folded back over the penis, tied loosely with thread, and the whole retained by a T-bandage. Union occurs in about forty-eight hours.

In dressing the adult penis, it is well to use a great number of very fine silk sutures, turning back the mucous layer of the prepuce like a cuff and uniting it with the raw edge of the cuticle. In applying these sutures, the first one must be placed at the raphe, uniting it with the stump of the frænum to insure symmetrical adjustment. Silver wire is clumsy: Vidal's *serres-fines* are unsatisfactory. The adult patient should in every case be confined to his bed until union has taken place. Simple water-dressing, with a little glycerine to prevent the old linen from sticking, is all that is usually required. There is no necessity of giving any medicine to prevent erection. Nothing short of opiates can be relied upon to do it, and, if the incisions have been properly made, erections do not seem to interfere with healing in the least degree.

This operation always gives a satisfactory result, unless it has been performed during the existence of inflammatory or specific disease affecting the prepuce, in which case the cicatrix may require subsequent attention The adult patient can usually leave his bed after five or six days, but it is a saving of much trouble in the end to keep him absolutely confined until the greater part of the wound has healed pretty firmly—a period rarely exceeding ten days if the patient is manageable. If the sutures have been applied accurately, and the patient is reasonably healthy, union by first intention may be counted on over at least three-fourths of the wound, perhaps all of it. The longer the sutures are allowed to remain the better. Until suppuration commences around them they do no harm. Alternate ones may be removed from day to day till all are taken out. The main obstacle to getting a speedily successful result lies in the difficulty of inducing the patient to keep quiet for so trifling a wound. Motion before sound union has taken place may open the whole wound and keep it œdematous, inflamed, and suppurating, for weeks. It is unwise ever to undertake to operate on the adult without an anæsthetic.

A good deal of œdema sometimes occurs along the under surface of the penis, to prevent which it is advisable to keep the member elevated from the first. When, from lack of vitality or other cause, a portion of the wound granulates, it may be dressed with any mild stimulating lotion—one part of aromatic wine to three of water, and hygiene, with change of air, be brought to bear upon the case. In these cases the patient often desponds at the appearance of the wound, but the ultimate result is invariably satisfactory.

The other Operations for overcoming tightness require but slight mention. A very common and sufficiently good operation, where the prepuce is tight but not redundant, consists in making one incision along the dorsum of the prepuce, including both layers, from the orifice to the base of the corona, and uniting the two layers of prepuce on either side. It is better to trim off the corners. Several partial incisions at different points have been advocated.

Another method consists in nicking the mucous membrane at the orifice, pulling the prepuce back, until the orifice again becomes tight, and then nicking again, and so on, until the mucous layer is sufficiently loose to glide easily over the corona. Again, where the prepuce can be retracted when the penis is not erect, the mucous membrane alone has been divided upon a director; the prepuce being pulled back and the cut made along the dorsum of the penis, from just behind the corona to the junction of mucous membrane with skin. The longitudinal incision is to be united transversely. Both these operations will yield imperfect results unless the skin be very loose, and the entire stricture situated in the mucous membrane, which is not always the case.

The frœnum may be too short and require division—readily effected with a sharp-pointed bistoury, the artery being twisted or tied.

Compressed sponge (Monteggia) and laminaria digitata have been used to distend a tight preputial orifice, but the cases where this treatment yields any thing more than temporary relief must be few. Forcible dilatation[1] has been employed by Nélaton, Cruise,[2] of Dublin, and others, and favorable reports rendered. A two or three bladed forceps, made expressly for the purpose, is inserted closed into a tight preputial orifice, the desired amount of dilatation being first decided upon, and then, by suddenly separating the blades of the instrument, dilatation (perhaps more properly divulsion) is effected. The prepuce is now retracted and held behind the corona for from twenty-four to forty-eight hours, water-dressing only employed. This treatment might be useful in some cases, but the application of circumcision is universal.

MORBID CONDITIONS OF THE PREPUCE.

Phimosis (*φιμὸω, I bind*) exists where the orifice of the prepuce is so small that the glans penis cannot be uncovered. The orifice of the prepuce may be congenitally absent (atresia preputii). Phimosis is congenital or acquired, simple or inflammatory, or complicated by other diseases or by adhesions.

