I have had no experience, has been successful in some instances, but is very troublesome and inconvenient, and would appear to be attended with danger of the lint slipping entirely into the urethra and entering the bladder. Civiale mentions a case in which this accident occurred, but does not give the ultimate result.[1] Mr. Milton[2] states that it has happened to him in several instances, and that the lint has always found its way out, but the danger of its retention is too great to be incurred. Separation of the affected surfaces is partially effected by certain forms of injection, as those containing bismuth, calamine, and other insoluble ingredients.

Finally, in obstinate cases of gleet, in which the discharge appears to come from the anterior portion of the urethra, laying open the lacuna magna, as recommended by Dr. Phillips, is worthy of a trial.[3]

[1] Maladies des organes genito-urinaires, vol. i., p. 444.
[2] On Gonorrhœa, p. 31.
[3] See page 82.

CHAPTER III.

BALANITIS.

If the prepuce be retracted, a mucous surface of considerable extent is exposed, a portion of which covers the glans penis, and the remainder consists of the internal reflection of the prepuce. This surface may be the seat of inflammation, similar to that which has been described as affecting the urethra. If the disease be confined, as it sometimes is, to the membrane covering the glans, it should, strictly speaking, be called balanitis; if to the internal surface of the prepuce, posthitis, and if it involve both, balano-posthitis; all these varieties, however, for the sake of convenience, are commonly included under the one name, balanitis. Gonorrhœa spuria, balano-preputial gonorrhœa, and external blennorrhagia are other terms by which it is sometimes known.

Causes.—Men in whom the prepuce is long, or who are affected with congenital phimosis, are peculiarly exposed to balanitis, since the mucous membrane covering the glans and lining the prepuce is maintained in so sensitive a condition, from its want of exposure to the air and friction, that inflammation is readily set up by the least cause of irritation. Such a cause is at hand in the natural secretion which exudes from the very numerous sebaceous follicles that exist on the internal surface of the prepuce and the furrow at the base of the glans. If, from inattention to, or the impossibility of cleanliness, as in cases of phimosis, this cheesy secretion be not frequently removed, it becomes decomposed, and is changed into an ammoniacal, foul-smelling, emulsion-like fluid, which acts strongly as an irritant upon the delicate mucous membrane with which it comes in contact. When phimosis is present it will readily be understood how this fluid, coming from a small preputial orifice, may be mistaken for urethral gonorrhœa. I once had a patient come to me from the western coast of South America, simply to consult me for a supposed clap, for which he had been taking copaiba and using urethral injections for many months. A careful examination showed that the discharge came only from the balano-preputial fold in a penis affected with congenital phimosis, and circumcision speedily relieved him of his trouble. The diagnosis in such cases is readily made, by exposing and wiping the meatus, and then noting whether upon pressure, the matter comes from the urethra or from beneath the foreskin. Moreover, the pain in micturition, in cases of urethritis, extends along the course of the canal, while in balanitis it is confined to the excoriated surfaces of the extremity of the penis.

It will be evident that the stagnation and decomposition of any

secretion other than that just mentioned, may have the same effect. Thus the purulent discharge from chancroids, the saccharine urine of diabetes, the more or less watery secretion from a true chancre, mucous patches, or other secondary lesion, the acrid exudation from vegetations, a gonorrhœal discharge gaining entrance from the meatus,—all these are frequently the cause of balanitis. The pressure exercised by a mass of vegetations, or by the exuberant development of the indurated base of a chancre are also worthy of mention.

Thus far we have said nothing about contagion as a cause of balanitis. If this were a frequent cause, the number of cases of this affection would be even greater than those of gonorrhœa, considering how much more than the urethra the glans penis is exposed in sexual intercourse, whereas the contrary is the fact, Sigmund reckoning one case of balanitis to seventeen of gonorrhœa, and Fournier one to twenty-four. Still, to this cause—contagion—some instances of inflammation of the balano-preputial fold may doubtless be ascribed. Benjamin Bell relates a story of two young men, each of whom introduced beneath his prepuce a pledget of lint soaked in gonorrhœal matter, and kept it in place for twenty-four hours. This was followed, in one of them, by a very severe attack of balanitis, attended by paraphimosis. The other had a slight external inflammation, but, the matter having entered the urethra, he was attacked on the second day, by a violent urethritis.

To the above causes of balanitis we may add excessive coitus, masturbation, and leucorrhœal discharges in women with whom the sexual act has been accomplished.

It appears from the above, that balanitis in the great majority of cases is not due to contagion, and is not, strictly speaking, a venereal disease; according to Fournier's statistics it is venereal in only one-fifth of the cases met with.

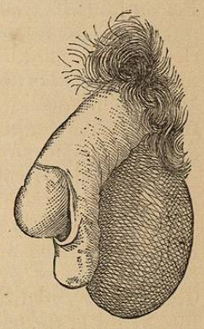
Symptoms.—In its mildest form balanitis is a very trivial affair. The patient complains of tenderness, and an itching or tickling sensation at the head of the penis, and perhaps scalding during micturition, if the urine comes in contact with the inflamed surface. On examination, we find the glans sensitive to pressure, reddened, thickened, smeared with a thin whitish, or slightly yellowish, offensive fluid, and perhaps here and there deprived of its epithelium in patches.

In a more advanced stage the glans appears to be swollen, its redness is intensified, the prepuce is somewhat tumefied, the discharge is more copious and purulent, the parts more painful and sensitive on contact with the clothes. The patches, denuded of epithelium, are now more marked, and are quite characteristic of this affection. They consist of exulcerations, of a bright red color, sharply defined, but irregular in their outline, isolated at first, but gradually becoming confluent. They are due simply to the epithelium having been macerated and detached; and they form a strong contrast in color with other portions of the surface, on which the latter is only partially detached, but whitened by constant soaking. Sometimes they cover the whole surface of the glans, leaving no trace whatever of its normal outer layer.

The above symptoms may be still further aggravated. The prepuce becomes of a dull red color, and its œdematous swelling so great as to give to the virile organ the shape of an Indian club; sometimes it is twisted in the form of a corkscrew in front of the glans. The discharge is increased in quantity, is of a greenish color, and streaked with blood. Erections are frequent and very painful. The passage of the urine is impeded, amounting in some cases to retention, and, when accomplished, is attended with intense scalding as the fluid passes over the inflamed and perhaps fissured orifice.

Gangrene of the prepuce is not an uncommon occurrence. It is usually partial, in fact, just sufficient to relieve the tension and allow the glans penis to protrude through the opening formed by the slough. In this way arise the oddest deformities, amusing to any one but the patient, as is shown in the accompanying wood-cut.

Fig. 23.



Gangrene of prepuce with glans penis button-holed.

One attack of balanitis predisposes to another. Men with a long prepuce or congenital phimosis are often met with, who have lived thirty or forty years without suffering inconvenience from their malformation, but who, after one attack of balanitis, are constantly subject to others, following intercourse with healthy women or even mere imprudence in diet. In consequence of a succession of such attacks, the foreskin is changed in its texture, resembles in its feel leather or parchment, and can only be peeled off the glans with some difficulty. Its orifice and internal surface and the surface of the glans are uneven, dry, and beset with fissures, which readily bleed. In one case which came under my care the patient, a bell-hanger, had suffered in this way constantly for eight years, during most of which time he had been in the hands of quacks, who told him he had syphilis and treated him for such.

Frequent attacks of balanitis, especially in the subacute form, favor the development of vegetations within the balano-preputial fold. Adhesions may also take place between the opposed surfaces, especially in the furrow at the base of the glans. They are usually limited in their extent, but in rare cases become general. Without having actually grown together, the two surfaces may be adherent to each other, as if glued together, and may readily be separated by the nail, or by a delicate probe passed between them.

Complications.—Phimosis and paraphimosis, which frequently complicate balanitis, will form the subject of the next two chapters.

Lymphitis.—Inflammation of one or more of the lymphatic vessels running along the dorsum or sides of the penis is not an uncommon complication of acute balanitis. They may be felt like hard, sensitive cords running from the base of the glans towards, and sometimes extending to, the pubes. Their course may be visible to the eye by a reddish line upon the skin covering them. They very rarely suppurate unless a chancroid exist beneath the prepuce.

