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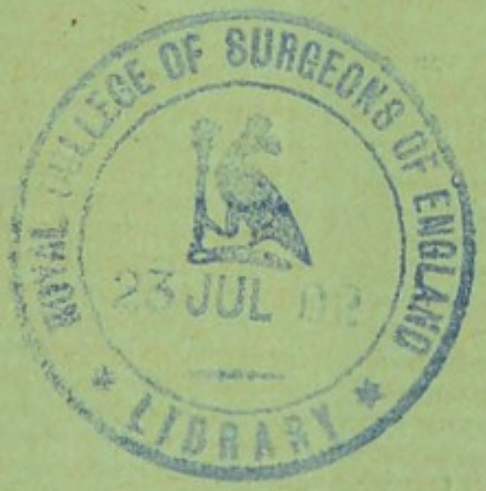
Reprinted from the

New York Medical Journal

for June 7, 1902.



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THE COMPLICATIONS OF PHIMOSIS, WITH TREATMENT.

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NEW YORK.

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A recital of the causes of phimosis involves a study of various factors, namely, the histological, the traumatic, and the venereal.

The older writers seem to have generally agreed that this condition could be either congenital or acquired; some surgeons going so far as to state that phimosis was almost universal, and adherent prepuce the natural condition at birth. Hyde considers phimosis a normal condition at birth, the future outcome depending upon whether or not the glans and foreskin growth are proportionate. White and Martin agree as to the great majority of cases, but consider that at the age of from five to seven years distention of the preputial orifice takes place.

A number of observers, however, and my experience bears out their observations, hold that phimosis is uncommon at the birth of the male infant, but comes on as a post-natal condition.

True congenital phimosis where lack of develop-

ment generally of the inner layer of the prepuce gives rise to the condition, must be considered rare.

Houston, an anatomist early in the last century, pointed out that the prepuce was always longer than the glans in infancy and it was only at the period of puberty when the penis became fully developed that the glans equalled the length of the foreskin.

At the outset we must recollect that it is not the length of the foreskin but constriction which constitutes phimosis. Most male children at birth will be found to have a redundant prepuce, and, observed casually, will give the appearance of what in later years, upon venereal contamination, too often resolves itself into a constricted condition of the part. While a close connection will be found to exist between the inner layer and the glans, the accumulation of smegma will be found in all but a very few cases to have acted as a lubricant, preventing constricting organization. When, however, the stimulation of birth sets all the excretory functions of the body into activity, unless carefully tended during the first weeks of life, irritation from urine at the junction of the mucous and skin layers of the foreskin, or the inspissated accumulations from the odoriferous glands about the base of the glans, combined with abraded epithelial cells, will cause in an increasing number of cases, as closer examination is carried out, contraction and adhesions going on to organization.

Pressure of the growing glans against the inelastic inner layer must also affect the nutrition of the part furthering contraction.

Traumatic phimosis most often follows as a result

of direct injury; a peculiar instance being that reported by Page, of a Norwegian whose penis, when an infant, became frozen to the floor after urinating. Upon being picked up his foreskin was found lacerated. Uncared for, healing resulted in a phimosis with a pin-hole opening midway between the meatus and the corona on the dorsal surface. Dr. West reports the case of a man, intoxicated, who, in falling, set fire to some fuses in his pocket and was burned over the lower part of the abdomen, thighs, and genitals. The patient recovered, but with an extreme degree of phimosis.

During sexual life specific venereal infection is the common cause of the condition. Uncleanly habits may indirectly act as a causative factor.

A condition, similar to phimosis, in which the hood of the clitoris becomes bound down to the glans in females, giving rise to a train of reflex nerve symptoms, was pointed out by the elder Sayre, and later by Morris.

The pathology of the formation of phimosis consists in a scar tissue replacement of the elastic cellular meshwork between the two layers of the foreskin, following inflammatory reaction to irritation.

That progressive degenerative changes may follow as a secondary result of phimosis is shown from post-mortem examinations. Dr. Golding Bird reports, in a young child patient of his, the condition of the bladder and ureters as being like those of a man who had suffered long from stricture of the urethra. Mr. Hilton, corroborating this, spoke of having seen similar cases.