With very young children, phimosis is so common that it may be considered normal. The foreskin of a child is developed out of all proportion to the rest of the penis, taking the member after puberty as a standard of comparison. This long prepuce is often a source of anxiety to young mothers, who fear that the condition may remain permanent. They may be assured that it will right itself as the child grows. Whenever the prepuce can be retracted sufficiently to allow the glans to be seen, there need be no anxiety about the future; the preputial orifice

[1] Known as Nélaton's operation, *Gaz. des Hôp.*, 31, 1868.
[2] *Dublin Quarterly*, xlviii., p. 482.

will enlarge sufficiently before or at puberty. This anxiety is similar to that of mothers about short frænum linguæ.

A positive indication for operation, in the case of a child, does exist, however, where the preputial orifice is smaller than that of the urethra. This condition is known to exist when the prepuce "balloons" during micturition, for the urine flows into its cavity more rapidly than it can escape from its orifice. In these cases the retention of a drop or two of urine in the cavity of the prepuce, after each act of urination, must, sooner or later, lead to inflammation of one or both of the mucous surfaces, and may give rise to severe suppurative inflammation, the growth of vegetations, adhesions of the prepuce to the glans, formation of preputial stone, or incrustation of glans. When, therefore, the prepuce of an infant "balloons" during micturition, phimosis exists, and circumcision should be performed.

When the prepuce is too tight in the adult, an operation may be called for as a prophylactic against future disease, although phimosis, strictly speaking, does not exist. In such a case it is difficult for the patient to observe perfect cleanliness, and the collection of smegma, or an attack of herpes, may give rise to an inflammation which will necessitate an operation under unfavorable circumstances. Again, if an individual with tight prepuce gets chancre, chancroid, gonorrhœa, serious inflammatory complications are liable to arise.

Phimosis may be brought about secondarily through induration and inelasticity of the skin, caused by frequent attacks of preputial inflammation. When such inflammation is prolonged in the chronic state, the meshes of the connective tissue, at first distended with serum, become secondarily thickened and hypertrophied, sometimes to an extent almost worthy of the name of elephantiasis. The serum is absorbed and its place supplied by a hyperplasia of connective tissue, leaving a thick, long, indurated, inelastic prepuce, interfering not only with sexual intercourse, but sometimes even with urination. Circumcision is the proper remedy.

Another common cause of acquired phimosis is the existence of multiple chancroid around the orifice of the prepuce, which, on healing, leave hard cicatrices behind, contracting the preputial orifice perhaps to phimosis.

Inflammatory Phimosis is a transient condition. It may leave true phimosis behind, as above detailed, but usually does not. Any variety of phimosis may be complicated by inflammation. It is better not to circumcise when the prepuce is inflamed, if it can be avoided, as the process of repair would be retarded, and an ugly cicatrix may result. If the inflammation is caused by chancroid, this rule should be particularly observed, when possible, for the edges of the wound become inoculated in spite of every precaution. Where inflammation is slight, but œdema excessive, phimosis ensues (lymphitis). Here position and

pressure with collodion, and perhaps puncture on each side of the frænum, are indicated.

Treatment of Inflammatory Phimosis.—Keep the patient in bed, and elevate the penis over the hypogastrium. Evaporating lotions may be used locally, containing a little spirit or a (gr. x.–xx.) solution of tannin, frequently washing out the cavity of the prepuce by means of a syringe with a flat nozzle, with some mildly-stimulating lotion, such as dilute lead-water or carbolic acid (gr. ij to the ℥ j), Labarraque's solution (℥ ss. to the ℥ j).