Adenitis.—The glands in the groin occasionally swell and become slightly tender and painful, and occasionally suppurate.

Penitis.—General inflammation of the penis is said sometimes to occur, marked by "erysipelatous redness and considerable tumefaction of the whole organ; inflammatory œdema of the prepuce extending to the sheath of the penis, which is painful and sensitive to the slightest contact; an abundant phlegmonous discharge; lymphitis and swelling of the inguinal glands. Formidable as it appears, this condition most frequently terminates in resolution, though sometimes the inflammation extends to the cellular tissue and produces superficial abscesses and even gangrene." (Fournier.)

Diagnosis.—The presence of balanitis is easily recognized. The diagnosis of the cause on which it depends is not always quite so easy. We will consider first those cases in which the glans can be uncovered and the whole balano-preputial fold exposed to view, and next those more difficult cases in which phimosis conceals the parts.

In the former an inexperienced observer might mistake the redness surrounding a patch of herpes for simple balanitis, but the characteristics of herpes, as will be shown in another chapter, are sufficient to avoid this error. One or more chancroids situated near the furrow at the base of the glans will be obvious enough, and the same may be said of a true chancre, with an ulcerated surface and an indurated base, the diagnosis being confirmed by the induration of the glands in the groin. More difficulty may be experienced in the diagnosis of a superficial chancre, which will often closely resemble one of the exulcerated patches mentioned as occurring in herpes. It is generally, however, isolated, causes little inflammation of the surrounding parts, has a thin layer of parchment induration beneath it, and is attended by induration of the inguinal ganglia.

Secondary eruptions and especially mucous patches may appear on the glans or prepuce in the early stages of secondary syphilis. They are generally multiple, of smaller size than the exulcerations of balanitis, more regular and rounded in their outline, of a less vivid red color, and are usually accompanied by other secondary symptoms elsewhere.

When phimosis is present and the balano-preputial fold cannot be exposed, we have to distinguish between a discharge coming from the urethra and the discharge of balanitis. The diagnostic signs have been given incidentally on page 115.

The presence of chancroids beneath the prepuce may be difficult to determine. It is almost invariably the case, however, that in such instances the pus from these ulcers, which is usually of a rusty color, perhaps sanguinolent, inoculates the fissures at the preputial orifice; hence chancroids of the preputial ring, which may easily be seen on partly retracting the prepuce, afford a presumption of their existence within the balano-preputial fold. Auto-inoculation of the pus may be practiced as a test, but this need rarely be done unless the question of an operation comes up.

True chancres may often be recognized by the mass of induration around them, which can be felt by the fingers externally. Induration of the glands in the groin will remove all doubt, and this will serve also to indicate the presence of superficial chancres which might otherwise pass unnoticed.

Treatment.—When the prepuce can be retracted, the treatment of balanitis is exceedingly simple. All that is necessary, in most cases, is to free the parts from any collection of matter by gently washing them with tepid water, and then to cut a piece of lint or soft linen into pieces about an inch square, and laying them upon the glans with their upper margins well up in the furrow behind the corona, to draw the prepuce over them. In this manner the inflamed surfaces are isolated from each other, and speedily take on a more healthy action. The frequency with which this application should be repeated depends upon the copiousness of the discharge; generally from two to four times in the twenty-four hours is sufficient, and a cure is usually attained in a few days or a week. In severe cases, however, other measures than those mentioned may be desirable. If the surface be excoriated, it is well to pencil it over lightly with a crayon of nitrate of silver, or to apply a solution of this salt, of the strength of twenty or thirty grains to the ounce of water.

I decidedly prefer to use the lint dry, because it thus better absorbs the matter exuded. Many surgeons, however, moisten it with some lotion like the following:—

℞. Liquoris Plumbi Diacetatis, ʒij . . .	8	
Aquæ, ℥ij	60	
M.		
℞. Acidi Tannici, ʒj	4	
Glycerinæ, ℥j	38	
M.		
℞. Liquoris Sodæ Chlorinatæ, ʒiij . . .	12	
Aquæ, ℥v	150	
M.		
℞. Extracti Opii, ℈j	1	25
Zinci Sulphatis, gr. vj		40
Glycerinæ, ℥j	38	
Aquæ, ℥iij	90	
M.		

