

large at or about the age of sixty-five), but it slowly progresses. After the bladder has once become chronically inflamed it does not recover unless the obstruction is removed. After the kidneys have become inflamed or sclerosed they never return to their normal state. With each year sapping the sick man's powers of resistance his prostate gets the better of him in the end.

The surest criterion of prognosis is the patient's amenability to palliative treatment. He is safe so long as his symptoms can be controlled by palliative means. Systematic catheterism and irrigation of the bladder may hold the disease in check for years; but when they fail there is nothing left but operation or death. The post-operative prognosis will concern us later.

The common cause of death is urinary toxemia or septicemia through kidney insufficiency. In certain cases, acute retention, violent cystitis, or local inflammations have much to do in wearing out the patient.

CHAPTER XVIII

PALLIATIVE TREATMENT OF PROSTATIC HYPERTROPHY

THE treatment of hypertrophy of the prostate is palliative and radical. Palliative treatment will be described first, while the detail of prostatic hygiene, which should be the background of every other treatment, demands preliminary consideration.

PROSTATIC HYGIENE

The prostatic man resembles the menstruating woman in that any exposure or overdoing reacts promptly upon his pelvic organs. "Beware of congestion" must be his motto, and upon this he must mould his life. He must avoid all exposure to cold: draughts are dangerous, wet feet fatal. His clothing, especially his underwear and footgear, must be regulated by the thermometer. Light exercise and fresh air are beneficial; but any excess, physical, mental, sexual, or alcoholic, must be avoided. Of alcoholic beverages, he may drink whisky, gin, and white wine in moderation; but no beer nor champagne. The stomach must not be overloaded. "*C'est souvent en lui souhaitant bonne fête,*" says Guyon, "*qu'on détermine chez un vieillard prostatique sa première rétention.*" The diet must be both light and laxative, for a torpid bowel threatens infection as well as congestion. Meats should be largely replaced by vegetables and cereals, milk by buttermilk, tea by coffee or cocoa, red wine by white. Fruits should be employed circumspectly, as their acidity may do more harm than their laxative qualities do good. Finally, the patient must keep his urine bland by drinking plenty of water, using alcohol little or not at all, eschewing all beer, ale, and champagne, and cutting off all rich and fried foods and such special articles as strawberries, asparagus, and grapefruit. If he has been a high liver these dietary changes will have to be worked out gradually, since too great insistence on them all at once will only make him disobey instructions.

GENERAL TREATMENT

During the active stages of the disease, local applications to the bladder and the prostate are of the greatest service in allaying symptoms; but they must always be seconded by attention to the rules of hygiene suggested above, and internal medication may be most efficacious in some cases, while in others it seems absolutely ineffectual.

If the prostate is simply *congested*, the urine clear, the residuum negligible, there may be marked irritability of the bladder with frequent and painful urination. To conquer this, astringents and irritants are often useful. Tr. ferri chlorid, 0.5 gramme, *t. i. d.*, and urotropin, 0.5 to 1 gramme, *t. i. d.*, often act like a charm, and, similarly, a desperate pint of beer or small cold bottle (of champagne) may drive away the symptoms which the surgeon has struggled to master in vain.

When there is sharp *inflammation* of the bladder, with torturing dysuria, the local treatment may sometimes be materially assisted by the following alkaline sedative combination:

R. Liq. potassæ..... 5.00-15.00 grammes
 Extr. hyoscyami fl..... 10.00-25.00 "
 Syr. aurant, cort..... 100.00 "
 Aq. cinnamon.....ad 200.00 "
 M. S.: Tablespoonful in water, *t. i. d.*

Yet this medicine is somewhat hard to digest, and is therefore not suitable for prolonged use. In the endeavour to control a chronically inflamed organ, the routine internal medication may be antiseptic or sedative. In either case, the first essential is that the patient drink enough water to keep his urine at or below a specific gravity of 1.015. The medicine to be used depends upon the quality and intensity of the cystitis and the individual peculiarities of the patient; but it is a general rule that no medicine which is not easily digested will materially help the patient for any length of time. (For further details of the General Treatment of Cystitis, see page 367.)

The treatment of renal infections is fully detailed in its appropriate place.

The bowels and stomach often require special attention by cathartics, vegetable and saline, enemata, gastric lavage, etc. When the local conditions have been righted the general health may be improved by tonics.

Opiates.—A final word on the subject of opiates. Hypertrophy of the prostate is a chronic disease, and pursues a most uncertain

course. The sufferer, writhing in agony to-day, may be entirely relieved to-morrow. The patient whose last sun seems to have risen may be relieved by operation, and survive for many a year. Under these circumstances, it is scarcely necessary to insist that opiates should be administered with extreme caution. The patient, a constant sufferer from a tormenting disease, is in an ideal condition to become addicted to narcotics. I have seen few sadder cases than those of old men whose prostatic disease was still apparently curable while their subjection to narcotics could not be overcome.

LOCAL TREATMENT

First Stage.—During the first stage of the disease the bladder empties itself completely. Catheterization is therefore quite unnecessary; indeed, it may be harmful. But there may exist, even during this stage, a considerable neuralgia of the neck of the bladder, which must be treated appropriately (p. 314). Or again, there may be prostatitis or cystitis, due to other causes (pp. 266, 383). Finally, an acute retention may be the chief feature of the disease, and this requires especial notice.

Acute Retention.—The therapeutic indication is perfectly clear. The urine must be withdrawn. Half-hearted measures are inefficient. The hot sitz bath may be employed with a hypodermic injection of morphin as a temporizer; but the patient, once thoroughly obstructed, is quite beyond emptying his own bladder. The surgeon must do that for him.

If the rubber or woven catheter passes easily there are only two requirements: (1) Absolute cleanliness, and (2) evacuation of the bladder, as already indicated (p. 271) by easy degrees. Under the head of absolute cleanliness must be included irrigation of the anterior urethra with salt solution before catheterization, and instillation of silver nitrate afterward (p. 218).

If flexible instruments will not pass, and there is no false passage (p. 286), the surgeon may employ Guyon's device.¹ This consists in mounting an elbowed woven catheter on an elbowed steel mandrin, and introducing this instrument until its beak is within the prostatic sinus, but *not touching the obstruction*. The catheter is then advanced and the mandrin held stationary, or withdrawn a little. The beak of the instrument is thus sharply elevated and will override a most abrupt obstacle. If this manoeuvre fails, recourse must be had to a metal instrument. The ordinary silver catheter is

¹ Leçons cliniques, Paris, 1897, iii, 211.

useless, its curve is entirely too short. The long-curved prostatic catheter is required. Three or four such catheters of different sizes and curves constitute an outfit (Fig. 78).

In introducing such an instrument the surgeon must be gentler than gentleness itself. He must proceed slowly, guide his instrument

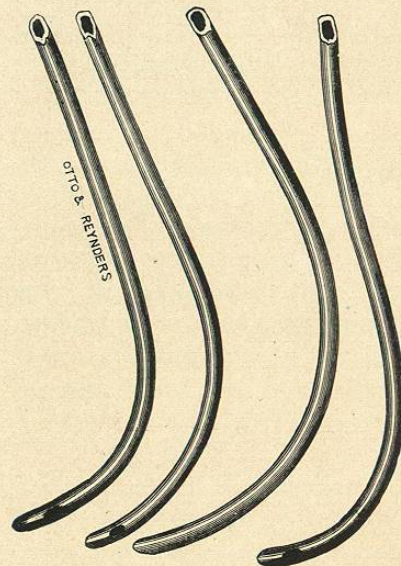


FIG. 78.—(THOMPSON.)

by a finger in the rectum, and make its point hug the roof of the prostatic canal. Above all he must remember that there is no stricture in the prostatic urethra, no spasm (Rochet and von Frisch to the contrary, notwithstanding), no obstruction to be broken through. The dilated prostatic urethra is a cellar in which the instrument loses itself. The prostatic obstacle is a wall. At the top of that wall is a window, the vesical orifice. The difficulty is to find that window. When once found it is large enough to admit the instrument. It is to be searched for not along the obstructing bar but along the roof.¹

After the bladder has been reached, the case is treated according to the routine methods laid down below.