Remote Results of Phimosis.—Besides predisposing to local inflammatory disorders, leading to imperfect development of the glans penis, and acting as an obstacle to sexual intercourse, phimosis may occasion a variety of morbid conditions by reflex action. L'Allemand enumerates it among the causes of spermatorrhœa. It may occasion frequent desire to urinate (irritability of the bladder)—finally cystitis. The following case is in point:

Case IV.—An anæmic boy of seventeen came to seek advice for a constant desire to urinate, to which he was obliged to yield every hour, and which had troubled him for several months. He had never had sexual intercourse, or any disease of the sexual or urinary organs. He was not awakened at night. The urine was examined and found normal —proving entire absence of cystitis. The prepuce was tight, its orifice small, and the glans penis so sensitive as to be painful when touched. Iron and quinine for two weeks produced no change. Circumcision was then performed. Frequency of urination commenced to subside two weeks after the operation, and in one month the patient reported, to say that he made water only three or four times daily, and between the acts had none of the old uneasiness. Six years have passed with no recurrence of trouble.

Dr. Sayre, of New York, has published several cases of relaxation of the muscles of the back with curvature of the spine in children, caused by phimosis with adhesions, the local irritation being so great as to keep the little patient in a condition of almost constant priapism. Prolapsus ani not unfrequently accompanies phimosis in children when the prepuce becomes inflamed, and symptoms resembling those of stone in the bladder are not uncommon from the same cause.

Paraphimosis (*παρὰ, outside; φιμόω, I bind*) exists where the prepuce gets behind the corona glandis and cannot be replaced.

Causes.—An unnaturally tight preputial orifice is a predisposing cause to paraphimosis. It sometimes happens that young boys, who retract the prepuce, perhaps for the first time, find themselves unable to replace it. Instances are reported where rings of metal have been forced upon the penis, retracting the prepuce. The glans penis now becoming a little turgid, the patient is unable to remove the ring. Shame deters him from seeking relief at once, and the ring is only found during an operation, after days or weeks of suffering, buried deep in the swollen, œdematous, perhaps gangrenous penis.

Inflammatory paraphimosis may depend upon balanitis, gonorrhœa, herpes, chancroid, chancre, etc. The prepuce, already a little inflamed,

is retracted, to see or dress some ulceration concealed in its *cul-de-sac*, or is, perhaps, held back by bandage for convenience of dressing, or, if short, becoming inflamed and œdematous, it may roll itself back. It soon inflames further, œdema increases, and reduction becomes impossible.

Symptoms.—In paraphimosis the glans penis is swollen and livid. If the patient is seen at once, there may be no inflammation, either of the prepuce or the glans; but, in many cases—in all eventually, if unrelieved—both are inflamed to a greater or less extent, the glans perhaps being gangrenous from arrest of circulation. Behind the corona, most marked below, rises a tense, shining, œdematous belt of the mucous layer of the prepuce, the connective tissue of which is filled with serum. Behind this there is a deep sulcus or furrow, most marked above, often the seat of superficial ulceration. Here lies the stricture; behind it there rises another œdematous fold, usually smaller than the one in front.

If the stricture of the prepuce is tight enough to arrest the circulation, it may finally cause the destruction, by gangrene, of all tissues lying in front of it.

Treatment.—The first point to decide in a case of paraphimosis is in regard to strangulation. If it exist, delay is inadmissible; if not, temporizing expedients may be resorted to, to reduce inflammation, before appealing to forcible reduction or operation. The test is simple. In strangulation the glans penis is turgid, swollen, blue-black, cold, devoid of sensibility, and perhaps shows already points of commencing gangrene. If there be no strangulation, the glans may be normal, or, if swollen, is red—at least not black—warm, and by compression the blood may be driven out of it: sensibility is also preserved. A paraphimosed glans penis may be inflamed, but still not strangulated.

Fig. 4.

Paraphimosis with Strangulation.—In these cases ether should always be administered. Often under the relaxation of anæsthesia reduction is accomplished with comparative ease. Ice should be first used locally to produce shrinkage, and a few small punctures may be made to let out serum from the ridge in front of the stricture, if the swelling be excessive. The following are the best methods of reduction: Seize the penis behind the strictured prepuce in the fork of the index and middle finger of both hands, one placed on either side. This gives more even pressure forward than when one hand only is used. Now make pressure with the thumbs on both sides, in such a direction as to compress the glans laterally, rather than from before backward, and at the same time pull the strictured portion of the prepuce forward, the idea being to make the glans as small as possible by compression, and rather to pull the stricture over the glans than to push the glans through the stricture. The latter attempt is liable to do more harm than good, by flattening out the glans over the stricture, and rendering reduction less possible than before. The corona and a little of the mucous layer of the prepuce beyond should be slightly oiled, and an attempt may be made to insinuate the edge of the thumb-nail under the stricture to assist in lifting it over the corona.

