The relative proportion of growth and ulceration differs much: in some cases the bowel becomes completely blocked by the nodular masses of growth, while in other cases the neoplasm quickly ulcerates, and the rectum may be then converted into a cancerous chasm with firm irregular walls, often extending into the bladder or uterus or vagina. Cancer is not unfrequently complicated with complete external fistulæ which may open into the bowel above or below the constriction; recto-vesical fistula will be recognised by the escape of flatus and fæces with the urine, associated with great pain during and after the act of micturition. Cancerous disease of the rectum is most commonly found about three inches from the anus, the rectum below it being healthy; but it may start at the anus and gradually spread up the bowel, or be met with at any higher part of the gut.

Of quite distinct appearance and nature is the remaining variety of stricture commonly spoken of as *simple stricture.* This is usually a circular or crescentic narrowing of the bowel, feeling like a ring or cord around it, lined with healthy mucous membrane, and situate about two inches from the anus, although it may be met with higher up. It is generally found in young persons, and in women more often than in men, and is considered to be due to a congenital malformation of the bowel; some simple fibrous strictures are probably due to the cicatrisation of a strumous ulcer. The simple stricture does not fix the bowel.

The finger may impinge upon an *intussusception* in the rectum; this will be distinguished from a polypus or other form of tumour by its characteristic shape, but especially by the orifice at its extremity; the symptoms attending it (a discharge of mucus or blood, tenesmus, colic, and intestinal obstruction) will also aid in the diagnosis.

The finger in the rectum will readily detect masses

of *impacted fæces,* or *foreign bodies* that may have been swallowed or introduced through the anus. If after an enema have been given and returned the finger find the bowel empty, with its walls not collapsed, nor contracting upon the finger, a condition of *atony* of the bowel exists.

If after a thorough examination of the bowel no local lesion can be found, and the patient complain of severe burning, stinging or shooting pain of a paroxysmal nature in the bowel or anus, and if there be no disease of the urinary organs, nor tumour in the pelvis, and particularly if the patient be subject to neuralgia elsewhere, the affection may be described as *neuralgia of the rectum.* This must only be diagnosed after the most patient exploration under an anæsthetic has failed to reveal any local lesion.

The congenital deformities of the anus and rectum, with one exception, are all attended with a failure to pass the meconium, and have been considered in chapter xxxv. (page 462).

A congenital malformation, which may be overlooked for some time, is *narrowing* of *the anus;* in this case the meconium escapes, but after a time attentionis drawn to the fact that the fæces are passed with difficulty and that they are of very small diameter. The anus at birth should readily admit the surgeon's little finger.

CHAPTER XXXVII.

DIAGNOSIS OF DISEASES OF THE PENIS.

Diseases of the urethra are considered in chapter xlii.

The prepuce.—If the prepuce cannot be drawn back over the glans with ease and without pain the

patient has *phymosis.* If, when the prepuce is drawn back, the glans be curved downwards, the *frœnum* is too tight. If the prepuce be slit on its under side and cover the glans like a cowl, it is due to *hypospadias.* If the prepuce, having been drawn back, cannot be replaced over the glans, the condition is known as *paraphymosis*, and when the constriction of the prepuce is tight a roll of œdematous mucous membrane rises up behind the congested glans, and still farther back the skin of the penis is swelled, while between these two swellings deep down in a fissure is the tight margin of the prepuce. The prepuce is often too long, but if it can be properly retracted this condition is not phymosis.

Phymosis may be congenital or acquired. The *congenital* form is recognised by the history. The prepuce may be long, or altogether small, and tightly compressing the glans; but it is the condition of its orifice that is the important feature; this varies in size from a mere pinhole aperture to one which allows the prepuce to pass over the glans with difficulty. If a probe be swept round under the glans it will detect the presence or absence of *adhesions.* An old very tight congenital phymosis may lead to the dilatation of the prepuce into a kind of bladder. The author once circumcised a septuagenarian who presented this condition, the orifice of the prepuce being so small that it was only occasionally that a fine probe could be passed into it. Phymosis may be *acquired*, being caused by *œdema*, either inflammatory or as part of general dropsy, by *solid œdema*, by the induration of a *hard chancre*, by *adhesion* of the prepuce to the glans, by *cancer*, by *cicatrices* narrowing the orifice of the prepuce, or by *elephantiasis* or great *distension of the scrotum* by hydrocele, etc., dragging upon the sheath of the penis. Any one of these conditions may be combined with congenital phymosis. Acquired

phymosis is often met with in morbus cordis and morbus Brightii, gonorrhœa, chancre, primary syphilis, and after the healing of chancres of the prepuce. Solid œdema or hypertrophy of the prepuce may be caused by constitutional syphilis.

