunctivitis, be it simple, acute, subacute or chronic; especially if there is much roughness of the lining of the lids. In acute conjunctivitis we have a swelling of the papillae, giving a very rough condition of the palpebral mucous membrane, but this is not trachoma.

In catarrhal ophthalmia, and especially in purulent ophthalmia, the papillae swell enormously, also the different glands, those of Moll and the Meibomian as well as the trachoma glands; but again, this is not trachoma. Inflammation of the conjunctiva may pass through the different stages, from simple

hyperemia, acute, catarrhal, purulent, subacute and chronic even; and yet not reach that stage or condition which the word, trachoma is intended to signify. It is believed by most authorities that trachoma is consecutive to the different forms and stages of inflammation of the conjunctiva; and according to my own observations and study I am inclined to believe that this view is the proper one. It is, as a rule, a disease confined to the common or lower classes, especially to those who are exposed to irritants and subjected to bad air and other poor hygienic conditions. It is particularly a disease of the so-called scrofulous people; and of the offspring of parents of blood relation; in other words, it is often due to consanguinity.

Of the different kinds of conjunctivitis we have acute, subacute and chronic; we have also what is known as catarrhal and purulent ophthalmia, any or all of which may be precedent to trachoma; that is to say, if these inflammations are permitted to continue through the consecutive stages, they may finally reach or produce the condition of true trachoma. Acute catarrhal ophthalmia is characterized by a turgescence and swelling of the papillæ with more or less congestion and swelling of the whole palpebral conjunctiva. The papillæ may become quite hypertrophied, turgescient, red and succulent; the conjunctiva itself is thickened, especially in purulent or in pronounced catarrhal ophthalmia. In these latter diseases the conjunctiva is so swollen and congested as to be thrown into folds or rugæ, and the adenoid tissue assumes a velvety appearance. The turgescence and hypertrophied papillæ are usually more pronounced at the retrotarsal folds, especially near the canthi. Sometimes the papillæ with the mucous membrane are so enormously swollen and engorged as to be thrown into such large folds and excrescences they resemble a cauliflower; and when the lid is everted, it resembles, as Dr. Noyes has said, the everted rectum of a horse after defecation.

In the simple acute conjunctivitis there is little or no purulent discharge, although the excrescences are frequently so turgid as to be made to bleed at the least provocation.

In catarrhal and purulent conjunctivitis a similar condition exists, but the nature of the disease is different. In acute conjunctivitis there is a slight discharge, but not of a purulent character; it is more of a mucoid nature. The follicles of the conjunctiva are usually also swollen and give the appearance of fish spawn or of tapioca grains; the papillæ, however, frequently rise above the follicles and completely hide them. In subacute conjunctivitis the follicles are more pronounced and the papillæ are less hypertrophied. The granules in the subacute form are frequently more prominent upon the lower lid or may be almost entirely confined to the lower lid, where the fish or frog spawn or tapioca appearance is to be seen. The chronic form, or what is usually called trachoma, is quite a different condition from the other two; in this form we not only have a hypertrophy of the papillæ, the follicles and trachoma glands, with the glands of Moll, but we have true neoplasms of follicular infiltration. The lymphatic stomata are filled with leucocytes and follicular deposits. The infiltration of leucocytes into the stroma and the adenoid tissue of the lid assume a true granular condition with connective tissue cells or nuclei surrounded by connective tissue fibers and

atrophy of the normal connective tissue. *In real trachoma we have, then, hypertrophic succulent papillæ, hypertrophic follicles, hypertrophic glands of Moll, hypertrophic trachoma glands and, besides, neoplasms of a granular character predominating. There is an infiltration of connective tissue substance throughout the conjunctiva. The normal stroma becomes atrophied and, to a certain extent, gives place to the neoplasms similar in appearance to the ordinary tubercle of phthisis. Within these cells or nuclei of the neoplasm, have been found numerous microbes called trachoma bacilli.*

Chronic conjunctivitis or trachoma is thought to be contagious. Frequently this disease develops seemingly quite independent of the acute or subacute form of conjunctivitis, and exists for many months before it is discovered.

The different forms of conjunctivitis, if not timely and properly treated, may assume a chronic condition and this condition by some has been called trachoma. Trachoma, however, is something more than this. As before said, in trachoma we not only have hypertrophy of the papillæ, of the glands of Moll, the Meibomian glands, a swelling and thickening of the whole conjunctiva; but we also have follicular infiltration into the mucous membrane and the adenoid tissue; we have a breaking down of the normal tissue, a derangement of the histologic structure with atrophy, with cicatricial tissue and the follicular neoplastic infiltrations resembling tapioca or sago grains.

