LESSON LXIV.

URETHRISMUS, OR CHRONIC SPASMODIC STRICTURE, CONTINUED.

Points in the cases previously cited which prove the possibility of chronic spasmodic stricture to simulate true organic stricture—Cases previously cited, types of a class—Other means of diagnosis than those previously in use necessary to correct appreciation of the nature of urethral obstructions to the passage of instruments—Knowledge of the normal capacity of the urethra a prerequisite—Size and condition of the meatus urinarius essential to be appreciated—Spasm often persists under apparently complete anæsthesia—No reliable examination possible while anterior strictures are present—No treatment for close, deep stricture by operation justifiable until anterior strictures are removed—The presence of slight anterior stricture always capable of causing spasmodic closure of the membranous urethra—Simulating organic stricture.

There are several points in the foregoing cases (which I think may be fairly claimed as types of a class) which coincide with the accepted characteristics of true, deep organic stricture, and which, if not appreciated, would lead, of necessity, to an erroneous diagnosis, such as was originally made in each one of the cases reported.

1. A *gradual* diminution of the stream of urine.
2. *Persistent* frequency of micturition.
3. *Persistent* resistance to the introduction of *large* instruments *in the hands of skilled surgeons.*
4. Distinct grasping of small instruments, and a *gradual* toleration of instruments of increasing size, and, in this, so *perfectly* simulating the behavior of true organic stricture that the most skilled and learned surgeons have been deceived by these conditions.
5. The *persistence*, during a long period of years, of all symptoms which are recognized by authorities as characteristic of *organic stricture.*

"The grand distinguishing feature," says Sir Henry Thompson,* "which marks the phenomena (of spasmodic strictures), and by which they are contrasted with organic strictures, is their *transitory character.*" So says, in effect, Mr. Erichsen, Dr. Bumstead, Drs. Van Buren and Keyes, Drs. Stilling, Dittel, etc., leading teachers and authorities in such matters.

*Op. cit., p. 140.

Now, if this is *not the fact* (and that it is not, the cases cited go to prove), it will be readily seen that those surgeons who differentiate organic from spasmodic strictures by what is claimed to be "the *distinguishing feature*, viz. the *transitory character of spasmodic stricture*," are liable to fall into the grave error of treating a reflex urethral spasm for organic stricture. It is not at all likely that the six cases I have reported, in which this error was made (in *four* cases by *none* who did not fully understand and appreciate *all the points* which Sir Henry Thompson and Mr. Erichsen and others so explicitly lay down for guidance in such cases), I say it is not *likely* that these are *all* the cases in which such errors have occurred, or are likely to occur. They are *types of a class*, and a large one too, which will necessitate the acceptance of *other* means of diagnosis than those now in vogue, before such errors can with certainty be avoided. First of these, is the necessary knowledge of the *normal calibre* of the urethra, in which symptoms of stricture are present; second, *the size and condition of the external opening.* If the measurements of these two points do not completely correspond, there is reason to believe that a reflex irritation may be present, which has the power of obscuring diagnosis. If there is a stricture, at or near the meatus urinarius, acquired through a previous gonorrhœa or of congenital origin, contact of urine with the sensitive mucous surface (which is always present behind such stricture), or contact of exploring instruments, is capable of exciting a spasm at the membranous portion of the urethra; a spasm which will often *persist* even when the patient is fully anæsthetized; and will continue up to the time that a *complete* division of the stricture is effected.

It may, I think, be safely claimed that no reliable examination of the deeper urethra can ever be made while

a *stricture*, or even an *erosion*,* is present in the anterior portion of the canal. Inferentially, then, no *treatment* of deep stricture, *per se*, should be attempted, until the *complete* freedom from organic contraction of the anterior portions of the urethra, is established. A long series of careful observation of the urethral calibre (by the aid of the *urethra-meter*), have conclusively demonstrated a nearly uniform relation between the size of the urethra and that of the penis in which it is located. As I have stated in other papers on this subject, that the circumference of the presenting penis being three inches, the normal urethral calibre will correspond to 30 or more of the French scale; if three and one-fourth, to 32 or more; if three and one-half, to 34 or more; if three and three-fourths, to 36 or more; if four, to 38 or more; if four and one-fourth, to 40 or *more*.

When the *urethra-meter* is not available, a urethral calibre based upon these calculations may be implicitly relied upon, as not over estimated; on the contrary, it will often be found one or more millimetres below. Urethral examinations with a *bulbous sound*, corresponding in size to the normal urethral calibre, *alone* can demonstrate complete freedom from stricture in any given case. The presence of the slightest contraction at any point may be accepted as capable of producing reflex irritation, which may result in spasmodic contraction, which shall possess all the recognized characteristics of a deep organic stricture.