Fig. 5.—(*Phillips.*)

In some cases it is preferable to encircle the penis with one hand, using the other for manipulation. Finally, Mercier's method might be tried. The surgeon stands on the patient's right, places the index and middle finger of his right hand longitudinally along the lower surface of the penis, and the pulp of his thumb on the dorsum of the glans penis and the œdematous ridge in front of the point of stricture. By firm pressure crowding down the swollen mucous layer of the prepuce, he endeavors to insinuate the end of the thumb-nail under the stricture. If he succeeds in this, grasping the penis and the two fingers of the right hand beneath in a circular manner with the left hand, he draws the strictured point up over the thumb-nail, and by simultaneous traction of both hands replaces the prepuce. In all these operations, time, patience, and gentle firmness, will accomplish more than force.

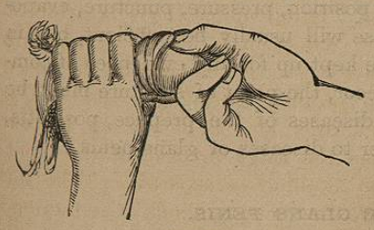

Fig. 6.

If a prolonged, careful attempt at reduction fails, the strictured point must be divided. To accomplish this subcutaneously, a tenotomy-knife is introduced flatwise along the sheath of the penis under the stricture, and is made to cut outward, until all tension is relieved. Instead of this, a simple incision may be made through the skin down to the sheath of the penis. Inflammatory consolidation of tissue may make it necessary to divide the stricture at several points.

After reduction, the treatment consists in position, rest, and cleanliness, syringing the preputial cavity with warm water holding a small

amount of disinfectant, or mild astringent, in solution. If any contagious ulcer has been the cause of paraphimosis, the surgeon should carefully examine his fingers for cracks or fissures before commencing manipulation. So much handling is required that infection is very apt to occur unless the epidermis of the hands is sound.

In Paraphimosis without Strangulation, if the case is recent, reduction must be effected or inflammation will surely set in and complicate the situation. Reduction may be accomplished as detailed above, or by the method successfully employed in the Children's Hospital at Pesth.[1] Here the penis, prepuce, and glans, are together subjected to strong, continued pressure. Several narrow strips of adhesive plaster are applied longitudinally from the middle of the penis, over the apex of the glans, to the middle of the penis opposite the starting-point. The meatus urinarius is left uncovered. In this way the organ is surrounded and compressed by longitudinal strips. Over these, commencing just behind the orifice of the urethra, a narrow strip of plaster is wound spirally, using pretty firm pressure, until the penis is covered by its circular bandage up to the middle. The application is not painful. In twenty-four hours reduction may be accomplished; if not, the dressing is to be reapplied, and another attempt at reduction made in forty-eight hours.

In old or anæmic patients, having gonorrhœa or an ulcer about the head of the penis, accompanied by lymphitis, and where the prepuce is short, a large amount of serum may collect in the prepuce, roll it back, and render paraphimosis imminent. The best treatment here is a little rest, with elevation of the penis and application of a twenty-grain solution of tannin, followed by free use of collodion as soon as the patient rises. Unlike the scrotum, the prepuce bears collodion well.

In the majority of cases, when complicating chancroid, herpetic, or other ulceration, paraphimosis is purely the result of inflammation and œdema, and there is no strangulation. Here the main inflammatory condition must be treated, aided by position, pressure, puncture, evaporating and astringent lotions. These will usually be sufficient, but in severe cases a sharp watch should be kept up for any evidences of commencing strangulation. Should it occur, the point of stricture must be straightway relieved. (For other diseases of the prepuce, posthitis, herpes, vegetations, cancer, etc., refer to diseases of glans penis.)

DISEASES OF THE GLANS PENIS.