Dr. Reese has reported a full description of a case

of his in a child aged three months, suffering from phimosis with pinhole aperture. Constipation with colic commenced the attack, accompanied by difficult urination; later came jaundice, hectic, and the passage of pussy urine, followed by death at the end of six days. Post-mortem examination a few hours later showed the body well nourished but jaundiced; chest cavity normal; intestines distended with gas, but containing no fæcal matter; stomach contents, brownish mucous; liver of twice the normal size for a child of that age; gall bladder normal; spleen enlarged. Kidneys lobulated with capsules slightly adherent. The pelves contained pus and urine, the lining being congested. Bladder contracted and congested, containing pussy urine, with free blood cells found under the microscope. The diagnosis made was phimosis following irritation, infection with absorption through the urethra from the glans, followed by general septicæmia and death. Dr. Taylor, an English surgeon, at the post-mortem of a man aged eighty-three years, who, having enjoyed previous good health, was found dead in a field, found a meningeal hæmorrhage but no broken vessel. Arteries throughout the body were hard, but good. The middle lobe of the prostate was enlarged. Phimosis was present. The man was the father of several children.

Dr. Roberts reports a case of a young adult, ill developed. The kidneys were hollowed out by numerous sacculations, the cortical wall being but ⅛ of an inch thick in parts, pelves greatly dilated. Ureters much enlarged and forming tough, thick-walled

tubes. Bladder thickened, with mucous membrane dark colored and greatly corrugated. Phimosis had been present since infancy.

Atrophic changes are well shown from the history of a case of a young man aged twenty-two years, who suffered with phimosis, and whose erected penis was of the size of a little finger. Driven by the raillery of a sexual partner he sought relief. Circumcision cured the phimosis, and at the end of three months the organ would enlarge under excitement to twice its former size.

The complications arising from an elongated and constricted foreskin may be divided into (1) those which follow as a direct result of the local condition; and (2) those occasioned through sympathetic nervous connection.

Under the first division may be named balanitis and posthitis, separate or combined, adhesions, œdema, hypertrophy, extravasation, cellulitis, gangrene, arrested development, herpes, eczema, paraphimosis, preputial calculi, urethritis, cystitis, dilatation of the bladder, ureters, and pelves of kidneys, difficult urination, impotence, prostatitis, fissures, hæmorrhoids, perineal abscess, prolapse of rectum, hernia, hydrocele, cancer, anæmia. Many statements of phimosis being a predisposing cause of epithelioma of the penis have been made; Gross, however, held opposite views.

Second: enuresis, hair-trigger orgasmal condition, with heightened or lessened erotic tendencies, the "reflex paralyses" of Sayre, incoordination, petit mal, melancholia, convulsions, bladder tenesmus, symp-

toms resembling calculi, gastro-intestinal catarrh, nasal and eye disorders, false diabetes.

"Concealed trouble," meaning thereby simple inflammatory discharge, gonorrhœa, chancroid, or syphilis, combined with phimosis, is the condition in which acquired phimosis in the male adult presents itself to the surgeon's notice.

Balanitis and posthitis result from the irritation and excoriations caused by urine or urethral discharges mingling with smegma. Unrelieved, organization takes place during healing, with adhesions, as in the case which I saw.

D., aged forty-five years, father of eight children by a first wife, no venereal history. Phimosis present. Patient had never been able to uncover the glans; the whole left side of the glans and portions of the right side organized to the foreskin.

Œdema and cellulitis, due to inflammation and infection. Fissures and ezcema the result of excoriation following irritation.

An example of extravasation, complicating phimosis is well shown in Mr. Fergusson's case of a man aged thirty-five years, with phimosis from infancy. When twenty-nine years old he acquired syphilis, and the chancre being burned with silver, closure of an already small opening at the preputial orifice, with extravasation of urine took place.

Gangrene due to phimosis or paraphimosis involves, usually, but the skin envelope, the glans and body of the penis escaping; it is explained by the cutting off of the blood supply by constriction. Ulceration into the urethra has occurred.

Arrested development, combined with a double

hydrocele apparently due to phimosis, occurred in a case which I saw, of a child, aged eighteen months, in whom the penis appeared to be simply a well-formed glans attached to the root. Effusion into the tunica vaginalis of both sides had been progressive for the past half year, until, at the time I saw the child, the estimated contents in each sac was two ounces. Compression upon the scrotum did not cause the fluid to disappear into the general peritoneal cavity. Constriction of the foreskin had taken place, leaving but a minute opening at the preputial orifice. After release of the glans the fluid was rapidly absorbed, and the body of the penis commenced to regain its balance of growth.

Herpes seems to be due solely to a peripheral irritation; in one case of my own, in which a partial phimosis was present, after a year, during which at intervals a number of local applications were tried with poor success, circumcision was performed, with the removal of a large patch of the herpetic vesicles, and was followed by spontaneous disappearance of those upon the body of the penis.

Gaither states that acquired phimosis due to venereal warts is rare, but that when present, their gradual growth will be apparent to the patient. I have found that where circumcision has been performed for phimosis associated with vegetations, the latter heal under very simple treatment without the use of caustics.

Paraphimosis commonly occurs upon the first retraction in early life of a partially phimosed foreskin, or, in later years, in those with slight degrees

of constriction, in whom after coitus a partial erection prevents the replacement of the prepuce.

Many cases of preputial calculi, formed by the action of urinary salts upon smegma, have been reported. Whisham speaks of a special tendency of East Indiamen to this complication of phimosis.

Urethritis as a complication of phimosis may be due to infection from an acrid discharge gaining access through the external meatus, or, in a "concealed trouble," the gonococci or the mixed infection from a chancroid may be the cause of the discharge.

Cases of progressive infection along the urethra resulting in cystitis from this cause have been reported by Van Buren and Keyes; in their case after circumcision no return of bladder symptoms had occurred after an interval of six years. Coulson has also reported a similar case with a like result in a boy aged seven years.

Difficult urination, hypertrophy followed by dilatation of the bladder, ueters, and pelves of the kidneys, result from a damming back of urine.

Impotence would seem to be caused when the preputial orifice is not in line with the urinary meatus, as in a case of my own, of a man who, during the closing days of a cardiac affection, required catheterism. The man was married and had lived an active sexual life for thirty years. His wife was healthy, but they were childless. The opening of his foreskin was small and in valve-like folds, placed midway from the frenum to the corona. The preputial pouch capacious, and still further distensible, capable of holding an ounce of fluid. It was readily conceivable how an emission would be held intact, to

filter gradually away after the erection had subsided.

Prostatitis results as a consequence of infection or mechanical obstruction.

Perineal abscess may follow œdema, extravasation, or burrowing infection into the cellular tissue of the ischiorectal space.

Implication of the rectum as a complication of phimosis is accounted for by proximity; Hyde reports a case of prolapse of the rectum in a three-year-old child, two inches of the lower bowel accompanied by bloody discharge, were forced out at every stool. The boy always cried, strained, and sometimes fainted, when a movement of the bowels occurred. Circumcision of the foreskin was followed by a single attack of prolapse upon the second day, after which time recovery was uneventful.

Cases of hernia may be continued or produced by phimosis. Hyde reports a case of double inguinal hernia which occurred in a boy aged eight years, who had a tight foreskin accompanied by almost constant priapism; the genitals might be said to have been on edge. Stretching and retraction of the foreskin with the removal of retained smegma cured the condition. Chapman reports two cases in boys aged five and eleven years, respectively. Phimosis with concretions was removed by operation. Trusses aided the subsequent treatment of the hernias. Dr. Sayre reported the cases of twins with a like condition, for which circumcision was performed, but we are not told as to the result. A case I saw, in which phimoses seemed to be an important factor, was one of a child aged seven months. The mother, with no milk of her own, used canned condensed milk, with

a resulting product of baby to be expected. With a belly like a drum, at the umbilicus a hernia protruded more than an inch; at the right and left external inguinal openings were hernias of lesser size. Phimosis with an orifice through which a fine director could hardly be pointed was present, from which drops of urine were ejected at short intervals. The scrotum was relaxed, and all about the thighs and genitals there was a dermatitis. The child was in a nervously exhausted state, the mother affirming that he never slept.

After a circumcision, performed without aid of an anæsthetic, the mother took the baby to the country. Three months later she returned to show me a well child.

Beginning with Sir Astley Cooper, Hey, Holmes, and Hutchinson regard phimosis as the predisposing factor in the causation of malignant disease of the penis. Wallace speaks of a precancerous stage, in which the presence of venereal warts shows the morbid activity of the epithelial tissue of the organ.

