By the employment of the above means, aided by a large share of patience, the washings of the bladder being regularly and gently attended to, cases of vesical catarrh depending on prostatic obstruction will gradually get well up to a certain point, not incompatible with the exercise of all his functions by the patient, and, provided only he attend scrupulously to keeping his bladder clean by warm-water injections, leaving him capable of enjoying a life as long, as comfortable, and as useful, as if his bladder were sound. This statement, of course, does not apply if either of the three complications, so common with this form of disease, exists: namely, stone, mild pyelitis, or fatty atrophy of the kidneys. Where stone is present, it must be removed. There are cases, however, where a stone of considerable size existing in an old man may cause but little irritation, and, where such calculus cannot be dealt with by lithotrity, it may be unwise to subject the patient to the risks of lithotomy. If stone be not present, the use of daily washings will prevent its formation.

Mode of Death in Cases of Hypertrophy.—The not very infrequent complication of a low grade of inflammation of the ureters and pelves of the kidneys is always a serious matter. This becomes easily aggravated by cold or imprudence in diet, developing at once symptoms of mild uræmia, with hot, dry skin, loss of appetite, sleeplessness, great restlessness, dry, red, or pasty tongue, parched mouth, tendency to depression, headache, tendency to wandering of the intellect, constipation—all this attended, as a rule, by polyuria, a little albumen and a few pale casts in the urine. A fatal termination of these symptoms is a not uncommon mode of death in cases of prostatic disease. The complication is best treated by confining the patient to bed, in a room where the air can be frequently renewed, and the temperature kept high, at 80° Fahr. or thereabouts; exciting the action of the skin and bowels; giving diluents in abundance, and a mild (milk) diet. The combination of potash and hyoscyamus acts well upon these cases, and some mild stimulant is not only admissible, but necessary to keep up the general strength, until kidney congestion has subsided. These evils are more easily avoided than cured.

CHAPTER XI.

DISEASES OF THE PROSTATE.

Congestion.—Parenchymatous Prostatitis.—Terminations: in Resolution, Chronic Prostatitis, Abscess.—Treatment.—Gonorrhœal Prostatitis.—Prostatic and Peri-prostatic Abscess.—Treatment of all Forms of Abscess.—Follicular Prostatitis.—Its Liability to be mistaken for Stone in the Bladder.—Treatment.—Tubercular Prostatitis.—Cancer of the Prostate.—Prostatic Concretions.—Prostatic Calculi.—Neuralgia of the Prostatic Urethra.—Syphilis of the Prostate.

Congestion of the prostate occurs physiologically during venereal excitement. If such excitement be unduly prolonged without being gratified, even sometimes without erection, if the imagination be given up to erotic fancies, the mucous follicles of the organ secrete more or less of a peculiar, viscid, bluish mucus, without odor, which, mixed with urethral mucus, finds its way out at the meatus. This phenomenon is perfectly natural. Physiologically it is analogous to the watering of the mouth of a hungry individual, at the sight, smell, or even thought of food. Many individuals, however, whose sexual requirements are not met, live in such a state of mental inquietude, particularly in regard to the genito-urinary organs, that this drop of mucus appearing during erection excites in their minds the most lively alarm, and they hasten to their surgeon to demand his aid for spermatorrhœa, stating that they never have an erection without the involuntary emission of seminal fluid.

Of this idea it is often hard to dispossess the patient's mind, but an honest explanation of the whole subject will rarely fail to convince him; while the observance of purity of thought and the avoidance of occasions of sexual excitement, or, better still, marriage, to place him in natural sexual relations, will prove, infallibly, effective of cure.

If this physiological hyperæmia be kept up for a long time (several hours), the prostate is liable to remain congested, throbbing slightly, feeling full and hot, giving rise, perhaps, to frequent calls to urinate, and attended by a very slight gleety discharge. If the patient urinate frequently, straining to empty the bladder of its last drops, the prostatic congestion is maintained and aggravated. All these uncomfortable feelings, due to prostatic congestion, are relieved by rest; more quickly by a cold sitz-bath, or by a very hot sitz-bath of short duration. The desire to urinate produced by the contact of water should not be yielded to.

Slight congestion of the prostate frequently complicates gonorrhœa, stricture, etc. It is usually ephemeral in character, announcing itself only by a little increased frequency of urination, or it may continue on to actual inflammation. Congestion may be excited in the prostate by sexual ex-

cess, masturbation, etc., and this, being kept up and often repeated, may lead to chronic follicular prostatitis, without passing through any acute stage. The hyperæmia attending hypertrophied prostate has been already considered.

PROSTATITIS.

Inflammation of the prostate is of two kinds:

1. Parenchymatous. 2. Follicular.

1. Parenchymatous Prostatitis.—Spontaneous (primary) inflammation of the prostate is rare; inflammation, traumatic, or extending to the prostate from contiguous parts, is not uncommon.

Causes.—Among the causes of prostatitis may be enumerated gonorrhœa, stricture, extreme and prolonged sexual excitement, concentrated acid urine, cold, violence from instruments, stone fragments, etc.; chemical irritants, strong injections, cantharides internally, etc. Gonorrhœal inflammation, after the first week, may run rapidly down the urethra and involve the prostate, particularly if the patient indulge in liquor, sexual intercourse, or take violent exercise, or use strong injections, throwing them deep in the canal. Sometimes, during gonorrhœa, without appreciable exciting cause, the prostate inflames. The inflammation behind a stricture may run back and involve the prostate, in the same way. Sexual hyperæmia, too much prolonged, or too often repeated, may lead to it. Cold, acid urine, violence from instruments, rarely are efficient, except in combination with other causes. The chemical irritants act directly.

Course.—Prostatitis commences as congestion. Passing on to true inflammation, it terminates by resolution, exudation of pus on the free surface, perhaps by croupous exudation; by abscess, or peri-prostatic formation of pus; or, finally, it may linger indefinitely as a chronic (follicular) inflammation, mild in degree, occasionally becoming aggravated.

Symptoms.—The organ swells rapidly, putting the capsule on the stretch, and often reaching the size of a small orange. It may feel square (Vidal), or be unevenly enlarged. The exploring finger in the rectum strikes at once against this mass, which juts into the cavity of the gut, is very tense and hot, and can be felt distinctly to pulsate. It is exceedingly sensitive to pressure—unlike prostratic hypertrophy, which is not sensitive unless inflammation be present. In prostatitis the lightest touch, even the presence alone of the finger in the rectum, at once excites a desire to urinate. Pressure over the pubes brings on the same desire. The patient is conscious of something protruding into the rectum, and may experience an unnatural desire to go to stool. If he endeavor to do this, he strains ineffectively, causing himself pain, but getting no relief, even if he succeed in forcing out a little fecal substance, after suffering great distress in the effort. The perinæum feels hot, and is sensitive to pressure. The subjective sensations, locally, are

heat, weight, throbbing. There is a sort of dragging feeling over the lower part of the abdomen, as well as in the penis and scrotum. There may be pain in the back and limbs. If gonorrhœa be the cause, or stricture with profuse gleet, the urethral discharge ceases at once, or becomes very scanty and thin. It returns, however, as the prostatic inflammation subsides. The stream of urine is small and is passed with effort. The prostate may swell to such an extent as to obliterate the prostatic urethra entirely for a time, causing retention. Thompson believes this to be the cause of all retentions which occur during acute gonorrhœa; in fact, of all retentions supposed to be produced by so-called inflammatory stricture.

With this swelling of the prostate is almost invariably associated congestion of the vesical neck, thickening of the membrane at the internal urethral orifice, and a constantly-recurring, never-satisfied desire to urinate. If retention comes on, as it rarely does, this feeling exists as a matter of course; but, even when the bladder is entirely empty, it feels partly filled, there is no sensation of relief after voiding the urine, and, when a few drachms have re-collected, the urgency of the sensation forces the patient to another effort, equally unsatisfactory. The urine causes pain on its passage, but the pain is most severe as the last drops are being expelled, when the circular fibres at the bladder's neck squeeze the tender prostate. It is now that blood is often discharged from the overloaded vessels, coloring the last drops of the stream. A pain like that occurring with stone is experienced, both in the perinæum running down the urethra and, often with greatest intensity, on the under surface of the penis in the urethra, at about three-quarters of an inch from the meatus. Coinciding with all these features which stamp out the disease so plainly that it is impossible to mistake it, there is general febrile disturbance, with usually the utmost concern, apprehension, disquietude, and depression with excitement of mind, such as is rarely caused by inflammations of much greater magnitude and attended by far more severe pain elsewhere. The patient is irritable, despondent, and suspicious; often, in fact, wild to an extent amounting to mild acute mania. He cannot sleep, he will not eat, and it is with difficulty that he can be kept quiet. Fortunately, his feverish condition induces him to drink abundantly.

The inflammation may subside before the malady has reached this point. Resolution may come on at any time, even after the above extreme has been reached; the throbbing pain and heat disappear, and usually a little discharge appears from the prostatic sinus. This discharge may continue for a considerable period (follicular prostatitis), or may rapidly cease while the calls to urinate grow less frequent, and the sensation after the act approaches the full relief felt normally. If the inflammation has extended into the seminal vesicles, there may be spermatozoa in the discharge. A false membrane may form in the

prostatic sinus, but this is exceedingly rare. Finally, the inflammation may extend down the vasa deferentia, linger in a chronic form in the seminal vesicles, or pass on to light up epididymitis.

If the inflammation, instead of undergoing resolution or passing to a chronic state, continue, abscess is the result. Resolution usually takes place between the fourth and twelfth day, and recovery is complete in from one to three weeks. Possibly, instead of recovering or continuing as a distinct folliculitis, chronic interstitial inflammation may remain behind, leading to induration and general tumefaction of the gland which may persist for months or years, and may even be described and treated as hypertrophy. This kind of (false) hypertrophy gives good results with pressure, electricity, etc., namely, absorption of the inflammatory product, and thus is excited the vain hope of a similar result where true hypertrophy exists.

Treatment.—No point of treatment is so essential as rest in any congested or inflamed condition of the prostate. Repose, as nearly absolute as possible, may bring about resolution where otherwise suppuration would have ensued. The tripod of safety for a patient with prostatitis is rest in bed, some alkaline diluent for the urine, and enough anodyne to control severe pain and excessive action of the bladder. The rest should be in bed, the patient lying upon his back with the hips raised. The bladder should be restrained from contracting as much as possible, by the exercise of the will, while forcible efforts at emptying the last drops of urine—to which the patient's feelings impel him—should be interdicted. For the same reason cathartics should not be administered. Copious enemata of hot water carefully given are preferable. The jutting out of the tense prostate into the rectum gives the patient a constant idea that the lower bowel is occupied by fæces, and of this notion it is difficult to divest him. He must not be allowed, however, to indulge in straining at stool, as this action aggravates his condition. As for medicine, none is needed in a mild case except plenty of bland fluid—flaxseed-tea, infusion of triticum repens, etc., with some citrate of potash or Vichy water. By these means the irritating properties of the urine are counteracted. The combination of liquor potassæ with extract of hyoscyamus (p. 203) seems to suit certain cases. Watery extract of opium, codeine, or morphine, may be used in suppository, gently introduced, in sufficient quantities to modify the urgent desire to urinate. These means, combined with a light diet, will bring on resolution in a few days in most cases.

Gonorrhœal Prostatitis.—If the prostatic affection comes on during a gonorrhœa, all active treatment of the latter must be abandoned. It is particularly essential to discontinue urethral injections. If the onset of the affection has been especially severe, and the exploring finger detects a prostate unusually tense, throbbing, and painful, early in the attack, leeching of the perinæum may be resorted to. If this is

attempted, it should be thorough. From ten to fifteen vigorous leeches should be placed upon the perinæum, and the bleeding be encouraged by the subsequent application of hot water to the bites. Hot fomentations to the perinæum and hypogastrium tend to modify pain. The skin over the hypogastrium should be kept constantly reddened by sprinkling powdered mustard upon the poultice there applied, or, more neatly, by the use of mustard-paper over which is applied a flat rubber bag, containing a thin film of very hot water (Fig. 74). If possible, a general hot bath, or hip-bath (100° Fahr.), should be administered once or twice daily. Sleep may be encouraged at night by full doses of the bromide of potassium, or sodium alone or combined with some bitter syrup (orange-peel), with from gr. v–xx chloral hydrat. Repeated rectal examinations of the prostate are to be avoided, and on no account should any instrument be passed into the bladder unless there is retention. In such a case a small French olivary catheter should be gently used, as seldom as possible consistently with comfort. Failing with the soft instrument, a silver catheter must be employed, with suitable regard to the inflamed and tender condition of the parts. Cases might occur where the aspirator would be preferable to catheterism.

PROSTATIC AND PERI-PROSTATIC ABSCESS.

If pus form during parenchymatous inflammation of the prostate, we have a continuance, in a high degree, of all the symptoms of that inflammation, except that the local throbbing is more considerable and that the pains become less tense and of a more lancinating character. A sharp chill or a series of rigors announces the commencement of suppuration. As the pus forms, it presses upon the already narrowed canal of the urethra, and finally, unless the abscess is very small, obliterates it entirely, bringing on retention. There may be one or more purulent foci, or the whole substance of the prostate contained within the fibrous capsule may fall into suppuration.

These abscesses, left alone, discharge into the urethra, bladder, rectum, or through the perinæum, or may find outlet by two or more of these routes at the same time. They are often tardy in opening spontaneously, on account of the dense nature of the fibrous capsule of the gland. When such an abscess is opened or bursts, all pain and discomfort are relieved as if by magic. Retention disappears, the heat and throbbing cease to be annoying, and a continuous flow of pus is often the only reminder of the terrible torment which the patient has endured. The pus may exceptionally burrow among the tissues of the perinæum, or, still more rarely, into the pelvis, giving rise to local and then general peritonitis. In exceptional cases, where the purulent focus is small, it may never point; but, with subsiding inflammation, the pus may be gradually absorbed, leaving behind a calcareous mass, of a size propor-

tionate to the quantity of pus which it represents. These concretions are not usually discovered till after death. They are rarely of sufficient size to interfere materially with the contractile function of the gland.

After the pus has escaped from a prostatic abscess, if the cavity is small, it usually granulates slowly, fills up, and becomes cicatrized; the rapidity of the process of repair being often interfered with, if not prevented, by a communication of the cavity with the bladder or rectum—or even the urethra, from which urine rugurgitates during every act of micturition. If the cavity of the abscess is very great, if, for example, it involves the whole contents of the fibrous capsule of the prostate, the termination may be fatal. Sometimes a slow repair sets in, but it is rarely if ever perfect. More or less of a cavity is left behind, lined with a new-formed, imperfect mucous membrane, discharging more or less pus, and, as a rule, remaining permanently in fistulous connection with the rectum, urethra, or bladder. In these cases urine may escape by the rectum, and fæces and intestinal gases by the urethra, while the constant condition of irritation of the remnant of prostatic substance involves the neighboring neck of the bladder, giving rise to more or less cystitis, and tormenting the patient by frequent calls to urinate. A small purulent collection in the prostate may empty itself gradually into the urethra by a minute opening, and its existence consequently not be made out.

The prognosis in small abscesses of the prostate is good, but, where the collection of pus is very extensive, the prognosis must be guarded.

Analogous to the above are the *peri-prostatic abscesses* which occasionally come on during the course of gonorrhœa, or in cases of stricture. Here the seat of the purulent collection is found to be in the connective tissue around the prostate. The symptoms are, in the main, those of prostatic abscess; but they are less marked, less intense, and the malady is apt to run a slower course. Œdema, perceptible to the finger in the rectum, is the best distinguishing mark between existing or imminent peri-prostatic collections of matter and abscess within the prostatic capsule. Such collections of pus finally press upon the neck of the bladder and cause retention. They may be easily felt by the exploring finger in the rectum, masking the prostate and jutting into the cavity of the gut. If not opened by the surgeon, they may point spontaneously in any of the directions named for prostatic abscess, and subsequently behave in a similar manner.

Epididymitis, terminating in suppuration, is liable to complicate prostatic abscess. Abscess of the prostate rarely leads to infiltration of urine.

Treatment.—With an abscess, peri-prostatic or prostatic, near the posterior wall, whenever fluctuation can be felt through the rectum, puncture with a trocar should be practised at once, to arrest further destruction of tissue, to relieve suffering, and to prevent retention.

After puncture, such abscesses usually do well under hygienic supportive treatment. Where the abscess bursts spontaneously, the treatment is purely symptomatic. Where the collection is prostatic, and, bulging into the urethra, produces retention, without yielding fluctuation through the rectum, either of the three following courses may be followed, preferably the first: (1.) Pneumatic aspiration of the abscess through the rectum; (2.) The use of the same instrument several times daily above the pubes, to evacuate the urine waiting for the abscess to break; or, (3.) Careful attempts to relieve the bladder with a silver catheter passed through the urethra. The abscess is pretty sure to be broken during attempts at catheterism, and the urine flows freely immediately after the pus.

Where a large cavity in the prostate is left behind by an abscess, it may be washed out daily with a very short-beaked silver catheter, having its eye near the tip, and, after the washing, injected with some astringent solution to stimulate granulation.

For the treatment of rectal fistulæ, *see* p. 164.

After an abscess breaks or is opened, relief is always prompt, and the cure often effected by the unaided efforts of Nature.

Follicular Prostatitis.—In this disease, the mucous surface of the sinus of the prostate and of the mucous follicles and ducts is inflamed, while the parenchyma of the organ for the most part escapes. The affection is familiarly known as *prostatorrhœa*. It can hardly be said to exist in an acute form, so prone is it to run a chronic course. It may come on during gonorrhœa after the inflammation has reached the deeper portions of the urethra, attended at first by symptoms of parenchymatous congestion. The latter soon subside, and the prostatorrhœa alone remains, with (perhaps) some congestion about the vesical neck, and consequent irritability of the bladder. The main feature of the disease is a slight oozing from the meatus, muco-purulent in character. This discharge is apt to be more profuse during the passage of hardened fæces through the rectum at stool. Defecation may be painful. The patient usually believes the discharge to be semen. It does not contain spermatozoa, but is muco-purulent, full of fatty *débris*, leucocytes, epithelium, and often prostatic concretions. This discharge is exceedingly rebellious to treatment.

If, with follicular prostatitis, as is often the case, a certain amount of chronic parenchymatous inflammation coexist, then we have an affection not common but exceedingly obstinate and difficult to manage. It is evidenced by a combination, in a mild degree, of the symptoms of both maladies. A peculiar weight is felt, dragging down toward the perinæum, with painful feelings in the prostate; walking becomes painful; crossing the legs decidedly increases the pain, as does finally the sitting posture, and especially the muscular contractions made in raising the body from the sitting to the standing position, or the reverse.