Herpes Progenitalis.—This affection consists in the development of clusters of vesicles upon reddened patches on the mucous covering of the glans or on either layer of the prepuce—occasionally on other portions of the neighboring skin—attended by a slight sensation of

[1] Schmidt's *Jahrbücher*, and Bumstead on "Venereal," p. 122, 1870.

heat and tingling. When occurring only on the cuticular layer, herpes runs its course as it does elsewhere on the body; but, when vesicles develop within the preputial orifice, the eruption is modified. Under these circumstances the epithelium of the vesicles gets soaked off, little exulcerations result, more or less general inflammation is apt to arise from retention of the secretions, and balanitis, with posthitis, vegetations, and inflammatory phimosis, may be the ultimate result. In broken-down constitutions the ulcerations perhaps become deep and angry, diagnosis with chancroid difficult, while the glands in one or both groins may inflame and suppurate. These extreme results are rare.

When the affection has once occurred, it shows a marked tendency to return. There is often a periodicity about the attacks. Tight prepuce and contact of irritating discharges act as predisposing causes.

Diagnosis.—Vesicles, usually in groups, always precede the ulcerations, while the latter are irregular in shape, superficial, and very rarely complicated by suppurating bubo. The pus is not auto-inoculable. Attention to these points will generally render diagnosis with chancroid easy; where grave doubts exist, auto-inoculation is the proper test.

Treatment is the same as for balanitis.

Balanitis (*βάλανος, a gland*) is an inflammation of the surface of the glans penis. Posthitis (*ποσθη, the prepuce*) is an inflammation of the prepuce, chiefly affecting its internal surface. Neither can exist for any length of time without becoming more or less complicated by the other. For practical purposes they must be considered together.

Causes.—Persons of irritable skin and gouty habit are predisposed to this disorder. A long and tight prepuce is always a predisposing cause. The exciting causes are mechanical irritation or uncleanliness from retention of smegma preputii (a white, curdy substance composed of epithelial cells in fatty degeneration and sebaceous matter), or from prolonged contact with gonorrhœal, leucorrhœal, menstrual, or other irritating fluids.

Symptoms.—The membrane at first becomes reddened, then mottled and moist; next the epithelium comes off in patches, leaving irregular excoriations, which soon ulcerate and discharge a purulent fluid of greater or less consistence. These ulcerations are not preceded by vesicles. There are a burning soreness and itching at the end of the penis, usually scalding on urination. The whole substance of the prepuce may inflame, become intensely reddened around the orifice, and infiltrated with serum, producing inflammatory phimosis, especially if the prepuce is naturally long or tight. The ulcerations rarely become deep, and the inguinal glands do not often suppurate. They frequently become somewhat large and tender. In chronic balanitis with phimosis, the mucous surface of the prepuce is found upon exposure to be covered with granular prominences. Warty growths are not infrequent. Balanitis is very apt to recur.

Diagnosis.—Balanitis may be confounded with herpes, chancroid, chancre, or gonorrhœa. At the ulcerative stage it cannot be distinguished from balanitis supervening upon herpes. In the early stage its vesicular origin distinguishes it. Chancre is usually single and indurated. In chancroid the ulcerations are deeper and the pus auto-inoculable, yet both of these specific ulcers may be complicated by balanitis. Balanitis has been described under the name of external gonorrhœa. It may be mistaken for actual gonorrhœa, if there is phimosis, under which circumstance it is very apt to complicate the main malady. When the meatus urinarius can be seen, however, a little care will easily decide whether the pus comes from the urethra or not.

Treatment.—If the prepuce can be retracted, simple balanitis may be speedily relieved. Cleanliness is of the first importance, but soap should not be used. Warm water with a disinfectant, if needed, will remove all the discharges. After washing, the parts should be dried by gently touching them with a soft cloth, and dusted with a mixture of finely-powdered calomel and calcined magnesia, or with calomel alone. If the ulcerations are deep, iodoform is preferable. A piece of lint or old linen, cut so as to be just large enough to cover the surface of the glans, is now to be moistened in one of the following lotions:

℞. Vin. aromat., ʒ ij–ʒ ss.
Aquæ, ʒ j.