*Thompson, op. cit., p. 132.

LESSON LXV.

PERSISTENT RECURRING REFLEX SPASM OF THE BLADDER.

Clinical cases of persistent reflex spasm of the bladder—Disease of the spine a possible cause—Clinical case in illustration—Encysted stone a cause of persistently recurring spasm of the bladder, and other reflex symptoms—Clinical case in illustration—Description of operation for the relief of the same—Removal of the stone—Method of operation—Favorable results—Rarity of encysted stone—Sir Henry Thompson's experience—Contrivance for facilitating examinations of the bladder through a perineal opening.

As introductory to the subject of persistently recurring spasm of the bladder, I desire to cite a few instances, illustrative of some of the possible sources of error in the diagnosis and treatment of urinary difficulties, when this is a prominent symptom.

CASE I. *Pott's Disease of the Spine Causing Reflected Irritation and Disease of Genito-Urinary Apparatus, and Persistent Spasm of the Bladder.*—A gentleman sent for me to see him, at Lake George, in July, 1874. He had been a subject of hip-joint disease in his youth, and he was then forty years of age. For the previous fifteen years he had been what might be almost considered an athlete, having cultivated his muscular power to a very remarkable extent, notwithstanding his lameness. He had been rowing a certain day, as was his custom, for several hours, when he was somewhat suddenly taken with a desire to pass water, and this continued at intervals of half an hour to an hour for several days, at the end of which time I was sent for. The urine was normal in appearance, with no deposit, and there was some straining after micturition. Upon examination of the bladder nothing was found to account for the symptoms. The difficulty of urinating continued without cessation for two years, except when temporarily relieved by the administration of narcotics. At this latter time he had come to have a considerable amount of catarrhal inflammation of the bladder, which had come on very gradually. He had never had any gonorrhœa, nor any

other disease of the genito-urinary apparatus. At the time referred to, he was seen, in consultation, by Prof. Thos. M. Markoe. The patient had some occasional discharges of blood after micturition, after which discharges, he would have relief from the pain which preceded these attacks. Having considerable catarrhal trouble, and some considerable pus in the urine, it was thought probable that he had stone in the bladder. He was put under the influence of ether, and examined for stone, but with negative results. His difficulty then went on increasing, and having found a very large quantity of calcareous matter, the idea of calculous disease was confirmed, and the supposition entertained that possibly the stone was enclosed in a pouch of the bladder. The case went on for another year with very little change. He was treated with different narcotics and sedatives in order to relieve the great irritation, which not only was shown in his frequent urination, but which extended throughout the urethral canal.

About the third year of his trouble the late Prof. Wm. H. Van Buren saw him with me, and at first was of the opinion that he had stone, but this opinion was disproved by examination, and still his symptoms went on. The spasm at the neck of the bladder was then terrific, and would occur as often as every ten minutes. His life seemed to be one prolonged torture. Sometimes he would have an interval of half an hour of freedom from pain, but these intervals were by no means frequent.

Two years ago, three years after the commencement of his trouble, making occasional examinations of the urine, I found that there was more or less epithelial matter from the ureters and from the pelvis of the kidney. I urged an operation for the stone which I supposed to be present. Believing this to be the only method by which his life might be prolonged, Drs. Van Buren, Gouley, and Markoe were called in consultation, and it was decided to operate, although there was very great doubt as to the presence of stone. It was hoped that the irritation would be allayed by affording free escape to the urine, even if no stone were present. The median operation was accordingly performed by

Dr. Gouley in the presence of Drs. Van Buren, Markoe, and myself. Much to our disappointment no stone or other foreign material was found After the operation, however, he improved somewhat. Although he did well for several months, he failed to regain comfortable health. For about a year, notwithstanding he went through what in any one else might be considered great suffering, he was comparatively comfortable. After a summer in the country, on arriving home I was sent for to see him. I found him exceedingly comfortable. He had complete relief from his bladder trouble, and was only passing his water once every three or four hours. This seemed very strange to me. His wife mentioned at the time in a very casual way, that she thought he had an extra lump in his back. He assured me, however, that it had existed for a very long time. I found, on examination, about the region of the seventh or eighth dorsal vertebra, a distinct projection, and it seemed to me that it was evidently the result of Pott's disease of the spine. He had previously complained of a great deal of pain in the back, but it had been located in the region of the kidney, and was supposed to be connected with his general trouble. I sent at once for Dr. Van Buren, and he agreed with me fully in regard to the presence of spinal trouble, and it was decided to place him under the care of Dr. Charles F. Taylor. Dr. Taylor then became connected with the case, and was decidedly of the opinion that it was one for treatment by his method of support, and applied an instrument which he adapted to the spine. This treatment was continued for some months; but he became very restless and uneasy, and his trouble in urination came back. At the time this trouble left him the pain which he experienced lower down became localized just above the hips in a plane with their top. He was finally put upon a water-bed, but after a month more of trial with the instrument it was found impossible to wear it. Just about that time a diarrhœa came on, was very profuse and obstinate for a week, and ceased apparently of its own accord. Then his bladder trouble increased again, and was attended with severe spasmodic pains during micturi-