When under a congenitally tight foreskin a lump of stony hardness is to be felt, it is to be diagnosed as a *preputial calculus*; if a probe be passed beneath the prepuce it gives a grating sensation as it touches the stone. These calculi are not to be confounded with the firm but yielding induration of a hard chancre, epithelioma, or gumma.

Discharge from the prepuce may be caused by balano-posthitis, urethritis, chancre, primary syphilis, epithelioma, or warts. Where the prepuce can be withdrawn the diagnosis is quite simple (*see infra*), but if there be phymosis some care is required to arrive at a right conclusion. The orifice of the prepuce is to be well cleaned by syringing or careful wiping, and then the surgeon should endeavour to expose the meatus urinarius, and at the same time press forwards along the urethra; if pus be seen to flow from the urethra there is *urethritis*; a history of an urethral discharge before the phymosis appeared, or of scalding pain in micturition along the urethra, or of chordee, supports this conclusion, and if the meatus cannot be exposed the diagnosis may be made from those symptoms alone. If the discharge be sanious and not thick creamy pus, *soft chancre* is to be diagnosed; the presence of chancres at the orifice of the prepuce, or the history of an ulcer before the phymosis, is strong corroboration.

When the swelling of the prepuce is not uniform and a distinct induration is felt at one part, and there are several indolent buboes in the groin, it is to be diagnosed as *primary syphilis*; should the patient show the signs of secondary syphilis, the diagnosis

is at once certain; the discharge is watery in appearance. If there be a chronic progressive enlargement of the end of the penis in a man past middle life, discharging a bloody watery fluid, and a red granular or fungating growth is to be seen inside the prepuce, or even ulcerating or fungating through it, it will be recognised as *epithelioma*, especially if the inguinal glands are infiltrated. But a similar swelling with a thin discharge, in a young man, with a bright, florid, granular appearance of the growth, would be diagnosed as *warts*. (*See also* page 285.) When the discharge is purulent in character, and is found not to flow from the urethra, and there is no localised induration of the prepuce, it it is *balano-posthitis*. This may complicate urethritis, or arise from an impure connection, or be caused by congenital phymosis and the irritation of retained smegma or urine, or a preputial calculus. Where the inflamed prepuce can be drawn back the mucous surface is seen smeared with discharge, and presenting bright red excoriated patches without any induration or ulceration.

Ulcers on the penis.—The surgeon should first note the *age* of the patient; venereal sores are found in young children, and occasionally in elderly men, but they are most common in young men, while epithelioma is usually met with in those over forty-five. The *previous history* of the patient in reference to syphilis may afford great help; for if he have previously had syphilis it shows that an ulcer cannot be a primary syphilitic sore (exceptions to this are very rare), while it supports the diagnosis of gummy ulcer and relapsing ulceration of a hard chancre. A history of many similar attacks of short-lived ulceration of the prepuce supports the diagnosis of herpes. The relation of the ulcer to *sexual intercourse* must be inquired into. The date of the last, or of the supposed infecting