As a local application to the inflamed surface (after washing and before the introduction of lint), iodoform has been recommended.

This may be dissolved in ether, one drachm to the ounce, and be painted on with a brush. On the evaporation of the ether, which causes but little pain, a thin film of iodoforma is left. The ether partially removes the bad smell of the iodoform.

Salves beneath the prepuce are to be avoided; so also poultices, which favor œdema.

Chancroids should receive their appropriate treatment, and true chancres can best be treated and their induration removed by the internal use of mercury.

When phimosis, either congenital or acquired, exists, the parts are less accessible to treatment. We may sometimes succeed in enlarging the preputial orifice, and thus be enabled to uncover the glans, by the insertion of a few small pieces of compressed sponge, which swell under the moisture of the discharge and distend the ring.

If this procedure fail, we must resort to injections between the prepuce and glans. For this purpose any urethral syringe with a long nozzle may be made to answer, but by far the best is one devised by my colleague, Dr. Taylor[1] (Fig. 25). It consists of an india-rubber syringe, to which is attached a nozzle, which is three inches long and nearly flat, having a diameter of less than an eighth of an inch. Near the end of it and situated on the edge are five minute holes, two on each side and one on the extreme end. This nozzle can be introduced very easily and without pain as far back as the fossa glandis. The syringe should be inserted in different directions, and plain water at first be thrown in until the prepuce is thoroughly washed out, as may be known from the returning fluid being clear. This done, a medicated solution should be thrown in, and Dr. Taylor prefers a solution of carbolic acid, one drachm to the half pint of water. These injections should be repeated five or six times a day. For the further treatment of supervening phimosis, see the next chapter.

If the balanitis be attended by much infiltration into the cellular tissue of the prepuce, the fluid should be evacuated by several punctures with a lancet. If the patient can keep his bed, the penis may also be enveloped in a single thickness of linen, wet with cold water or diluted Goulard's extract, and exposed to the air. If, however, he continues his daily occupation, no benefit can be expected from such applications, which, when confined by the clothes, act like poultices, and favor rather than prevent œdema. In all cases the cure of balanitis will be accelerated if the patient be kept quiet and the parts elevated.

With persons who have repeated attacks of balanitis it becomes an important object to take measures to prevent them. To accomplish this the strictest cleanliness should be enjoined. The parts should twice a day be cleansed of all accumulation of their natural secretion, and afterwards moistened with an astringent lotion, as a mixture of equal parts of brandy and water with the addition of alum, a solution of tannin, or any of the astringent washes already mentioned. A good formula is the following:

℞. Acidi Tannici, ʒij	8
Aluminis, ʒiv	16
Glycerinæ, ʒiij	15
Aquæ, ℥viij	250
M.	

This may be used as a wash, or it may be put up in a wide-mouthed phial and the penis be immersed in it.

It is also desirable to attend to the digestive functions, and to regulate the diet. The influence of a long prepuce in producing relapses of this disease has already been referred to. I have sometimes succeeded in remedying this malformation by directing the patient to keep his prepuce constantly retracted by means of a narrow bandage applied around the penis, posterior to the glans. If this be worn for a few weeks, the prepuce will often remain retracted without further assistance, and the mucous surface of the glans becomes hardened by exposure and friction. If this attempt prove unsuccessful, the superfluous integument should be removed by circumcision.

[1] Am. J. Syph. and Derm., N. Y., Oct., 1872.

CHAPTER IV.

PHIMOSIS.

The term Phimosis is applied to that condition of the penis, in which it is impossible to retract the prepuce behind the glans. It may be either congenital or accidental.

Congenital Phimosis.—In the majority of cases phimosis is a congenital malformation, due to unnatural narrowness of the preputial orifice, and may be associated with adhesions varying in position and extent between the glans and its covering. A remarkable instance of this kind is recorded in the Surgical Register of the N. Y. Hospital: Joseph Smith, of Prussia, aged 49, was admitted into this institution, Oct. 19, 1832, with congenital phimosis. Dr. Stevens removed the free portion of the prepuce, which was found to be attached to the margin of the meatus instead of the base of the glans, and formed a tubular prolongation of the urethra nearly an inch in length.

Congenital phimosis is a source not only of great inconvenience to the subject of it, but of increased exposure to venereal diseases in promiscuous intercourse, and is sometimes the cause of serious disturbance in the genito-urinary and nervous systems.

Mr. Jonathan Hutchinson[1] has shown by statistics that syphilis is much less common among Jews than among Christians, probably on account of the practice of circumcision among the former. At the Metropolitan Free Hospital, situated in the Jews' quarter, London, in 1854, the proportion of Jews to Christians among the out-patients was nearly one to three; yet the ratio of cases of syphilis in the former to those in the latter was only one to fifteen; and that this difference was not due to their superior chastity was evident from the fact that the Jews furnished nearly half the cases of gonorrhœa that were treated during the same period. Mr. Hutchinson's observations also lead him to believe that hereditary syphilis is much rarer among the children of Jews than Christians, and the experience of most surgeons will confirm the fact that persons with a long prepuce, and especially those affected with congenital phimosis, are peculiarly subject to venereal diseases.

The size of the preputial orifice in congenital phimosis varies in different cases. In some, it is large enough to permit of the partial exposure of the glans, and the removal of the natural secretions of the part, at least with the assistance of a syringe and injections of warm water; while, in others, it is so contracted that it is difficult, or even impossible to uncover the meatus; whence it happens that

[1] Med. Times and Gaz., Lond., Dec. 1, 1855.

the entrance of the urine at each act of micturition beneath the prepuce, and the collection of sebaceous matter maintain a constant state of irritation and even chronic inflammation, to which most of the adhesions met with between the opposed surfaces are undoubtedly attributable.

Daily observation proves that congenital phimosis is not inconsistent with a state of perfect health; and yet, when we reflect upon the sympathy existing between different portions of the genito-urinary apparatus, and between the latter and other organs, we might reasonably expect to meet with at least occasional instances in which irritation of the head of the penis, due to this cause, gives rise to disturbance in other parts of the body. These anticipations are realized in practice; but, according to Fleury,[1] who has ably investigated this subject, such disturbance is to be attributed more to the extreme sensitiveness of the balano-preputial membrane constantly protected from friction and exposure to the air, than to the irritation of collections of sebaceous matter, since it is often present even when the condition of the parts admits of the most perfect cleanliness.

Among the ill effects ascribed to congenital phimosis are: balanitis, constant itching and even pain at the head of the penis, inordinate excitability of the genital organs, frequent erections, erotic dreams, seminal emissions, imperfect development of the penis and testicles, incomplete and painful ejaculation of the sperm, vesical tenesmus, incontinence of urine, gastralgia, neuralgia, and general lassitude and prostration. Probably no one will be disposed to call in question the occasional connection between the milder of the above affections and phimosis. Thus no one can doubt that boys with congenital phimosis are peculiarly prone to suffer from nocturnal incontinence of urine, of which they are cured by circumcision; that at a more advanced age the penis does not attain its full development; that they are more apt to practice masturbation, and to have seminal emissions; that in married life they do not have the full enjoyment of the sexual act, the usual complaint being of too speedy ejaculation; and that during life they are subject to disagreeable sensations and to attacks of balanitis, which are even aggravated in old age when the integument generally becomes loose and flabby. The same is equally true of persons with a long prepuce, even if no actual phimosis be present.

With regard to the more remote effects of congenital phimosis, some doubts might be legitimately entertained, were it not for the circumstantial report of the symptoms, and the fact that simple excision of the elongated prepuce has, in many cases, brought complete and permanent relief.[2]

[1] Gaz. d. hôp., Paris, October 30, 1851.

[2] Fleury's observations have been fully confirmed by Borelli (*Maladies genito-vésicales, Gaz. d. hôp.*, Paris, December, 1851); Anagnostaxis relates a cure of amblyopia by the excision of the prepuce (*Rev. de thérap. méd.-chir.*, No. 4, 1850). See also an article by John H. Packard, M.D., "On Congenital Phimosis" (Am. Jour. Med. Sci., October, 1870).