tion, which pains were mostly situated at the neck of the bladder and at the end of the penis. Within two or three days before his death he obtained some relief to the pains by the application of snow to the end of the penis. After a few weeks more of suffering he died, apparently from uræmic convulsion.

A post-mortem examination revealed first a half pint of laudable-looking pus in the cavity of the peritoneum, which pus was found connected, underneath the sheath of the psoas muscle, with two abscesses located upon the left side of the spine, in the neighborhood of the eighth dorsal vertebra, at which situation the posterior surface of the left lung was adherent. This condition explained a very distressing cough from which he suffered during the last few months of his life. The right kidney was found to be the seat of cystic degeneration. There was no dilatation of the ureter nor any obstruction. The left kidney was three or four times larger than the right, was the seat of waxy degeneration, and the subject of pyonephritis to a very considerable extent. A large portion of the kidney was involved in ulceration. There was a collection of purulent material which extended more or less throughout the calices. The bladder was thickened and contracted, but there was no evidence of any ulcerative trouble; there was no evidence of any urethral contraction. There was no stone in the bladder, but there was an admirable cul-de-sac on which to conceal one. One testicle was atrophied, the other considerably enlarged, and its inferior portion was the seat of a disease the gross appearances of which were quite characteristic of tuberculous disease.

CASE II.—Mr. C——, a miner, forty-one years of age, from Scranton, was sent to me by Dr. M. J. Williams, of Hyde Park, Pa., March 2, 1882, with a history of urinary troubles, dating back to a gonorrhœa some eighteen or nineteen years previous. This gave him much trouble for several months; then, after an interval of some years, he suffered with other troubles, which were considered due to the passage of urinary calculi, and he subsequently passed three small specimens per urethram. Again free from any special urinary trouble

for several years, he began once more to be afflicted with pain in the region of the kidneys, frequent urination, and finally inflammation of the bladder and retention of urine. He was treated for stricture by dilatation, and, finally, by divulsion, without benefit. He suffered greatly from frequent and painful urination, with pain in the glans penis and great irritation in the rectum. He was repeatedly examined for stone in the bladder, but none was ever detected. For ten months previous, his sufferings had been constant and intense, passing his urine every few minutes during the day and several times during the night, the stream shutting off suddenly, as if something had dropped down at a certain point in his urination, and closed the vesical orifice. Repeated examinations of the bladder failed to detect either the presence of stone or a polypoid growth. The patient was subjected to all the usual and some unusual procedures for disengaging any possible hidden or sacculated stone. The prostate was slightly enlarged, chiefly on the right side, and this was the only abnormal point ascertained about the genito-urinary apparatus.

In view of the history of the case pointing to probable stone in the bladder, and the symptoms distinctly indicating what seemed to be a movable obstacle to urination, such as a polypoid growth within the bladder or an encysted or otherwise hidden stone, an exploratory operation was determined upon. On Friday, March 10, 1882, the patient was etherized, and the median section for stone was performed. Through the opening thus secured, the prostate and bladder were explored with the forefinger of either hand successively, but without finding anything abnormal. The examination was repeated by my associate, Dr. Bangs, and also by Dr. Williams, of Pennsylvania, who was present and assisting in the operation, and with like negative results. The bladder was then carefully explored with sounds, but no stone was detected. Just as we were in despair of achieving any beneficial result from the operation, I again introduced my left forefinger to the utmost limit, gaining, perhaps, by urgent

pressure, a quarter of an inch in the depth of exploration, when a soft, apparently pendulous body, about the size of an ordinary bean, was felt by the tip end of the finger on the left side of the bladder. The conditions thus appreciated are represented by the accompanying diagram.