intercourse, must be obtained, and the time when the symptoms were first afterwards noticed. Patients sometimes withhold the truth; and the information may be misleading, owing to infection occurring previous to the last intercourse, or illicit sexual connection may have been the means of drawing the patient's attention to a sore or growth previously present. *Soft chancre* has no incubation period, and the ulcer is noticed, or may be noticed if the patient is observant, two or three days after infection, while *hard chancre* has an incubation period of about three weeks. *Confrontation*, or an examination of the woman supposed to be the source of infection, when possible, may at once clear up the diagnosis, for in her the disease may be unmistakable. The surgeon should carefully observe or enquire into the *initial stage* of the ulcer, whether a crop of vesicles (herpes), a pustule (soft chancre), an induration (hard chancre), a softening induration (gumma), a crack or a wart (epithelioma). Where multiple sores can be seen in various stages of development they are certainly not primary syphilitic lesions, which, if multiple, are always exactly contemporaneous. The *number* of the ulcers is of some importance. Herpes and soft chancre are often multiple, the sores coming out one after another, or in successive crops, and at any one time may show various stages of development; hard chancre is almost invariably single, but if multiple all the sores are of the same age; gummy ulcers may be multiple, or appear successively; epithelioma is always single, but a single growth may ulcerate at more than one place. The *features of the sore* to be especially noted are ulceration and induration. *Ulceration* with distinct loss of substance, must be distinguished from mere abrasion of epithelium; its depth must be noted, and the character of the base, whether spongy, sloughy, or

irregular and warty; undermining or eversion of the edge must not be overlooked. Ulceration is the essential feature of a soft chancre, which may be modified, but is never absent. Sloughing phagedæna, or a serpiginous character of the ulcer, are noteworthy facts. *Induration* must be closely studied to determine its extent, degree, definition, and vascularity. When very vascular, and therefore not readily blanched by pressure, and with an ill-defined outline which gradually fades off into the surrounding tissues, it is inflammatory; when the induration is firm, easily blanched when compressed, with a clear well-defined outline, smooth and flat, it is syphilitic; when chronic, irregular, or nodular and warty, hard and very vascular, it is probably epitheliomatous. Induration is the essential feature of a hard chancre, to which ulceration may be superadded. The induration may be of very slight depth, feeling like parchment or paper under the skin or mucous membrane; when the sore implicates the glans and its covering it may vary in degree in the two structures. The *discharge* from a soft sore is purulent, it may be sanious; that from a hard chancre is watery and only contains pus when inflamed. The *glands* in each groin should be felt, and if enlarged, the surgeon should notice the number, size, mobility or adhesion, consistence and sensitiveness of the affected glands. In hard chancre the glands, usually in both groins, are always enlarged within two weeks of induration of the sore; the buboes are multiple, hard, not matted together, freely movable over the fascia and under the skin, and not tender; suppuration is rare. In soft chancre the glands may escape altogether, the bubo is usually single, evidently inflammatory, painful, tender, of considerable size, and the gland is fixed to the skin and to the fascia; there is a marked tendency to suppuration. In epithelioma the glands

undergo steady, painless, infiltrating enlargement, spreading from gland to gland.

The *effects of treatment.*—Where a venereal sore quickly yields to local non-specific treatment it shows that it is not syphilitic; the rapid healing of a deep ulcer under iodide of potassium shows it to be gummatous and neither cancer nor hard chancre; while the healing of a sore when the system is got under the influence of mercury points to its being a hard chancre. *Microscopical examination* of a scraping of a sore may prove it to be epithelioma. (*See* page 273.)

1. If the sore be quite superficial, not extending through the mucous lining of the prepuce, of recent origin, not indurated, and attended with much itching and smarting, it is probably *herpes preputialis;* and if the patient have suffered from similar attacks, and the affection be known to begin in a group or groups of tiny vesicles on a bright red base, this diagnosis is certain.

2. A linear crack at the orifice of the foreskin, noticed immediately after connection, which does not deepen or widen, and quickly heals up, is a *simple fissure;* this may be multiple and recurrent when there is a certain amount of phymosis; it is not unfrequently seen at the frænum when that band is tight.

3. If an acute ulcer develop at once after exposure to infection, wear a punched-out appearance, with sharply-cut edge, an excavated spongy base, without surrounding or subjacent induration, it is a *simple soft* or *non-infecting chancre.* This diagnosis is confirmed if the sore be known to have commenced as a pustule, if the ulcer be multiple, and fresh ulcers form from time to time where cracks or erosions are in contact with the abundant purulent discharge, and if there be inflammatory enlargement of an inguinal gland. Should it be known that the patient has had syphilis, and if the sore yield readily

to local treatment, the diagnosis is still further supported. Inoculation of the discharge from such a sore succeeds in the patient or on another person, producing first a pustule and then an ulcer.

4. Where an ulcer with characters as above has an ill-defined and very vascular and inelastic induration extending around it and gradually fading off into œdema, it is an *inflamed soft chancre.* Care must be taken to distinguish this from the induration of a syphilitic chancre. *Sloughing phagedæna,* and *serpiginous* ulceration may attack a soft chancre, but in many of such cases there is evidence of previous constitutional syphilis. All soft chancres leave depressed cicatrices.

5. If an ulcer have a smooth glistening base, a rounded sloping edge, thin watery discharge, and a sharply-defined, firm, elastic induration around it which blanches on gentle pressure, it is a *hard chancre.* If the sore consist of a raised, flat, well-defined, elastic induration, either with or without ulceration, it is probably a *hard chancre.* The clearly-defined not very vascular induration is the special mark of the *initial lesion of syphilis;* it may vary from a small papule, or thin paper-like plate in the deeper layer of the skin, to a wide, very dense mass, with extensive ulceration. The diagnosis will always be confirmed by noticing that the induration appeared from three to six weeks after infection, although there may have been a sore before, by the detection of multiple indolent buboes in both groins about the second week after the appearance of the induration, and by the appearance of the secondary eruptions and sore throat, etc. The sore is usually single, and does not leave a permanent scar.

6. If an ulcer have at first the characters of a soft sore and later on specific induration occur, it is a *mixed chancre,* and constitutional syphilis will follow. The

surgeon cannot assure a patient of his freedom from syphilis unless a period of at least six weeks from the date of exposure to infection have elapsed without the development of a specific induration; the occurrence of a soft chancre in no way protects against or renders unlikely the subsequent development of a hard chancre.

7. If in a patient known to have had syphilis an induration, or an indurated ulcer like a hard chancre, be found at the seat of the primary syphilitic lesion, without any lymphatic enlargement, it is a *recurrent chancre* or a recurrence of the chancrous process in the site of the original primary lesion.

8. If the ulcer be deeply excavated with undermined edge, and a tough or soft tenacious slough adhere to the base, and this have resulted from the softening down of a chronic induration of the penis in a man known by other signs to have syphilis, it is certainly a *gummatous ulcer.* There will not be glandular enlargement; the sore will yield to treatment and leave a depressed scar.

9. If the ulcer be chronic, and steadily progressive in spite of any treatment, with a warty irregular hard base, nodular everted edges, a foul watery or sanious discharge, and an infiltrating enlargement of one or more inguinal glands, it is *epithelioma.*

Gangrene of the penis may arise in the course of specific fevers, from paraphymosis, phymosis with concealed chancre, or from sloughing phagedæna.

Tumours of the penis may be grouped into the *superficial* and the *deep.* The surgeon should notice the mode of attachment or fixation of the tumour to the surrounding parts, and the history or signs of constitutional disease.

If the tumour be a sessile or pedunculated outgrowth from the skin or mucous membrane, with no surrounding induration, and a branched irregular

surface, florid and moist where covered by the foreskin, dry and hard when exposed, it is a *papilloma* or *wart*. These little growths are generally multiple, they usually follow urethritis or balanitis; they may attain a large size, and then if exposed to friction they may ulcerate superficially. (*See* page 285.)

A flat sessile outgrowth of slight thickness and moderate induration, with a milk-white eroded surface, with other signs of syphilis, is a *mucous patch*.

If the tumour infiltrate the tissue of the penis as well as grow from its surface, having a firm irregular outline, a granular or warty surface, and the patient be at or past middle life, it is *epithelioma*. The growth usually quickly ulcerates and infects the inguinal glands. Cancer may grow out of sight under a tight prepuce, or by its bulk prevent retraction of the prepuce, and it may spread up along the deep structures of the penis.

If a firm or boggy induration be found in the prepuce or deep in the corpora cavernosa, and show a tendency to adhere to the skin and to soften down, it is a *gumma;* other evidence of syphilis and the effects of good treatment confirm the diagnosis.

Very chronic indurations, which do not soften down, are movable under the skin, and apparently situated in the sheath of the corpora cavernosa, are *gouty indurations;* at least they are not gummata, they occur quite independently of syphilis, and are often associated with gout. Indurations of the penis are also found lingering for many months after injury to the part; they are sometimes spoken of as *thrombosis*. The author has seen a case where inflammation spreading from the urethra led to intense and obstinate induration of the corpora cavernosa. All deep indurations of the penis cause chordee.

Scirrhus of the penis has been described; it will be recognised by its stony hardness, steady growth,

and infection of the glands. The author has once amputated the organ for *melanosis*.

Cicatrices on the penis.—The initial lesion of syphilis does not leave a scar; soft chancre leaves a depressed scar which may after a time wear out; gummy ulcers leave depressed, thin, ill-nourished scars often having much pigment in them. A scar at the seat of a venereal ulcer is strong, but not conclusive, evidence that the sore leading to it was not syphilitic. The extensive scars of phagedæna and serpiginous ulceration are signs of syphilis, inasmuch as these processes are most common in the subjects of this dyscrasia.

CHAPTER XXXVIII.

DIAGNOSIS OF DISEASES OF THE FEMALE GENITAL ORGANS.

IT will be sufficient to point out the diagnostic features of a few only of the common diseases of the female external genitals.

Vulvitis, vaginitis, and *urethritis* are recognised by the discharge from the inflamed surfaces, as well as by the swelling, redness, heat, and pain; often all three coexist. To determine the existence of urethritis, and the labia should be separated, and the meatus urinarius carefully wiped clean; the finger should then be passed into the vagina and pressed along the urethra, when a drop of pus may be seen at the meatus. The existence of urethritis is strong, but not positive, evidence of the inflammation being contagious, or gonorrhœal, in nature.

Labial abscess is recognised by the fluctuating swelling, with the ordinary signs of inflammation. When the swelling is mainly on the inner surface,

and fluctuation is obtained there, it is due to *suppuration of Bartholine's gland.* Labial abscess may be chronic as well as acute.

A rapid sloughing of the vulva is sometimes seen in young children. It is called *noma vulvæ.*

Ulcers.—*Hard chancre* and *soft chancre* are common in this situation; for their diagnosis *see* page 496. Occasionally, numerous small punched-out superficial ulcers are found on the inner surface of the labia, the nymphæ, and on the clitoris, which result from the breaking down of small superficial nodules; it is a rare disease, known as *follicular vulvitis.* Chronic ulcers, with sloughy base and ragged edges, are due to late *syphilis;* they may, when very chronic, become indurated, but the history and signs of constitutional syphilis distinguish them from the "primary sore." A chronic ulcer, with irregular granular or fungating base, and indurated everted edges, steadily growing with enlargement of the inguinal glands, is *epithelioma.*

Mucous patches and erosions are common in the secondary stage of syphilis.

A deep red, painful and tender swelling at the meatus urinarius, attended with severe pain in micturition, is a *vascular papilloma;* this tumour is most common in women of middle and late life. Hypertrophy of the nymphæ, or great enlargement of the labia with pendulous solid outgrowths are not uncommonly observed; the latter especially in the subjects of syphilis.

CHAPTER XXXIX.

DIAGNOSIS OF DISEASES OF THE SCROTUM, TESTICLE, AND SPERMATIC CORD.

THE scrotal tissues are freely movable over the testicle and cord, and this fact enables us at once to distinguish diseases limited to them from affections of the scrotal contents.

A. **Diseases of the scrotum.**—The presence of superficial *varicose veins,* of *pendulous scrotum* from relaxation of the dartos, and of *hypospadias,* with vertical cleaving of the scrotum into two labium-like halves, each generally containing a normal testicle, is easily recognised. Want of development of the scrotum is associated with absence of the testicle from the scrotum, and may involve one or both sides.

Simple redness of the skin of the scrotum may be due to:

Intertrigo.	Syphilis.
Eczema.	Subjacent inflammation.
Erysipelas.	Blood-staining.

The surgeon should observe whether it is acute or chronic, a purely local affection, or attended by signs of constitutional disease such as fever, syphilis, gout, and whether there is any sufficient local cause for the erythema, such as dirt.

If it occur on the sides of the scrotum where it is in contact with the thigh, and be accompanied by a similar change in the skin of that region, the surface being constantly moist, it is *intertrigo.* This is most common in young children and in stout adults.

If the surface be moistened with a thin discharge which stiffens linen, and in places be covered with thin scaly crusts of dried discharge, it is *eczema.*