Or,

℞. Pulv. opii, ʒ j.
Dissolve in six ounces of boiling water, and add
Liq. plumbi subacetat., ʒ j.
Filter and cool.

Or,

℞. Aluminis exust., gr. v–x.
Aquæ, ʒ j.

Or,

Simple dilute lead-water.

The linen so moistened is laid around the glans, leaving the apex and meatus uncovered; and, finally, the prepuce is pulled forward to its natural position. In this way friction between the inflamed surfaces is avoided, all the discharges are absorbed, and a mildly stimulating fluid is kept in constant contact with the ulcerated or abraded surfaces. The dressing should be repeated twice to four times daily, according to the amount of discharge.

If the prepuce cannot be retracted, its *cul-de-sac* should be thoroughly washed out with tepid water, by means of a syringe with a flat nozzle, if possible, every two or three hours, according to the rapidity of the formation of pus; and, each time after the cavity has been cleaned, a mild solution of carbolic acid, or enough of any of the lotions above mentioned, to distend the prepuce, should be gently thrown in, retained a moment, and then allowed to escape. Their strength should be reduced if they cause smarting.

If the prepuce is much inflamed, rest, position, and evaporating lotions locally, should be used in addition to the other measures. If the inflammation runs so high that sloughing of the prepuce seems imminent, it is better to take off the tension by slitting up the dorsum. If chancroid be present, however, the surgeon must remember that inoculation of his wound is inevitable. The diagnosis of chancroid can be made by auto-inoculation of the pus. If this gives a positive result, it sometimes becomes a matter of the nicest judgment to decide whether to operate or not. In cases of grave doubt, it is best to operate in order to expose the sore, whose ravages (perhaps of the glans penis) are going on in darkness, uncontrolled. A large chancroid exposed is better than a smaller one concealed.

In chronic and inveterate cases of balanitis, or where insignificant causes produce constant relapse, circumcision affords a certain cure. All the unhealthy, thickened, inner layer of the prepuce should be removed. Where this is seriously objected to, which is rarely the case when there is much suffering, relapses may be rendered less frequent by the observance of the strictest cleanliness, and the use of a filtered solution of tannin and acetate of lead, or of tannic acid in glycerine, ʒ j to ℥ j; or of alcohol, one part to two of water, kept up for a long time after the inflammation has subsided.

Adhesions, as a result of balanitis, are uncommon after the age of early childood.

Vegetations upon the penis are commonly denominated *venereal warts.* This title, however, is not exact, since there is no necessary connection between them and any venereal disease as a cause. They are nothing more nor less than papillary overgrowths, often highly vascular, and composed in large excess of epithelium. They may be prominent and pediculated, or flat, and growing from a considerable surface. They are nearly always multiple. They are caused by the contact of irritating fluids with a membrane of naturally delicate texture, or simply by lack of cleanliness. The most favorable condition for their production consequently exists in gonorrhœa, balanitis, or when mucous patches occupy the cavity of the prepuce. Their favorite seat is just behind the corona glandis, but they are also encountered anywhere within the cavity of the prepuce—at its orifice, upon its cutaneous surface—or even within the urethra. They are found also upon the scrotum, and frequently around the anus. They are, when numerous, bathed in a fetid, puriform secretion, and may get large enough within the prepuce to cause phimosis. They occur upon young children, and are found in their greatest luxuriance within and around the vulva of pregnant women affected with irritating discharges—discharges by no means of necessity venereal in any sense.

Treatment.—The observance of cleanliness alone often causes vegetations to shrink up and disappear. In any case this is the first essen-

tial to the success of any course. In case vegetations are complicated by balanitis, treatment of the latter will often at the same time triumph over the warts. If they persist, however, or constitute the main disease, all the pediculated growths should be carefully removed with curved scissors, and the surface from which they grow cauterized with nitric acid or any other escharotic. The flat growths are best disposed of by the application of nitric acid, at intervals, until the base from which they spring has been destroyed. If the warts are dry, they may be covered separately with collodion containing corrosive sublimate, in the proportion of ℥ j to ʒ j. This is allowed to dry on, and, when it separates, all or the greater part of the wart comes with it. The application may be repeated if necessary. Where the number of vegetations is too great to allow of their treatment *seriatim*, attention to the general health, cleanliness, and local dusting with calomel, is the proper course. This plan, so efficacious in treating condylomata and mucous patches about the anus, is particularly applicable where the vegetations are surrounded by an excess of moisture.