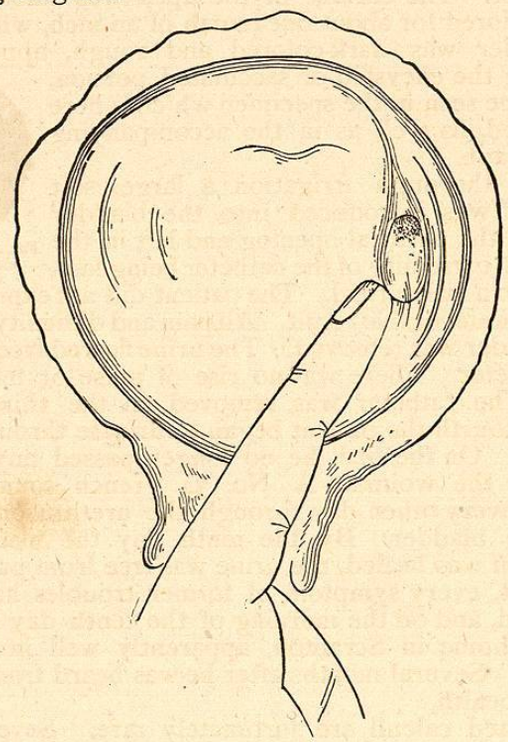

FIG. 13.

A pair of narrow forceps was then introduced, and the supposed tumor was seized in about one-half inch grasp, and twisted gently entirely around. As it still held, the forceps were disengaged and the finger again introduced. The tumor could no longer be felt in its former locality, but, on searching the floor of the bladder, it was again detected, and on introduction of a pair of duck-billed forceps, what appeared to be a firm clot of blood was removed. This, on examination proved to contain a stone about three-fourths of an inch in length by one-half inch in breadth and three-eighths in thickness. The surface of the apex was smooth and light-colored for about one-fourth of an inch, while the remainder was dark-colored and rough, apparently marking the encysted or sacculated portion, as may be seen in the specimen which is here presented, as well as in the accompanying photograph.

FIG. 14.—ACTUAL SIZE.

After thorough irrigation a large, soft catheter was introduced into the bladder through the perineal opening and left in, the proximal extremity of the catheter being fastened into a male urinal. The patient did not experience a single unfavorable result. All pain and difficulty about the bladder was removed. The urine flowed freely into the catheter. There was no rise of pulse or temperature. The catheter was removed on the third day. On the fourth the patient began to urinate through the urethra. On the fifth he no longer passed any urine through the wound. A No. 34 French sound was passed every other day through the urethra and well into the bladder. By the ninth day the wound of operation was healed, the urine was free from pus as a sediment, every symptom of former troubles had disappeared, and on the morning of the tenth day he left for his home in Scranton, apparently well in every respect. Several months after he was heard from as in perfect health.

Encysted calculi are fortunately rare. Several interesting examples are cited in Sir Henry Thompson's recent edition (1880) of his work on "Practical Lithotomy and Lithotrity," page 93 et sequitur. "A calculus," he says, "may be altogether contained in a cyst in the bladder, a small part of its surface only being exposed at the mouth of the cyst." "I had the opportunity," he further says, "of watching at University College Hospital one example of this, which was once,

and only once, struck with a sound during life, although the sounding was repeatedly performed. . . . At death the condition described was found, and it was then obvious that the chance of striking such a calculus was exceedingly remote, and that no operation could have removed it." In the present case a distinct click was appreciated during exploration of the bladder on two separate occasions, in just the locality where the stone was subsequently found, but as this could not be repeated, it was referred to some accidental sound outside the bladder. The difficulty of thoroughly exploring the bladder with the unaided finger became painfully apparent in this case, where failure and success in diagnosis was seen to have depended upon but one fourth

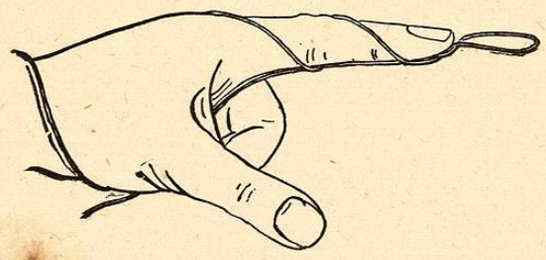

FIG. 15.

of an inch in the length of the finger. This fact suggested the desirability of some ready method by which the finger might be efficiently supplemented under similar circumstances. The accompanying contrivance for lengthening the right forefinger may be readily constructed of ordinary copper wire, and will, I think, answer the desired purpose.

But for the rare fortune of finally discovering this encysted stone, in all probability the trouble would have been relegated to the list of obscure reflex nervous disorders dependent upon urethral, spinal, or rectal causes, until a post-mortem examination should have revealed the true nature of the difficulty. It must not be forgotten, however, that symptoms almost, if not

perfectly identical with those of stone in the bladder, in certain cases, may arise from reflex causes quite independent of the presence of stone in the bladder, free or encysted.

It may not be irrelevant to our purpose here to cite a single instance in point, which was published by me in the *Hospital Gazette* of June 22, 1879, but which has now the added interest of nearly three years' subsequent experience: