

DR. W. J. MAYO, Rochester, Minn.—I have had some experience in these cases and it seemed to me that Fenger's operation is the best for this particular class of cases. You make an attempt at retrograde dilatation. In two of my cases, I used Fenger's operation, but it is subject to great annoyance from leakage. The fact that one can make several attempts, however, is an important point. I do not understand how the Abbe string method can be used in this case. One of my cases was that of a child who swallowed some concentrated lime, causing a stricture which it was impossible to pass. I first employed esophagotomy and then made a gastrotomy wound. Although we were able to divide the upper stricture, we could not pass through the lower one and I then made Fenger's incision. The reason I refer to this is, that an oblique incision brings one in the direct line of the stomach, and through this I could nourish the child very well. External esophagotomy with a heavy sound inverted the stricture, and in that way we were able to pass the tube into the esophagus, which held the stricture firmly in place. In a short time we were able to close the external wound, but we continued the dilatation for some time. The second case follows Abbe's method more closely, and I got through the stricture at once and sawed it out. For fear that we might not have succeeded, we introduced a tube and the end of the string was carried to some extent, but we could not pass the sound afterward, as it seemed to catch in the folds. The Witzel tube enabled us to feed the child for a number of months. With regard to what Dr. Valentine says, anyone who has had experience in urethral or other forms of cicatricial stenosis knows that if you can get the probe in your work is done. I have looked this subject up very carefully, and especially in connection with LeFort's method, but found that he had not done much. He practically employed gradual dilatation with the aid of electricity, which to my mind does not mean anything. I congratulate Dr. Cooper on the result of his operation, which is very complete, and it is the operation of choice. While I do not wish to criticise the case, still I do believe that Fenger's incision and the direct wound in the stomach is better.

DR. VALENTINE, continuing—I wish to state that I know nothing about this subject as it relates to the esophagus. I have seen stricture of the urethra treated where a filiform could be passed only with great difficulty and precisely six months thereafter a No. 20 French went through the stricture without any pain or hemorrhage. This was done in Bellevue Hospital, New York, in the presence of a number of gentlemen.

DR. COOPER, closing the discussion—One good point about the wound is that if you should divide the strictures and they should recontract, you would have simply to reopen the stomach at the site of the former gastric fistula, and this could be very easily and quickly done. The other criticism in reference to getting into this wound, as you get into an ordinary gastrotomy wound, is not true. Your finger easily presses the tissues down. This method does not interfere with any technique should you wish to perform retrograde dilatation.

THE ABORTION OF GONORRHEA AND TREATMENT OF OTHER URETHRAL AND VESICAL DISEASES BY HY- DROSTATIC IRRIGATIONS.

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In a paper¹ read before the Society for Medical Progress, January 11 and before a Wissenschaftliche Sitzung der deutschen Poliklinik on January 17 of this year, as much of the bibliography of hydrostatic irrigations as covered the requirements was touched upon.

In that paper I described an apparatus which did away with nearly all the objectionable features of these irrigations. I now propose to submit some

modifications which are the outcome of constant endeavor to so simplify and render safe the treatment of genito-urinary diseases, as to make at least the most frequent thereof available for the general practitioner.

The modifications of the apparatus I present, consist essentially in:

1. The substitution of a cast-iron ring to hold the irrigator. By this means, the irrigator can more easily be attached to any wall or bookcase.

2. A rubber tube made especially for this apparatus, doing away with the complicated connections, which formerly were necessary. The essential feature of this tube is that its lumen is a *quarter inch in diameter*, which enables the operator to easily overcome any sphincter vesicæ. The tube has expansions at both ends, the one to attach to the irrigator, the other to make the change of nozzles easy.

3. A stopcock nearly thrice as large as its predecessor. This prevents cramping of the hand, when frequent irrigations are required as must be made in the specialist's office. The lever of the stopcock's button now has three catches, by means of which three forces of stream are obtainable with no more effort than a slight motion of the thumb.

4. The shield's neck is enlarged and rough-ground within. This facilitates its being slipped over the nozzle, when attached to the hose, and also attaches it firmly to the stopcock. The apparatus as described is made as were its predecessors, by F. Alfred Reichardt & Co., of 27 Barclay St., New York.

As far as the surgeon is concerned, these alterations of the mechanism prove convenient to a degree which a comparison with my former apparatus at once reveals. As regards the patient, experience has demonstrated that the tension of the urethra, which was occasionally somewhat painful in new cases, is now more quickly overcome. This I attribute to the large caliber (one-fourth inch) of the tube.

The technique of these irrigations is not essentially modified by these improvements, except that now, in but very rare cases, is the patient required to breathe deeply and to strain, as if at urinating.

The theory upon which this treatment is based, can be outlined in a very few words. If the sole purpose of the treatment were to merely wash microbes and pus from the surface of the genito-urinary mucous membrane, such serious consideration would not be necessary. But as the microbes that we must combat deeply invade the tissues of the urethra, mere washing away of those which rest upon its mucous surface would prove useless. Manifestly we can not follow the gonococcus into the tissues, but by these very copious washings we cause the mucous membrane to take up large quantities of water. The resultant artificial edema, renders the urethra a bad culture-medium for gonococci. In practice, whatever may be our theory, the results are oftentimes more than astonishing.

The difficulty of obtaining statistics of gonorrhea, are all too well known. As I have shown in another paper ("When may gonorrheal patients marry?" *American Medico-Surgical Bulletin*, Oct. 1, 1895), gonorrhea is still too lightly viewed by the laity to make reliable data obtainable in large numbers. I may, however, cite from those cases which I could observe from the beginning of the muco-serous discharge in which gonococci were present. *Every one of these recovered entirely within thirty-six hours.* Cases in which the discharge had grown distinctly

¹ The Technique of Urethral and Intravesical Irrigations, Clinical Recorder, February, 1896.

purulent, when not complicated, recovered within ten days. Chronic cases, which had lasted for months and years, recovered in varying lengths of time. The most marked case among these was that of a physician, who had persistently treated himself for gonorrhea (perhaps with reinfections and auto-reinfections) for twelve years. In two days the copious yellowish-green, blood-streaked discharge grew watery; in five days the gonococci disappeared; in eight days the discharge was entirely gone.

It may be well to explain here what is meant by "cured." After the discharge ceases, the patient is not treated for a week or ten days. Then, no discharge reappearing, he is ordered to drink at least twice the quantity of beer to which he is accustomed. No discharge resulting after another lapse of ten days, he is given a strong, irritating injection of nitrate of silver. If the resultant discharge, which lasts from eight to thirty-six hours, contains no gonococci all restrictions are removed, except that the patient is requested to bring the next seminal emission resulting from coitus condonatus, in the same condom. If this contains no gonococci, and anterior and posterior urethroscopy show a healthy urethra, the patient is discharged.

These experiences, not few in number, are from those cases in my private practice that were not complicated with other affections. In those, the cases were delayed by the complications, whose removal in many instances was aided materially by the irrigations.

Berthold Goldberg,² of Cologne, has most carefully compiled the literature of the subject. He finds that of the cases treated by systematic intravesical irrigation, 60 per cent. recovered in less than ten days, 30 per cent. recovered in two to three weeks, and 10 per cent. mischanced. One-half of this 10 per cent. was attributable to avoidable causes, disobedience of patients, repeated excesses, etc. The remaining 5 per cent. distinctly resisted treatment, but would still more have proved unamenable to other forms of medication.

Goldberg's experience and that of others lead him to conclude that carefully systematized irrigations with potassium permanganate: 1, are indicated when gonococci are present; 2, are contraindicated in acute inflammatory conditions; 3, permanently remove the gonococci in 95 per cent. of far more than half the cases, within one or two weeks, in any stage of the disease; 4, are reliable as a means of aborting gonorrhea; 5, the successes are due to coincident mechanical and chemic effects. This author adds that the irrigations may also exercise a genuine, specific antigonorrheal influence.

My investigations lead me to except only Goldberg's second conclusion. The contraindication in acute local inflammatory conditions would necessarily be in pain; this is easily and quickly overcome by an injection or two of cocaine.

Several authors, notably among them my best of friends, Hans R. Wossidlo of Dresden,³ did not obtain such favorable results. An analysis of their writings shows that they either did not follow the treatment in that systematic manner these cases require, or were unfortunate in having intractable patients. Wossidlo, however, asserts that as means of aborting gonorrhea,

this method has the decided advantage of easy execution; that in acute and sub-acute gonorrhea it yields a large percentage of favorable results in as far as concerns stopping the purulent discharge and causing the gonococci to disappear; but that in chronic gonorrhea, it is not equal to Oberlaender's methodic dilatations.

I am glad to avail myself of this opportunity to express my obligations to Wossidlo for leading me to adopt Oberlaender's method, both of examining and treating the diseased urethra. The profession owes a deep debt to Oberlaender for his method, which does away with that odium upon physicians and long wearing source of grief to patients—chronic gonorrhea. But in its treatment, while I follow Oberlaender closely, I never neglect to add irrigations. The combination has invariably yielded most satisfactory results. These will be testified to by the many colleagues throughout the United States who have honored me by their confidence in sending me those cases, or who have so treated them at home.

But, aside of all other considerations, let us view the practical advantages of these irrigations.⁴ If the method is correctly followed: 1, the disease is cut short; 2, pain is stopped; 3, no complications ensue; 4, no hand injections are used, with their unreliability; 5, no drugs are given by the stomach; 6, the patient can not peddle prescriptions.

The last is as important as any. As in other diseases, the patient is likely to assume that the last prescription he received, even if it were a cough-mixture, is the one which cured his gonorrhea. He gives copies to his friends similarly affected; they do not improve and the physician's reputation is accordingly damaged.

These facts should cause this method to be adopted by all practitioners, especially now that its application is so easy, by the apparatus which I have the honor of demonstrating.

A discussion of all the diseases in which urethral and intravesical irrigations prove useful would carry beyond the limits of this paper. The most frequent ones need only be mentioned; to suggest many others:

Catheter-Fever.—Since I made it a rule to irrigate the bladder, by means of the apparatus herein described, after any instrumentation of the urethra or bladder, I have never seen a case of catheter-fever.

Cowperitis, Folliculitis and Seminal Vesiculitis do not contraindicate irrigations.

Cystitis and Posterior Urethritis.—The posterior urethra being practically a part of the bladder, diseases of both these regions are best considered together. If the inflammation is acute it may be well to treat it in the usual manner; but as soon as the patient can bear them, careful, gentle, mild irrigations will yield most satisfactory results. In this connection it must be remembered that the mucous membrane involved is not only very sensitive to irritation, but that sudden

⁴ Swinburne, after averaging thirty irrigations a day for two years, concludes a paper on "Permanganate of Potassium in the Acute Stages of Gonorrhea." (American Medico-Surgical Bulletin, Feb. 1, 1896) as follows: "Yet with this method, crude as it has necessarily been, the results have been far better than with methods previously tried. While I do not claim a cure in all these cases, yet I do claim for this method: 1, marked lessening of discharge, so much so that it ceases to engage the patient's attention; 2, a shortening of the course of the disease; 3, relief from the many troublesome symptoms so often noted in the course of the disease; 4, almost never hear a patient complain of chordee; 4, far fewer chronic cases; 5, fewer cases followed by stricture; 6, fewer cases where instrumentation is required; 7, fewer cases of posterior urethritis; 8, fewer cases of epididymitis; 9, fewer cases having secondary invasions of the mucous membrane from other microbes; 10, a larger proportion of complete cures than with any previous method with which I am acquainted."

² Centralblatt für die Krankheiten der Harn- und Sexual-Organen, Band VII, Hefte 3 und 4.

³ Centralblatt für die Krankheiten der Harn- und Sexual-Organen, Band VII, Heft 2, 1896.

distension produces much pain. In chronic cystitis and posterior urethritis, irrigations are exceedingly well borne and yield excellent results.

Epididymitis and Orchitis.—Goldberg and others treat these cases with ointments and Zeissel-Langlebert-Casper suspensory bandages until pain has subsided, before irrigating. If the case is one-sided, I strap the testicle and irrigate at once. If both testicles are involved I use Wossidlo's method. This consists in applying the galvanic current, two to eight milliamperes, for from three to fifteen minutes daily. Then I apply a suspensory bandage and irrigate at once.

Neurasthenia.—This affection, from which no genito-urinary case is entirely free, yields as the disease is relieved; but even in pure, essential sexual neurasthenias, irrigations render the most surprising results.

Prostatitis.—Acute prostatitis may be left to subside, which it does very soon under appropriate treatment. It does not however contraindicate careful irrigations of the anterior urethra. In chronic prostatitis the gland should be emptied by daily massage through the rectum before irrigating.

Retention.—If a patient suffering with retention acquires gonorrhea, Goldberg deems irrigation contraindicated. I hold that such cases must be relieved with carefully sterilized instruments and the irrigations used.

Secondary Syphilis.—Patients affected with secondary syphilis are said to bear irrigations badly (Goldberg). This has not been my experience.

Strictures.—It would seem that the artificial edema we strive to produce in gonorrhea might offer danger of retention if the patient also has a stricture. In such cases the Oberlander method yields most brilliant results, especially when associated with irrigations.

Tuberculosis.—When tuberculous cases are not very low or in fever their gonorrhea can be treated as in other patients. Indeed, the very character of the disease should command hasty removal of the additional infection (Goldberg).

It is my hope that these roughly drawn suggestions will sufficiently interest practitioners to lead them to test this method of treating urethral and vesical diseases. If the results others obtain should promote further development of treatment by able men, suffering humanity will be benefited and I will have taken up your time to some purpose.

DISCUSSION.

DR. CHAMPION, Atlanta—Dr. Valentine demonstrated his method in my office yesterday and in a patient without a stricture, he succeeded. Only a No. 12 of the French scale could be passed. I have been using this method and see no reason why I should make any change. In fifty cases that have been recorded, only one case of epididymitis developed. I think every case of gonorrhea should be treated by irrigation.

DR. OLMSTED, Atlanta—I would like to ask about the time of irrigation, that is whether the Doctor irrigates as soon as the patient comes to his office or allows the acute symptoms to subside. Also whether he injects the bladder in all cases at once.

DR. ROSENTHAL, Philadelphia—I remained over on purpose to hear this paper and to discuss it. I have seen some very bad results from gonorrhea, and these results often lead to pus tubes, inflammation, etc., in women. Inflammations of Cowper's gland, the bladder and the ureters are serious complications and if we can remove the contagion we should certainly try to do it by trying all methods so as to see if there be any truth in the assertion made by any one. In Pennsylvania, we have passed a law which compels midwives to at once send for a physician upon the birth of children suffering with ophthalmia and we have institutions under State and Quaker supervisions for those affections. We have such authority as De

Schweinitz and others who show that these cases are due to gonorrhea. In the report of 1,000 cases in the Philadelphia district, in every case it was found due to gonorrhea. I shall treat the next case of gonorrhea that I have in the same way as Dr. Valentine and hope that my result will substantiate his claim. If we can irrigate the urethra of a man successfully, for the sake of his wife and children we should use such means as we have seen to-day.

DR. THOMAS, Pennsylvania—I think from this demonstration to-day one would think it was a very easy matter to treat gonorrhea, but I would state that this is not the case. With regard to latent gonorrhea, I must confess I do not know what it is. Supposing a case comes to us with a secondary gonorrhea and there are lesions of the previous attack existing in the urethra. You can not cure that case in four or five days or even weeks, I do not believe that a cure is possible under any circumstances in two or three days. Now take gonorrheal ophthalmia, which is a condition right under your eye and finger. You can irrigate this conjunctiva several times a day and you can keep it cleansed for many months, but by this treatment, although you may control it to some degree in two or three weeks, it is not cured as a rule, even under the care of the most competent oculists in three weeks or even in six weeks. The acute disease may be over but there is some of the sequelæ left that can be seen in the eyes. I believe that the method suggested is a very good one. It is one that I practice continually but not exclusively. Another excellent method is to inject the urethra, after first cleansing it, with a solution of nitrate of silver four grains to the ounce, once daily for two or three days, and then irrigate the urethra with some milder solution. I have followed this in nearly all of my treatments with considerable success, but I have not yet seen a case that was cured in two or three days. In secondary gonorrheas that come to us for treatment, you have to consider the pathologic conditions that remain from the previous attack and cure this before you can get a cessation of the discharge.

DR. WILLIAM PERRIN NICOLSON, Atlanta—I would like to ask how long the reaction is to continue, how soon it is repeated, and how long the first sitting occupies. As to the injection of the bladder without a catheter, I remember Dr. Hunter McGuire performing this with an ordinary Davison syringe more than twenty years ago.

DR. VALENTINE, in closing the discussion—I will send reprints to any of the gentlemen who may wish them in order that they may familiarize themselves with the methods. Dr. Champion said that he is not convinced that the method of irrigating without a catheter is an altogether desirable one, but I am sure he will not use a catheter again after reading the literature I shall leave with him. With regard to irrigating at once, if I did not there would be no treating of the gonorrhea and no time would be gained. Unquestionably, irrigate the moment the patient comes into your office after you have shown by microscopical examination that he has gonorrhea. Do not let the acute symptoms subside. If the disease is located in the anterior urethra, irrigate in the morning and again in the evening from one to three days. Then give one posterior irrigation which will irrigate the bladder as well. On the fifth or sixth day again irrigate the anterior urethra, morning and evening and say on the eighth day give another anterior and posterior. Dr. Rosenthal suggested that my assertions should be tested and I hope they will. There have been sufficient statistics given to prove its efficacy, a French surgeon having employed the method in about 20,000 cases, a German in 10,000 cases, Goldberg in 2,000 cases, Swinburne of New York, in an average of 30 cases daily for two years and my own experience numbers about 3,000. I thank Dr. Thomas for criticising me so severely. He is right in saying that it is not an easy matter to treat gonorrhea and we must always do with some degree of apprehension. By this method I think it is easier to treat than by any other. Dr. Thomas also said he did not know what latent gonorrhea was, and I must say I do not know what it is either except that it is a very convenient term. It really means the lurking of the gonococci without the manifestation of symptoms except under special exciting circumstances. During the sexual life, especially after marriage, the crypts, glands and follicles are more frequently washed out, and not only may they infect the urethra but in a number of cases they may carry contagion to the female. The Doctor states that gonorrheal ophthalmia is not cured in five or six weeks and this is true. You can not subject the conjunctiva to the hydrostatic pressure that you can the urethra. While the pathologic character of the conjunctiva resembles that of the urethra, it certainly is of a different character, and you would not care to induce the edema, which makes the urethra a fair culture ground for the gonococci. Again, Dr. Thomas states that he has not seen a case

that he could cure in five days, and I agree with him that they are rare. We should not call it gonorrhea unless we have first found the gonococci. The experiences of men who have worked in this matter much more than I have shows that the cases are cured. A Berlin surgeon, who does not consider my method alone, says that it was successful under circumstances like those we have discussed. Dr. Nicolson asks how long the edema lasts, and I would say from three to five days. He also asks when I irrigate again; at the next sitting; ignore the edema. I was delighted to find that I could not claim priority in irrigating the bladder. I may be permitted to mention that Dr. J. B. Crossfield did this operation in the year 1791.

PLASTIC SURGERY.

Read in the Section on Surgery and Anatomy at the Forty-seventh Annual Meeting of the American Medical Association held at Atlanta, Ga., May 5-8, 1896.

BY F. W. EPLEY, M.D.

NEW RICHMOND, WIS.

Recent developments have shown, I believe, very clearly, that in the light of modern surgical methods we have not been living up to our privilege in our operations upon the surface of the body. The wonderful field which antiseptic and aseptic methods have opened up to the operator within the cavities of the body has so occupied the attention of the aggressive surgeon, that surface surgery has to a considerable extent been neglected.

This I believe to be due, partially at least, to the unwarranted warning which came to us from high authority soon after the advent of antiseptics, that they could not be used in plastic surgery, or at least in grafting, and further, that local anesthetics, such as cocaine, were inadmissible. If this were true, we might be excused for accepting it and contenting ourselves with the infinitesimal groat of skin which we have been wont to plant in its regular orthodox one-half inch from the sound skin, and one-fourth inch from its fellow invader. But fortunately it is not true. Neither is it true that we must use split leather in a saline solution, "à la Thiersch," to repair our hides which have suffered a solution of continuity. On the contrary, experience teaches us that the whole skin, clear down to the cellular tissue, is at our disposal for this work, and further that we may and should use antiseptics and local anesthetics freely in our deliberations. And last but not least, we find that *the size of a piece of skin which can be successfully transplanted is limited only by our facilities for obtaining and properly handling the same, and the size of the space to be covered which can be brought into proper condition to receive it.*

Further, we can not by taking thought add a cubit to our stature, but we can, by a little thought, save the generous donor of one of these large pieces of skin a vast amount of annoyance, discomfort and pain, by making the pieces of skin removed boat-shaped at the ends instead of square, thereby enabling us to close the ugly wound at once with a continuous suture, leaving only a straight seam which will heal by first intention instead of leaving a wide, square, open wound, with no expectation of healing whatever, apparently, and which will sometimes exhaust the patience of all parties to the transaction.

In proof of these statements, allow me to report a case: On June 27, 1894, G. H. a car-sealer, had the whole bottom and flesh on the sides up one-half to one and one-half inches torn from his foot by a car wheel passing over it. Not only the skin but all the flesh was torn from the bottom of the foot leaving the bones bare so they could be counted. The os calcis

was left as bare and white as a porcelain door-knob. In addition to this the skin upon the top of the foot was bruised in a shocking manner so that nearly all the epidermis up to and above the ankle joint turned black and eventually came off. Strange to say only two bones were injured and they were small ones and only to a limited degree. After careful examination I decided to try what modern conservative surgery could do and declined to amputate. The foot was anesthetized by injections of a 4 per cent. solution of cocaine and great care taken to make it clean, to remove all the tissue injured beyond repair and keep it antiseptic. Soon granulation tissue sprang up and covered all the bare bones. This was allowed to grow until the bottom was well cushioned over, when the foot was kept in proper shape by careful bandaging. On July 30, about a month after the injury, I began skin grafting in the usual way, placing small pieces of skin about the size of one-half a kernel of corn about one-fourth inch apart and about the same distance from the healthy skin all around the edge of the same. This process was carried on successfully until the sole proper was reached, when a different method was adopted in order, if possible, to avoid contraction of the skin and as much as possible to do away with scar tissue which experience has shown will not support the weight of the body. To accomplish this desirable result I resolved to try to transplant solid skin. Accordingly, on August 26, two months after the accident, a piece of solid skin two inches wide and over three inches long was removed from the calf of a friend's leg and placed across the ball of the wounded foot. This was a perfect success. So much that at the end of a week on cutting this transplanted skin the patient's blood flowed from it freely. On September 3, a piece of skin two inches wide and five long was taken from the arm of another friend, each piece being about one and one-half inches wide by five long. These transfers were followed by the same gratifying results, every vestige of skin removed retaining its vitality and growing firmly to the injured member. On September 9, fifteen large grafts about the size of a good kernel of corn were taken from my son's arm to cover two small corners not covered by the larger pieces. All these transfers having been so successful I decided to proceed to cover all the remaining surface, not covered by skin, at the next sitting. This was done on September 16, when one piece two by five inches and another two by five and one-half inches were taken from the arms of two more friends and the whole foot was covered. Every transfer was successful and in all fifty-two square inches of skin had been transferred in six large pieces from five different donors, and is to-day part and parcel of George Hibbard's anatomy. Beside, more than 300 smaller grafts from four other donors, making in all nine different contributors to the scientific repair of a railroad injury. And every one of them would willingly contribute as much more for the same purpose should occasion require. The skinning process was entirely painless, the healing rapid and the scar insignificant. The size which I have found most practical is about two by five inches. The best place to obtain it is just below the insertion of the deltoid muscle. This is not a very sensitive locality, is easily dressed, the skin is of proper thickness and texture and well supplied with blood vessels, while the wound here gives least annoyance to the donor.

Operation.—The donor should be seated in a com-