If all instruments fail to pass, the bladder may be aspirated (p. 209) every eight hours for a day or two. If the catheter still fails to enter, admission must be obtained by operation.

Second Stage.—The catheter is the instrument for treatment of the retention that characterizes the second stage of prostatic hypertrophy. But to be effective the use of the catheter must be intelligent, and the hygienic and medicinal treatment must not be lost sight of for a moment. For therapeutic purposes four classes of cases may be considered:

1. Simple, uninfected cases.
2. Infected cases.
3. Irritable cases.
4. Obstructive cases.

¹ Von Frisch employs an instillation of 2 c. c. of 5% cocain solution, followed by 5 c. c. of sterilized oil, as a preliminary to difficult catheterization. This diminishes pain, spasm, and congestion.

1. **Simple, Uninfected Cases.**—We have seen the precautions with which the first diagnostic catheterization must be surrounded. These are to be kept in view at all times, but especially when breaking in to catheter life a man with a large, soft prostate and a considerable amount of clear residual urine. Such a subject is especially liable to infection, with sharp chills and extreme systemic disturbance (p. 43). Gentleness and cleanliness will avert this, if carried sufficiently far, and in such cases they must be carried to the extreme limit. The cleanliness must be threefold: cleanliness of the instrument, the cleansing irrigation both before and after using the instrument, and urotropin administered internally (p. 373).

After the first diagnostic evacuation of the bladder the catheter is passed, with the same precautions, as often as required. While the irritability and infection of each case present special indications that must be respected, the ideal to be aimed at is removal of the congestive and infective dangers of residual urine by means of the least possible number of catheterizations. Every introduction of the catheter is one more trauma, be it ever so slight, one more possibility of infection for the prostate to contend with. Hence the catheter should never be introduced except for a definite purpose. The prostatic with clear urine is the worst possible subject to experiment upon.

In general, the number of catheterizations is regulated by the amount of residual urine. *If the residuum is less than 75 c. c. (2 ounces) no catheterization is required.* The patient's symptoms of nocturnal pollakiuria may still be alleviated by the sounds and the astringent injections employed during the first stage. *But with a residuum running from 75 to 125 c. c. (2 to 4 ounces) the bladder must be emptied by catheter every evening.* Without this the nocturnal symptoms cannot be controlled. The congestion kept up by the retained urine more than counteracts the influence of sounds and astringents alone. *A residuum running from 125 to 200 c. c. (4 to 6 ounces) provokes diurnal symptoms and requires the catheter twice a day, morning and evening.* Finally, *for larger quantities, three or more catheterizations are required daily to control the symptoms.* Although it is often possible by the methodical use of the catheter to reduce the amount of the residuum—and even to do away with it entirely—this end is not to be attained by frequent catheterization. On the contrary, the less frequent the catheterization, within reason, the better the result. Thus the use of the catheter should be *cleanly, gentle, infrequent, and systematic.* The first three points require no further insistence. The last is quite as cardinal as any of the others. To use the catheter systematically is to use it intelligently.

Irregular catheterization is valueless. When the instrument is required but once in the twenty-four hours, it must be used immediately before retiring. When it is required twice, before retiring and on rising. When it is required three or more times—this part of the rule is the least observed—it must be introduced at regular intervals. As the dyspeptic stomach must be fed regularly, so must the overburdened bladder be emptied regularly. The intervals should be made mathematically even, if possible. Six in the morning, two in the afternoon, and ten at night are favourite hours, or, if the patient retires late, seven, three, and eleven. The evening catheterization must be at bedtime. The morning one seems early, but the patient's bladder will awaken him betimes.

Thus far *catheter life* has been considered as though entirely conducted by the surgeon. This is far from being the case. The surgeon must initiate catheter life. He must perform the catheterizations for the first few days; but, at the same time, he must instruct the patient, by both precept and example, how to perform the operation himself in a cleanly, gentle, systematic manner. The gentleness and system are the same for patient as for surgeon. The details of cleanliness differ somewhat. The patient should be instructed as follows:

1. Urotropin (0.5 to 1 gramme a day) must be taken throughout the institution of catheter life and indefinitely as long as the bladder remains clean, to avert the ever-present danger of infection.