A case which presents features of serious complications, due wholly, I think, to phimosis, is at present under my notice:

G, a boy, aged thirteen months. Since the age of two months, to use the mother's words, the child has "looked queer" about the genitals. Upon examination no penis is apparent, it being lost within the scrotum, which is enlarged to the size of a fist. On palpation, a double oblique inguinal hernia, which can be partially replaced, is manifest. The meatus urinarius can be seen by rolling back folds of foreskin. On asking if there was difficulty in urination, the reply was "no," that the child was "never dry."

In addition, when a movement of the bowels occurs, there is a prolapse of the rectum, of three inches, combined with pain and mucous discharge, sometimes blood tinged. A three weeks' stay in the hospital last July improved the condition somewhat. The treatment carried out at that time, so far as I could learn, was local medication to the prolapsed bowel. The child is in a highly nervous condition, but of good development for its age.[1]

Anæmia follows from absorption of poisonous urinary, or infection products, or is due to nerve exhaustion.

Enuresis, when present, may be due to the direct peripheral irritation, or may occur secondarily through the sympathetic nervous system. That such serious forms of paralysis as those described by Sayre could be due to phimosis was received with incredulity by many in the profession. The forms of "child hysteria" in children of both sexes, due to phimotic conditions, are multitudinous.

Convergent strabismus and ozæna may be due to reflex irritation, through the general sympathetic system, to the special sense organs involved.

Roswell Park recites the cure by circumcision of a chronic diarrhœa, which occurred in two children, aged three and five years, respectively, who had phimosis.

Dr. Maxwell reports a case of false diabetes as a reflex complication of phimosis in a patient of his, with an abrupt disappearance of sugar from the urine after the operation of circumcision was performed.

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[1] Circumcision was performed later on this child, and resulted in a disappearance of the hernial and rectal complications besides removing the impediment to free urination.

The diagnosis of phimosis is made by attempting to expose the glans. The condition found will vary from obliteration of the preputial orifice to a tight constriction of the cervix of the glans by the retracted foreskin.

The functions of the frenum, which are, by its elasticity to replace the retracted foreskin and to prevent urine from entering the preputial sac, are lost. When retracted, the frenum of a phimosed foreskin draws the lips of the external meatus downward and backward, closing the urethral orifice and causing the glans in the erected organ to point downward.

The stream of urine being deflected, stretches the sac of the foreskin, causing the condition of "ballooning."

The treatments of phimosis may be enumerated under the heads of hygienic, forcible dilatation, incision, excision, and circumcision. As had been stated by many authors, a large percentatge of patients will (or would if looked after hygienically in infancy) recover spontaneously by gradual breaking up of adhesions. According to Van Buren and Keyes, when we can retract the foreskin sufficiently to see the glans at birth, we may be assured that, at puberty, normal conditions of the part will have come about.

The importance of early examination of the genitals of children cannot be overestimated. Dr. Morris calls it a step forward in the advance of civilization to have this fact generally appreciated. He found that 80 per cent. of Aryan American women had been allowed to grow up with a bound-up clitoris, a similar condition so far as the nervous ele-

ment is concerned to phimosis in the male. He considered phimosis to be a degenerative process in man.

In negresses, except when of mixed white blood, the condition was rare. After freeing the atrophic glans of the clitoris, he has found within a few weeks that development to normal size has taken place.

The earlier retraction is effected after birth, the better for the child. The one who gives the baby its first bath should be instructed carefully to retract the foreskin, and to complete the toilet of the parts by removing retained secretion, wiping the parts thoroughly dry of all moisture before replacing the prepuce. Should there be any difficulty in retraction, the physician, who is meanwhile busied with the mother, can, with forceps or director, break up adhesions and stretch the preputial orifice sufficiently in the great majority of cases. Where more radical methods are required, it will be good treatment to dilate the opening widely enough, and in line with the external meatus, to obtain a free flow of urine, and wait until the child is a few weeks old before incising.

Many forms of stretching instruments have been invented by surgeons for the forcible dilatation of a phimosed prepuce, but the ordinary dressing forceps may be utilized for the purpose when an instrument can be employed. A point of value to be observed when carrying out the dilatation is, not to dilate too frequently; this does not mean uncovering of the glans by retraction. If stretched more than once in two or three days, fissures in the mucous layer of the prepuce are likely to occur; these

will be replaced with scar tissue, thus treatment will defeat the end desired.

The use of artificial lubricants had better not be advised, except perhaps during the manipulations of the surgeon, when sterilized lanolin seems to be least irritating to a delicate skin. The proper toilet of the glans and foreskin is to remove excess of smegma, but not to dry out or substitute moisture for a natural lubrication of two delicate skin surfaces which are in more or less constant motion, as even in walking a certain amount of movement of the foreskin upon the glans occurs.

Cullerier has advised for treatment a subcutaneous division of constricting bands combined with stretching.

The incision and excision treatments constitute a modified circumcision form of treatment, and are usually employed as temporary relief measures. At times, where the constricted foreskin is not over long, a simple dorsal incision, made with scissors or a curved bistory upon a grooved director, from the orifice to the cervix along the middorsal region, with a single suture upon either side will, in young children, be found to fulfil all the indications. Within a comparatively short space of time the organ will appear to have been circumcised, the two flaps having shrunk and been drawn flat.

In cases of the acute form of phimosis, where local medication and continued baths of water as hot as can be borne (this last being the best treatment of any I know for phimosis secondary to venereal infection), do not allow retraction to take place, and where there is risk of infection of any incisions made, the simple

dorsal incision becomes of most value. The amount of hæmorrhage is usually of little consequence, benefit from the relief of pressure of the blood and serum on the œdematous parts fully compensating.

The specific for phimosis is circumcision, however, the question of whether the operation should be performed in every case must depend upon circumstances and the judgment of the surgeon.

Whether the circumcised is more exempt from venereal infection than the uncircumcised may be debated. Wallace reports the history of an infected woman and four men, two circumcised and two phimotic, in which the circumcised escaped infection while the phimotic both contracted disease a few hours later.

That the skin covering the glans becomes hardened after circumcision there can be no question, but after circumcision the formation of smegma, the natural lubricant and protective of the glans, to a great extent ceases. Chancres are all too readily obtained about the matrix and joints of examining fingers, which are covered by well formed epithelium, not to allow credit to be given to this lubricant as a protective. I find in my genito-urinary clinic that the Hebrew is as prone to venereal infection as others; that he often takes greater chances of becoming infected there can be no doubt, from the histories which I have heard, but that there is less protection from gonorrhœal infection of those circumcised near the time of birth, when most frequently the frænum is not included in the surgical procedure, is evident. The Mongolian, whose almost universal habit, I have been told by an habitué of

Pell Street, is to inject silver solution into the external meatus after sexual contact, has a far surer protective against the gonococcus, and I think it true that, while there are many Chinamen with syphilitic disease being treated throughout the city, there are very few gonorrhœal patients.

The frænum left undisturbed becomes bound to the circular scar; this causes a downward pull upon the lips of the meatus, so that on examination we find a closer contact of the lips, and sometimes contraction of the external orifice. One author places this contraction at 95 per cent. of early circumcisions, but thinks it is due to incomplete tearing of the inner layer of the foreskin, and speaks of very often having young adult Hebrews come to him for what they call a "second circumcision," namely a meatotomy. This percentage seems high, but without a record I can agree in part, for, in many instances where I have treated venereal disease in Hebrews, I have performed a meatotomy as a precaution or as being needful in the treatment of the case.

In the absence of positive data I have followed the practice of advising those who come to me for treatment of phimosis or its complications, and who carry on promiscuous intercourse, to be circumcised. The advice of the surgeon, John Howard, in the seventeenth century, that "men who indulge in promiscuous venery should acquire the habit of keeping the glans uncovered to harden the foreskin and glans" is of great value.

If by a postnatal circumcision the child until puberty should avoid the knowledge of being a sexual animal, this alone would commend the operation as

a prophylaxis to the nervous and mental sexual conditions which are ofttimes pitiable, of the growing male. Dr. Otis is satisfied that, where the parts of a phimosed penis are kept in a sodden condition, the foreskin constantly poulticing the glans, there is a loss of nerve power through the engorgement and hyperæsthesia which results being transferred to the seminal vesicles.

The operation which is advised to be performed by most surgeons is that with a circular incision made by one sweep of the knife or scissors in front of a forceps which firmly holds the foreskin anterior to the glans at the line of incision, and the tearing or incising of the inner layer. Anger, of Paris, after tracing an ink line on the skin over the corona, draws the prepuce forward and applys a ligature of whip-cord behind the tracing. He claims for this method of a single incision, but short, sharp pain, with no hæmorrhage; no sutures are required and patients are dismissed in two days.

The galvanocautery, in the form of a wire loop, has been advocated for the performance of a perfect circumcision, which will require but little after treatment.

Dr. Bryant operates in a somewhat similar manner to Anger, by the aid of a clamp, and seeks to leave the glans partially covered, to retain sensitiveness of the corona, and to afford protection. Unless union by first intention is secured, the danger of scar-tissue formation causing a new condition of phimosis must not be overlooked.

The fault in the technics of the single circular incision for circumcision lies in the uncertainty as to

the line of incision, unless outlined with ink, iodine, or silver nitrate, which consumes time, the surgeon will be at a loss many times with the unaided eye, if not to the same extent as the writer when performing this operation for the first time on a young child. The surgeon under whose direction I was working asked me if I had removed the glans with the first incision. Owing to the tension of the inner layer against the glans, hæmorrhage was profuse, and, until incision and retraction of the mucous layer showed the glans intact, it looked very much as though an amputation instead of a circumcision had been performed.

A method which has some strong advocates, and one which has given me the best results, is as follows: During the previous twenty-four hours, as often as is convenient I direct the patient to bathe the organ in hot water; this lessens the cleansing needed at the time of operation, when the parts should be washed with hot water and green soap, making a thick lather, but using gentleness in the manipulations. Rinsing off the soap, a square foot of gauze is passed over the penis through a hole torn in the centre.

The question of anæthesia is at the present day narrowed down, in the great bulk of cases, to the use of cocaine hydrochloride, and, under the teaching of Dr. Bodine, I employ the drug in strength varying from ½ per cent. to ⅛ per cent. in a weak soda solution.

A ligature about the body of the penis I find unnecessary in ordinary cases, but should not hesitate to use it when a too free hæmorrhage showed its

need. The only disadvantage to its employment is distortion of the parts when making the flaps.

As the success or failure in the production of anæsthesia by the use of small quantities of cocaine depends on the mental control of the patient, the surgeon must not hesitate, or doubt the assertion of his promises not to cause pain. Pinching up the skin over the middle of the cervix behind the glans, he must explain away the sensation of the first thrust of the needle point. By the use of a small quantity of carbolic acid applied by touching the skin surface at the point of proposed first puncture from a small cotton swab puncture pain may be done away. The smart of the acid which is but momentary seems to be preferred by the patient. After reaching the cellular tissue between the two layers, the surgeon will gradually swell the tissues in a broad line toward the preputial orifice. When possible, gradually roll back the foreskin over the point of the inserted needle, depositing the solution into the mucous layer by so doing, until the cervix is reached. Extending down either side from the point of commencement of the anæsthesia with a broad base, to the frenum, where much care is needed, the tissues are filled with solution; keeping well back of the corona so that the insertion of sutures will not cause pain. As it is the idea of being cut which most affects the patient, he should have it explained that the passage of a grooved director through the preputial orifice and over the glans to the cervix in the middorsal region is simply for a guide. Adhesions may ofttimes be readily broken up by this means. A curved bis-

toury is to be passed along the director to the tip and plunged upward and outward through the layers of the foreskin, coming out well back of the corona. The dorsal incision through the foreskin is then to be completed. If the glans is too tender for the insertion of the director, a scissors dissection will be needed. Turning back the flaps made of the skin layer of the prepuce, they are to be removed by scissors, following posteriorly to the corona as a guide, down to the frenum. Picking up the inner layer in a similar manner, it is to be turned out over the corona and trimmed. Being careful to have plenty of solution about the frenum, it is removed with the layers of the divided foreskin, which are now free except at this point. After applying forceps to bleeding points, the bulging cellular tissue which is left is to be dissected away, this being the framework for excessive scar tissue formation. The dorsal vein and frenal artery sometimes have to be tied. The severed ends of the two layers of the foreskin are now to be brought together; cat-gut should be employed as suture material. The first suture should be placed in the middle of the dorsal region or at the frenum; the second directly opposite, and one on either side midway between. If these are left with ends four or five inches long, a simple dressing, which has been for some time before the profession, can be applied. Intermediate sutures, as many as are necessary, may be inserted between these cardinal ones.

A small roll of gauze, or a two-inch gauze bandage doubled in three or four lengths, is laid in the middle between the ends of the suture at the frenum

and fixed by knotting the suture ends; a ring of gauze is made by tying in place on either side and at the top by means of the ends of catgut. The disadvantage of this dressing is, that if secondary hæmorrhage or early infection takes place, it becomes very painful to remove, as it rapidly hardens by clotting. This dressing is calculated to reduce to the minimum contamination of the wound by urine; as an additional precaution it has been my habit to have the patient touch away with a little tuft of cotton the last drops after each urination.

A dressing which I have employed with success in cases where infection was feared, is made from a cuff formed of a strip of rubber tissue an inch wide, and held in place by a few turns of a narrow, gauze roller bandage. A narrow strip of adhesive plaster an inch or two in length is oftentimes of advantage to attach the dressing to the skin of the body of the penis.

To prevent subsequent effusion it is well to apply an outer bandage of muslin to the penis, and, by means of a broad muslin roller in addition, to bind the whole to the body; the outer dressings to be removed in a few hours or at the first urination.

If the wound does well, the ring dressing will require no further attention, but will come away in the course of the following week or ten days, leaving a scab which allows healing to go on uninterrupted; the second form of dressing may be removed upon the second day, and thereafter at intervals of one or two days, for a cleansing with a solution of varying strength of hydrogen peroxide.

Some variations in the trimming of the flaps are advised by Roser, who forms a triangular flap, and Keyes, whose incision takes the form of a brace.

Acute cases of phimosis, from whatever cause, should be treated for active inflammation, reserving circumcision for a later date. Where there is ignorance of the conditions from a concealed sore, the writer would not hesitate to operate, as in one case which proved to be chancroid; as it got rapidly worse under local treatment, circumcision was performed, with a resultant infection of the entire wound. By the aid of daily baths of hydrogen peroxide the condition was controlled, and a good, though protracted, recovery secured.

In young children, where the simple dorsal incision will be sufficient for present purposes, an anæsthetic will not be needed.

In other cases, while we shall not all be enabled to attain such felicitous results in operating as Dr. Moses, who has operated upon sleeping children who only awakened at the first incision, lapsing into a tranquil slumber during the completion of the operation, it were better to cause pain where the complete operation is required than to endanger life with general anæsthesia.

When the frenum is removed, which I think in the majority of instances is of direct advantage, as has been pointed out, care must be taken to secure the frænal artery by twisting, sutures, or a ligature. In young children it is often of little moment, but in one case, in an adult, where I failed properly to close this vessel, after a period of four hours I found the man shocked, his clothing drenched with blood,

and a large clot with the vessel still pumping beneath.

A common error of judgment in the performance of circumcision is that in which too little of the foreskin is removed. In a number of cases where practically all of the skin of the penis has been removed good recoveries have been reported; doubtless the operators who found themselves in this predicament carefully saved all of the mucous layer possible.

An instance which I saw, where the inner layer was removed too close to the corona in the person of a young adult, under cocaine anæsthesia, resulted in continuous hæmorrhage, which tight bandaging, ice, or position could not subdue. It became necessary to employ general anæsthesia and apply a great number of additional sutures in close proximity about the wound surface, and, even after this was done, owing to the effusion and black staining of clotted blood, the body of the penis seemed for several days about to slough.

That the operation is not without some remote danger is shown by mentioning the case of Dr. Bond, of a man aged seventy-one years, who acquired phimosis. Circumcision was performed under 4-per-cent. cocaine anæsthesia, in the early days of the use of this drug. The foreskin was filled up with solution. There was slight hæmorrhaage at the sites of puncture, but the operation seemed successful until the third or fourth day, when gangrene of the penis and scrotum marked the beginning of a fatal issue of the case.

However, by a careful attention to the details,

circumcision, which has been designated a minor operation of major importance, will be performed with no question as to the result.

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