Epithelioma Penis.—The epithelial variety of cancer is that form which usually attacks the glans penis and the prepuce. It commences more frequently upon the former—generally after middle life.

Symptoms.—Epithelioma usually first appears as a small, flat, warty, or simply excoriated surface, of which the base is perhaps from the first slightly indurated, especially when the disease commences at the meatus. The surface of this insignificant induration becomes excoriated, bleeds a little and is the seat of a slight darting or burning pain. A dark-colored scab now forms, if the spot is exposed to the air, but this is picked off or falls off, disclosing an ulcerated surface beneath. In this way the disease advances by ulceration backward, involving every thing in its course. The discharge is thin, sanious, fetid; the ulcer deep, irregular, unhealthy; the edges hard, sinuous, livid, everted. Its course, at first slow, becomes later more rapid, pursuing the usual march of epithelial cancer in other localities. In some cases the wart-growth becomes exuberant before ulceration occurs.

As the disease advances, the patient fails in strength. The inguinal glans on both sides become involved and may ulcerate. Now, if the strength hold out, the disease will spread from the root of the penis over the abdomen, groins, thighs, and perinæum, and involve the anus. The scrotum may ulcerate away, leaving the testicles hanging out, and in this horrid condition the sufferer dies worn out, or perhaps suddenly from hæmorrhage, some large vessel in the perinæum being opened by the advancing ulceration.

The diagnosis of epithelioma of the penis is often difficult in the early stages. All warty growths, especially if they are not much elevated, and occur upon individuals past middle life, whose habits seem to be cleanly, and above all if there is even a shade of hardness around

the base of the growth—all such excrescences should be regarded with suspicion, and their progress carefully watched. When ulceration commences, doubt may be laid aside, and then temporizing is of no avail. Active measures should be resorted to at once, unless the age of the patient or some other condition contraindicates an operation.

Prognosis and Treatment.—An early amputation, before the glands in the groin become involved, affords the only chance of staying the progress of the disease, and this cannot be regarded as very hopeful. If the ulcer is left to itself, death is inevitable. After the inguinal glands become cancerous, all that can be done is to sustain strength, quiet pains with anodynes, and look out for retention of urine, which is liable to occur late in the disease from occlusion of the urethra by the cancerous growth. Catheterism may be difficult, as the orifice of the urethra is sometimes hard to find in the midst of the ulcerated mass, and puncture of the bladder above the symphysis pubis may be required.

DISEASES OF THE CORPORA CAVERNOSA.

Injuries of corpora cavernosa and cancer have been already described.

Inflammation of the substance of the corpora cavernosa is very rare, except as the result of contusion, when it may run high, become excessively painful, and terminate in suppuration or gangrene. Spontaneous inflammation occurs, very exceptionally, during the course of acute dyscrasial disease—typhus, small-pox, etc. It may complicate severe urethritis. It is always a dangerous affection, tending to terminate in gangrene.

Treatment.—Beyond sustaining strength, but little can be done. Evaporating lotions may be used locally. If pus forms, it should be evacuated early, but care is required to distinguish between pus and effused blood.

There are two diseases affecting the corpora cavernosa which require special description: calcification and a peculiar form of chronic inflammation (to which it is difficult to give a precise name), which does not seem to have been yet accurately described by authors.

Calcification of the Penis.—Ossification was the term formerly applied to this affection, until the microscope demonstrated the absence of bone corpuscles in the earthy mass. Calcification consists in a deposition of plates of calcareous matter in the corpora cavernosa, one or both, particularly in the fibrous sheath. The condition is analogous to atheroma of arteries. Mild chronic inflammation, followed by fatty degeneration, precedes the calcareous deposit. The disease usually comes on insidiously, and discloses itself by the fact that erection is imperfect and painful. The penis bends during erection, the calcareous patch occupying the centre of the concavity of the curve, since