2. The hands must be washed with soap and water before each catheterization. Most surgeons advise that the glans penis be washed also. This the patient will very rarely do; he will give it up, and, finding no harm results, he will perhaps give up washing his hands as well. I am therefore contented with the hand-washing.

3. The catheter is to be flushed inside and out with running water after using. It is then boiled for ten minutes, dried with a clean towel, and placed in a metallic box or between the folds of a towel, where it remains until again needed. Before using, the catheter is again flushed out. The metallic box must be kept scrupulously clean. The catheter is flushed out by holding it in a faucet of running water, so that the water runs down it outside and in. If a woven catheter is used, and a boilable one cannot be obtained, the catheter must be washed carefully with soap and water and then flushed with running water before and after each catheterization.

4. The lubricant used must be aseptic and kept in collapsible tubes.

5. The bladder must be washed daily with a hot solution of boric acid for from three to six months. After this time it will have

acquired a toleration to the instrument, and the wash may be discontinued on the condition that urotropin is still taken.

6. Special attention must be paid to combating constipation.

The *technic of auto-irrigation* must be described in detail to the patient, and he must be made to perform the operation in the surgeon's presence. I shall describe only the method which I have employed for twenty-five years, having found it universally acceptable to my patients with no modification of the apparatus. I have used various solutions, but now employ, in clean cases, only a boric-acid solution, for the reason that this is easily made, and it is impossible for the patient to make the solution strong enough to irritate. Its antiseptic properties, though not great, are sufficient for the present purpose.

The patient is supplied with a pint measure, a glass rod, a pound tin of granular boric acid,¹ a fountain-syringe, a two-way stop-cock (Fig. 79), and two or three catheters. He proceeds as follows:

First washing his hands and obtaining some water so hot that he can only just keep his finger in it (*circa* 115° F.), he fills the pint measure with this, adds a heaping teaspoonful of the granular boric acid, and stirs with the glass rod until the crystals are dissolved. This solution he pours into the fountain-syringe, to which the two-way metallic stop-cock is attached, and hangs it just above his head. He then attaches the hard-rubber nozzle to the clean catheter, lubricates the latter, and introduces it gently into his bladder. He introduces the catheter only far enough to

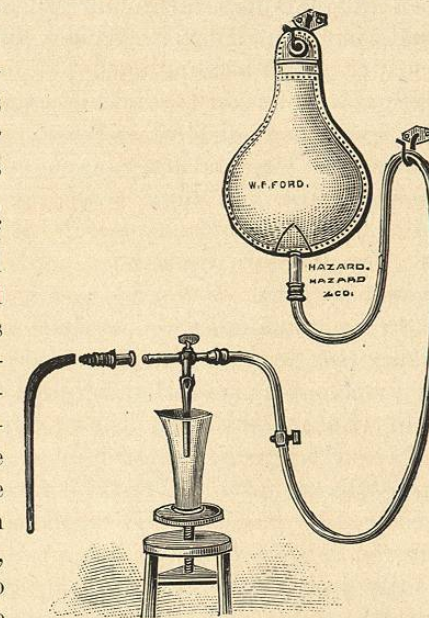


FIG. 79.—APPARATUS FOR AUTO-IRRIGATION OF THE BLADDER.

strike water—the natural tendency is to push it in too far, and then to pull it out and in until the right spot is reached—and drains the bladder dry. Then he opens the stop-cock, allows the water to escape from the bag until it runs warm, turns off cock, couples cock and nozzle, turns on the stream

¹ Pulverized boric acid dissolves very slowly.

again, and allows the bladder to fill. As soon as he feels any intravesical tension he turns the cock off and the fluid escapes into the vessel. By turning the cock on and off the bladder may be filled and emptied several times; for the present purpose one filling suffices.

The *results* of catheter life may be the reduction or the abolition of symptoms and residuum, or both may continue, or the bladder may, in spite of the best care, become infected.

2. **Infected Cases.**—Infection introduces several new features in treatment. The same cleanly, gentle, and systematic catheterization is required,¹ but beyond this the infection itself must be treated along the same lines as a posterior urethritis or a cystitis, independent of hypertrophied prostate (pp. 131, 393). If recent it should be attacked vigorously with the hope of conquering it. The stronger remedies—nitrate of silver, protargol, permanganate of potash, mercuriol—should be injected instead of the mild boric acid, and the surgeon should apply them himself; while internally, balsamics and alkalies are usually more efficient than antiseptics. If the infection is acute, rest in bed and anodynes may be required; instillations are preferable to irrigations, and in some cases even these do more harm than good, and all local treatment, except catheterization, must be suspended. Urethral fever may occur and require appropriate treatment (p. 46). In these acute cases the danger of administering opium freely, whether by mouth or by rectum, should not be forgotten; the patient's future must not be unduly imperiled to assure his present comfort.

Chronic inflammation assumes one of two forms: (a) The urine is bacterial, acid or neutral in reaction, and contains little pus; (b) the urine is ammoniacal and loaded with stringy muco-pus. Either form, if long continued, leads to pyelitis. For each the best general remedy is usually urotropin, or, if this is not tolerated, salol, or boric or benzoic acid. The mild form of inflammation is, in a sense, a boon to its possessor. It toughens his organs, as it were, and lessens the danger of serious inflammatory complications. Though not readily overcome, it is very easily controlled, and, if the patient is faithful to his urinary toilet with urotropin, catheter, and daily irrigation, he may indulge in the little irregularities of aseptic technic, which all patients allow themselves in the long run, without any harm coming to him. Severe ammoniacal cystitis, on the other hand, is always a menace. Phosphatic stone, abscess of prostate, bladder,

¹ It is sometimes advantageous to modify the system of catheterization to suit the irritability of the bladder. Thus, I have at present under my care a gentleman who has 125 c. c. residuum, and gets more comfort by using his catheter at 5 A. M. and 5 and 10 P. M. than under any other régime.

or kidney, and urinary fever, either acute or chronic, result from it. Urotropin and energetic local treatment are required to control it. On the Continent, the retained catheter is often employed for this purpose with advantage when the prostate is not irritable, yet I have rarely used it. Stone should be suspected and searched for, and, if the ammoniacal cystitis, whether due to stone or not, cannot be controlled, operation is required.

3. **Irritable Cases.**—Irritable cases are very rebellious to treatment. An irritable case is one whose symptoms are made worse by all local measures, whether simple catheterization or irrigation. If the residuum is small, internal remedies, whether antiseptics, balsamics, or alkalies, may conquer the irritability; the rectal douche (p. 131) may be of assistance. But if these means fail, if the case does badly without local treatment and equally badly with it, there is no alternative but the knife.

4. **Obstructive Cases.**—Obstruction to catheterization is often an important feature. It may be impossible to introduce soft-rubber or even woven instruments into the bladder on account of spasm of the cut-off muscle or of some crookedness in the deep urethra. Spasm of the cut-off is oftenest caused by a soft linear stricture at the bulbo-membranous junction, and the passage of a few sounds then solves the difficulty; and even if there is no stricture, the gentle passage of a sound is often the best treatment to relieve spasm or to iron out a tortuous prostatic canal.

The *retained catheter* is especially useful here. By fastening a rubber or woven catheter into the urethra (after introducing it upon a mandrin) for a few days, the rough canal can be smoothed down. By this means the urine is also drawn off continuously, and the lessened congestion thus obtained often results in a notable diminution in the size of the prostate and the amount of residual urine.

The *technic of the retained catheter* has been minutely explained by Guyon.¹ His rules may be summed up as follows (see also p. 210):

1. The instrument employed should be large enough to permit a free outflow of urine, and small enough not to make any pressure along the canal. Its eye must be near the end. Metal and olivary instruments are useless. The simple rubber catheter, the blunt woven catheter, or the Guyon-Pezzer catheter (Fig. 63) may be employed.

2. The instrument must be introduced only so far as to have its eye just within the bladder. When the catheter is properly placed

¹ Leçons cliniques, 1897, iii, 328.