Conjunctivitis in other forms can be cured by proper treatment in a short time, but it is far different with true trachoma; here the disease is most persistent, frequently resisting any and all treatment, marching on its destructive way for months, even years, before it can be subdued or scarcely checked in its course. Some authors will tell you of several forms of trachoma; but trachoma is trachoma wherever you find it. That there are different stages and exacerbations we grant. That there are different complications existing we well know. In some cases the papillæ are much more congested and hypertrophied than in others; again, in some cases the follicular infiltration is so enormous that the neoplasms stand out in such bold relief as to resemble cauliflower growth. *The chief distinguishing feature, then, of trachoma is the cicatricial formation and neoplastic follicular growths, and this seems to be a consecutive outgrowth from the acute to the simple catarrhal or purulent, to the subacute, and thence on to the chronic. Whether there is a specific microbe that comes in now to play his part is a question. Others claim that the disease is of a specific nature due to a particular microbe, and with this bacillus or micrococcus they can inoculate the lower animals, and produce there a true trachomatous inflammation. We all well know that the conjunctival sac swarms with many forms of microorganisms, but it would be difficult to say which, if any one, is responsible for the disease. Nearly every oculist who has claimed to have found the bacillus or micrococcus producing trachoma has a microbe differing from all others. As yet, it is wholly speculative whether the disease has its etiology in any specific organism or germ.*

One of the most frequent provoking causes of trachoma is some error of refraction, especially that of hypermetropia or hyperopic astigmatism. In my experience, the majority of these patients are hyperopic, and

many are astigmatic. There is another factor that comes in as a cause, and that is the use of tobacco, especially if chewed; and I have found that patients having chronic granular conjunctivitis or trachoma, can not be cured so long as they continue the use of tobacco.

It would seem that the swallowing of the juice which all chewers of tobacco do to a certain extent, poisons the lymphatic system, and so affects the lymphoid and adenoid structures, and until this poisonous nicotine is entirely eliminated from the system it is next to an impossibility to effect a cure. So confident am I that tobacco thus affects the system and prevents the cure of these cases that I absolutely refuse to take a patient using the weed who will not promise to discontinue its use in toto. I have made a careful record of all my patients, and have given special attention to this subject of tobacco, and its effect when used by the patient or having been used by his progenitors; and I have found that a large per cent. suffering from persistent trachoma either use tobacco or their immediate ancestors did before them; and I have also satisfied myself that patients who are not contaminated by the weed get well in a much shorter time than those whose system is under its influence.

I have also experienced that patients suffering for many months and years with trachoma, having received the most approved and continued treatment from the hands of competent physicians and oculists, are cured by the ordinary treatment in a very short time, as soon as they discontinue the use of tobacco.

We know that it is a fact that this disease, trachoma, is more often found among the Irish and American people than among those of other nationalities, and we also know that it is a fact that the chewing of tobacco is limited almost entirely to the Irish and American people.

That trachoma is contagious there is some question, but that it is infectious, there is no doubt.

SYMPTOMS OF TRACHOMA.

The patient complains of a gritty feeling beneath the lids as though there were sand or other foreign bodies lodged there. There is more or less dread and intolerance of light, the photophobia varying in intensity according to the stage and intensity of the disease. The secretion glues the lids together, especially in the morning after sleep, forming a yellow crust at the roots of the lashes. Frequently there is paresis of the levator palpebræ superioris, and in consequence, more or less ptosis (falling of the lid). Sooner or later the cornea is almost sure to be affected, when the ocular conjunctiva is also involved. There is turgescence of the ocular conjunctiva with, perhaps, the blood vessels of the subconjunctiva extending into and upon the cornea with more or less swelling of the margin of the cornea; and this vascular opacity of the cornea is called *pannus*. The pannus, as a rule, begins at the upper part and the vascular opacity may extend upon, midway or even across the cornea, completely obscuring the iris and pupil. This pannus is due to the friction of the rough granular lid and it begins at the upper part of the cornea where it may be confined, for it is usually the upper lid that is mostly involved, and as there is much more motion of the upper lid upon the ball than of the lower, this adds to the corneal complication. It is not infrequent, however, that both superior and

inferior lids are granulated at one and the same time, but usually the upper one is far more diseased. The irritation of the rough lids upon the delicate cornea often produces ulceration here, and any existing pterygium is aggravated and may rapidly increase.

PROGNOSIS.

Acute conjunctivitis may run its course in a few weeks and spontaneously get well, but if neglected or improperly treated it may pass into a chronic form, when months and years may be required to effect a cure; and even then with much impairment, if not loss of vision, from some one or many of the complications and sequelæ of the disease. From the infiltration there is atrophy of the stroma with cicatrices; the cul-de-sac or pouch formed by the conjunctiva as it folds over from the lid upon the globe, and which is so necessary to the freedom of movement of both lid and eyeball, becomes obliterated; that is to say, instead of the conjunctiva folding back and forming the cul-de-sac the two surfaces, the palpebral and ocular, are grown together, and the membrane of the lid passes directly to the eyeball. This condition not only interferes with free movement of the lid and ball, but it also tends to contract the lid and invert its free edge, thus drawing the lashes down upon the ball, or even turning the edge of the lid with the lashes so much as to completely fold them in against the palpebral conjunctiva and upon the eyeball; in other words, produce what is termed *entropion*, which condition is most harassing and destructive to the cornea. This entropion is also further favored by atrophy of the intra-marginal space of the lid, thus allowing the ciliæ to drop down and change their normal outward curve to an inward direction. If the disease is seen before these sequelæ arise, and timely and proper treatment judiciously given, it can be cured with little or no damage to vision.

TREATMENT.

In simple acute conjunctivitis, the treatment consists in looking after the hygienic condition of the patient; after his general health; and removing or rectifying any provoking cause, as of a foreign body, or any anomaly of refraction. See that the general health is up to the standard; that food, drink and clothing are good. Tonics, if necessary, should be given; however, it is frequently the case that we find this disease among those of robust plethoric people otherwise in perfect health with ravenous appetite; in fact, the majority of my patients suffering from granular conjunctivitis are from the country, and are well nourished and full of blood. In these cases, it is best to diet them, and I have frequently found that depletion is beneficial. As a local treatment, hot water should be freely used. As a collyrium, the chlorid of zinc is my favorite, $\frac{1}{2}$ to 1 grain to the ounce of water, dropped into the eye night and morning; atropin $\frac{1}{2}$ per cent. to 1 per cent. used once a day, if not continued too long, does good. Other astringents, as sulphate of zinc, alum, borax, sulphate of copper, etc., may be used with equal efficacy. If the disease has assumed the subacute stage, more vigorous treatment may be necessary; here the lids should be everted and the mucous membrane bathed with a solution of nitrate of silver, 1 to 2 per cent., every other day, and in the meantime a solution of boracic acid in warm water 8 per cent. (a

saturated solution being 33 per cent.), can be used three times a day, the patient bathing the lids by means of absorbent cotton saturated with the solution, allowing some of the fluid to go into the eye. A little vaselin, plain, or with yellow oxid of mercury, 1 per cent., should be smeared on the margin of the lids at night to prevent them from gluing together. If the disease has gone on to the chronic form or true trachoma, we then have a far more formidable affection to contend with.

TREATMENT OF TRUE TRACHOMA.

Trachoma frequently baffles the most skilled and approved treatment, and goes on for months and years even before it is thoroughly subdued. At one time it was thought by some as incurable, for if once seemingly subdued, when treatment was discontinued the disease would surely return. From its rebellious character and destructive sequelæ it has compelled the profession to give it much attention. Nitrate of silver solution and sulphate of copper in crayons are the two remedies that have been found most efficient, and in ordinary cases they are most to be relied upon. Nitrate of silver may be used as strong as 10 per cent. or 15 per cent., but it is a question in my mind if such strong solutions do more good, or even as much, as weaker ones; besides, if they come in contact with the cornea, they are liable to do much damage to this delicate structure. The strength that I have found most satisfactory is from 2 to 4 per cent.; that is, 10 or 20 grains to the ounce of water, brushed on to the everted lids two to six times a week. In using the strong solution of nitrate of silver, it should be applied by means of absorbent cotton wrapped around a wooden toothpick or any applicator dipped into the solution, and after the solution has remained a second or so, until the mucous membrane begins to turn white, the excess should be washed away by plain cold water. Care must be taken not to allow the solution to come in contact with the cornea, lest it provoke ulceration of this delicate bloodless structure. No solution of nitrate of silver stronger than $\frac{1}{4}$ per cent. or $\frac{1}{2}$ per cent. should be dropped into the eye. If the sulphate of copper is used, it is best applied as a crayon, and the pencil must be perfectly smooth, for if not, the rough surface will irritate and do harm instead of good.

In treating trachoma, care must be taken that the application be within the retrolarsal folds as well as upon the palpebral conjunctiva. The point of the copper crayon can be passed quite into the cul-de-sac. The copper should not be used oftener than three times a week. If it is dipped into vaselin or glycerin before applying it, it is not so painful, but quite as efficacious. The sulphate of copper treatment is very painful, and in sensitive people, cocain may be used previous to the treatment; however, I have found that the reaction of cocain is bad, and if it is long continued, it is decidedly prejudicial. If there are any abrasions, ulcerations, or pannus of the cornea, sulphate of copper should not be used, as it will most likely aggravate these corneal diseases. Here nitrate of silver is far more beneficial. The yellow oxid of mercury salve, five or six grains to the drachm, is a favorite treatment of the European oculists, but I have never been able to use it so strong on my patients without the most excruciating pain, with intense irritation, causing the eyelids and ball to be all aglow; indeed, four or five grains to

the ounce of vaselin is as strong as my patients will tolerate, and if I use it stronger, I have to combine cocain with it. The formula I mostly use at my clinic is ten grains each of cocain and yellow oxid of mercury to the ounce of albolene. I have the mercury thoroughly ground in a mortar until there are no particles visible, it being thoroughly mixed with the albolene, for if but a very small particle exists not comminuted in the albolene, it will prove an unbearable irritant. The salve seems to be less active after it has been made for a time than when it is first put up. I frequently use it alternately with the silver or copper treatment. Nitric acid is sometimes used, but it is dangerous and is liable to leave eschars and cicatrices, thus irretrievably injuring the lids and eye; if used at all, it should be applied by means of a pine stick dipped into the acid. After the acid has soaked into the stick, the latter may be cautiously drawn across the granules. Charlatans used this treatment frequently, subduing the granules, but as frequently permanently injuring the parts by the cicatrices left.

In pronounced chronic trachoma the most speedy and radical treatment is that of expression of the granulations either by the thumb nails, the trachoma forceps, or toothbrush. In using the trachoma forceps Dr. Knapp's pattern is best; some prefer Prince's. The patient should first be anesthetized, as the operation is so painful that cocain is insufficient. The lids everted, the forceps are applied by shoving one stirrup beneath into the cul-de-sac, the other at the everted margin of the lid, and with the forceps firmly compressed careful traction is made. Care must be taken not to tear the tissues, only sufficient force being exerted to roll out or scrape off the granules. It is the cauliflower growth, excrescences, and hypertrophied papillæ and glands that we thus remove with some of the neoplasms. I have found that it is necessary to make subsequent treatment for weeks and months after the use of the forceps, even after the most thorough use of the instrument; but certainly they cut short the disease as, by their use, a few weeks, generally with application of nitrate of silver or copper, will accomplish as much as could be gained in as many months by the usual treatment without their use.

Of very recent date I have used the stiff brush, (toothbrush). After first removing all the granulations possible by means of the forceps, I then take the toothbrush (cut down short), and with the lids everted thoroughly brush the conjunctival surface until all neoplasms and hypertrophies are removed (the lids appearing thin and pliable). There is not as much reaction from this treatment as one would suppose; but the results are not always satisfactory, for even with the brush in addition to the forceps, I have found it is still necessary to follow up this by a slight astringent and in some cases, from the brush, I have had with the cicatricial contraction, pronounced entropion. In case of pannus, which frequently persist even after the trachoma is cured, syndectomy, as my experience proves, is the most satisfactory treatment; this consists in making an incision around the cornea through both conjunctiva and subconjunctiva about three or four mm. distant from the limbus, and then dissecting the intervening portion up from the sclera to the margin of the cornea and snipping it off by means of the scissors. This girdling the cornea, as it were, cuts off all the

blood vessels of the cornea. The vascular opacity of the cornea immediately diminishes and rapidly disappears, also the neoplastic hypertrophied tissue of the cornea is quickly absorbed and the cornea gradually clears up. The conjunctiva recedes from the limbus upon the globe, the tension is relieved, thus allowing the retrotarsal folds to spring back and the margin of the lids to recover their normal position.

Jequirity.—In very chronic obstinate cases of opacity, *jequirity infusion*, after all other means have been exhausted, may accomplish still more good; but it should be used with caution, as it sometimes produces ulceration of the cornea. It can be used with more safety after syndectomy has been made, for if there be much swelling of the conjunctiva, even though it has been re-attached to the sclera, its attachment will give way and so prevent any pent up pus or strangulation of the cornea.

Inoculation—of purulent conjunctivitis is too dangerous to be recommended, except in rare cases where, perhaps, there is dense, persistent, vascular opacity with plastic infiltration of the cornea, with chronic trachoma; and even then, if the malignant inflammation caused by the inoculation is not carefully guided, it is liable to cause ulceration and destruction of the cornea; but the danger is much lessened if peritomy or syndectomy has previously been made; for as the conjunctiva becomes infiltrated with intense chemosis, the incised periphery near the cornea is loosened, thus avoiding the pent up secretion or engorged vessels, and hence lessening strangulation of the cornea. If there be strangulation, thus impairing the nutrition of this vulnerable part of the eye in its enfeebled state, it is in great peril, for the deadly specific microbe burrows and chisels its way into the cornea, thus causing abscess and sloughing of this part of the eye, for it is the weaker and devitalized tissues always that these germs prey mostly upon. And so I repeat that the operation of syndectomy or peritomy indemnifies or insures the cornea to a certain extent against the destructive force of the inoculation. The effect of the purulency by inoculation is frequently so very striking, clearing as it does, the opacity of the cornea and ridding the lids of all infiltration and granulation, that it is very seductive and alluring; but if one has ever tried it, wrestled with it days and nights, as I have, to prevent its destroying the eye and finally at last having suppuration of the cornea, he will not feel like repeating the experiment.

I remember years ago having a case of most persistent chronic trachoma with dense pannus and infiltration of the cornea which for months and years resisted all treatment. I finally screwed up my courage to try gonorrheal pus. I inoculated one eye and soon an intense inflammation followed; the lids swelled enormously, became fiery red and pus flowed out upon the cheeks; the boy, a Swede of 14, screamed with pain; soon the other eye was attacked and the lad fairly howled with agony, creating a general consternation in the neighborhood. I went to see him several times a day and during the night for a period of more than a week, expecting every hour that the eyes would burst; but my relief of mind and my joy, you may well imagine when the inflammation began to subside without any destruction of the cornea. In this case I had previously made a syndectomy, and although the conjunctiva had attached itself to

the sclera and the intervening space was replaced by new tissue, during the intense swelling and chemosis, the conjunctiva gave way again all round the cornea, allowing free vent to the secretion and there was no strangulation. To this I attributed the success of conducting the suppurative inflammation to its happy issue. In this case, the cornea cleared perfectly and the lids were rid of all granulation, and the boy regained good vision with splendid looking eyes.

This was, and probably will be my only case, unless it be as a last resort, after long and faithful trial of all other means, and even then when there is no vision, where there is nothing to lose but everything to gain. However, the jequirity will accomplish nearly as much and with much less danger.

The form of jequirity to be used.—Take eight beans, crush or grind them, and macerate in an ounce of warm water for twenty-four hours. Strain, put up in blue bottles, and keep in a cool, dark place. Of the solution, instill one or two drops into the conjunctival sac, or if a more thorough application is desired, it may be made by everting the lids, and applying the solution by means of absorbent cotton. The effect of the drug thus applied is not manifested until five to eight hours when the symptoms of catarrhal ophthalmia begin. The inflammation continues to increase when it assumes more of the symptoms of purulent ophthalmia, there being more or less suppuration of a muco-purulent nature. Soon there is a false membrane formed not unlike that of diphtheria. If the inflammation thus exerted proves too severe, it may be held in check by the use of hot water; otherwise, no further treatment is necessary, except to keep the lids cleansed by means of absorbent cotton and warm water.

The jequirity infusion will spoil in a short time, especially in warm weather; therefore a fresh solution is necessary. Parke, Davis & Co. keep a solution on hand which I have found quite reliable. This solution is strong, but may be reduced by adding a few drops to as many more of water before applying. If a prolonged action of the drug is desired, one drop of the reduced solution may be instilled into the conjunctival sac daily or every other day for a week or ten days when the eye should be allowed to recover entirely from the effect, and then after an interval of a few weeks the solution may be repeated if necessary.

In treating trachoma we should look well after the hygienic condition of the patient and also to existing provocative influences, such as the errors of refraction, especially hyperopia and astigmatism, also the different forms of heterophoria. Very frequently there is some disease or obstruction of the lachrymal apparatus that has to be relieved or treated ere a cure of the trachoma can be produced. Frequently have I effected a speedy cure of trachoma that had been resisting the ordinary treatment for many months, by simply slitting up the canaliculus and passing a probe into the nasal duct, thereby securing a free drainage of the pent up diseased fluids, relieving the irritation caused by their presence.

Tobacco in all forms must be prohibited in toto; also alcoholic liquors, except when indicated as mild stimulants. General baths give tone and health to the system and are always indicated.

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