Tapping the male bladder in operations on urethral fistulae / W. Mitchell Banks.

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TAPPING THE MALE BLADDER IN OPERATIONS ON URETHRAL FISTULÆ.

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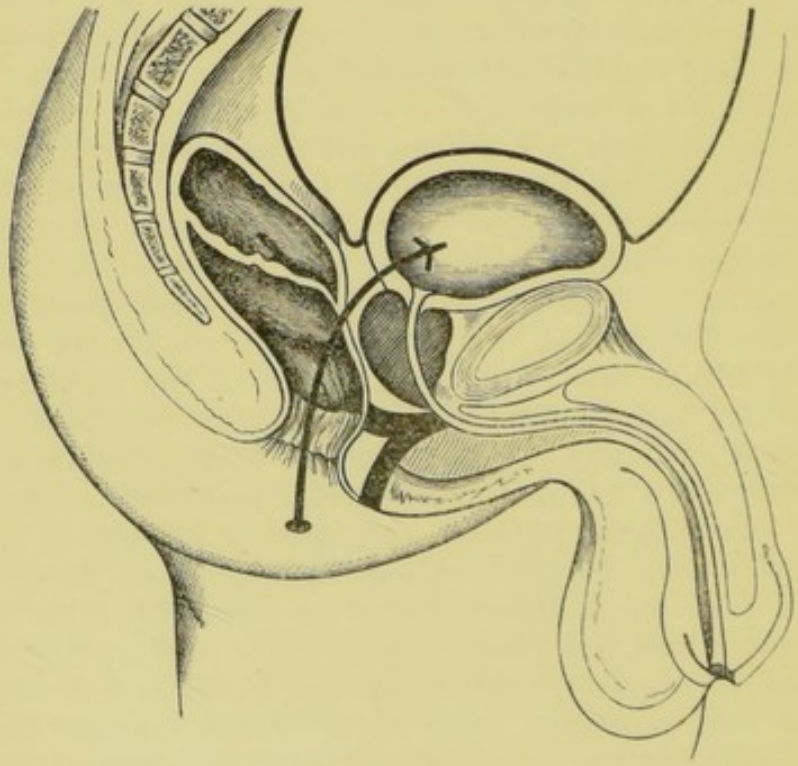
It is curious to observe the extensive mutilation which the human body will bear (*e.g.*, a removal of the lower limb at the hip-joint) while the patient, after recovering from the accident or operation, will go about suffering but little inconvenience, and able to enjoy life thoroughly; and then to contrast with this the misery which a trifling but abnormal aperture, that will only admit a quill, may produce. Few complaints, for instance, are so distressing as an urinary fistula. The constant wet and stench, the rawness and scalding which are the accompaniments of this complaint, soon pull down the strongest patient, and make him melancholic, desponding, and unfit for work. And while it is bad enough for a rich man, who can get everything that can possibly alleviate the nuisance, to suffer in this way, what must it be for a working-man who has to fight hard for daily bread for himself and his children? A particularly distressing case of this sort came under my care last summer, in which, however, the results of surgical treatment were so satisfactory that I think it worth while recording, particularly as there was employed a slight innovation on the ordinary methods of treatment, which, for anything I know to the contrary, is somewhat of a novelty.

In May 1877, on my appointment as surgeon to the Liverpool Royal Infirmary, a patient named Welch, æt. 35, was put under my charge by Mr Hakes, my predecessor in office. He was a pattern-maker by trade, a healthy-looking man, rather spare and wiry. At the age of eighteen he caught a gonorrhœa which lasted for several months. During that period the stream of urine diminished in size, and the doctor who attended him, fearing the occurrence of a stricture, passed a bougie on about a dozen

occasions. For some time after the gonorrhœa disappeared the patient himself used to pass a bougie once a month, but, finding that the stream kept free, he gradually discontinued the practice. From that time till the summer of 1872, a period of twelve years, he remained perfectly well, and was not in any way aware that there was anything wrong with his urinary apparatus. He was then working very hard in a pattern-shop, had a good deal of night work, and was exposed to sudden alternations of heat and cold, putting wood-work around hot engine cylinders. He began to feel a pain just within the anus, but thought it was due to piles, and kept on using some ordinary treatment for such for some months till about Christmas-time of the same year. Then came a swelling in the perineum and around the anus, so bad that he could neither stand nor walk. It pressed on the urethra so as to occlude it, and he had, in consequence, to draw his water off with a catheter pretty regularly. The passage of fæces at stool gave him great pain. Suddenly the swelling burst in the perineum, matter was discharged, and nearly all his distressing symptoms were relieved. After a few weeks the hole where the abscess burst closed up, and he went to his employment. But he had not long been at work before he again began to have pain in and around the anus, and the old swelling came back and burst in the perineum near the site of the former aperture. But on this occasion, after the abscess emptied itself, the aperture did not close as the former one did, but a little urine kept trickling through it. It contracted, however, till it was little bigger than a pin's head, so that only a few drops used to come through it, and those only at the time of micturition. And so the patient, not being greatly incommoded, went on for nearly five years following his occupation, and not having much trouble till about twelve months before his admission into hospital, when he noticed that at micturition a little water came through the rectum, as well as from the perineal aperture, and very soon the amount that came by the new route exceeded that which came the old way. Still he continued at his work, but as he had a long way to walk to and from it each morning and evening, he used to be very sore and raw from the urine scalding him. He had also a good deal of pain in the perineum, and his general health began to fail by reason of the worry and annoyance which the complaint caused him. As months wore on, the amount of water which came through the rectum and from the perineal opening increased, and his life became most miserable, from his being continually soaking wet. But for his family, he would have dropped work much sooner than he did. The climax of his sufferings was produced by his one day straining himself lifting a heavy weight, which increased the urinary trouble, and also produced an attack of orchitis. This drove him to the infirmary, where he was admitted into No. VII. Ward, under my predecessor, in April 1877. With rest and

poultices the orchitis soon disappeared, and then the condition of the openings into the rectum and perineum was inquired into. He was found to have what may be termed a kind of three-legged fistula like the letter ⅄ upside down; one leg was connected with the urethra, one opened into the rectum, and the third opened out on the perineum. The tissues between the membranous portion of the urethra and the terminal part of the rectum were boggy, rotten, and soddened with being steeped in urine. A grooved director passed into the perineal aperture could be pushed into the urethra, and could also be pushed into the rectum through an aperture in its upper wall about an inch from the anal orifice. There was only a very slight narrowing of the urethra found on introducing a catheter, but it does not always require a very tight stricture to produce a perineal abscess; not unfrequently, a very moderate amount of narrowing is sufficient to do this. The treatment adopted was to lay the perineal and rectal openings into one by a deep cut which divided the sphincter ani at its upper part, and also disclosed the existence of a large opening in the urethra. Every method was adopted to induce the wound thus made to granulate up from the urethra outwards, but only failure resulted. The urine now streamed through the large orifice and effectually prevented all union or closure of the deep part of the wound, and only a superficial bridge-like union was found to have taken place after some weeks. In this state the patient came under my care in June. I slit up the superficial bridge just described, and it was clear that no good had been done, for when we placed the patient in the lithotomy position with a bougie passed into the bladder, quite an inch of the floor of the urethra was seen to be open, and the bougie could be seen quite plainly at the bottom of the deep wound, whose sides were now for the most part glazed over with a thin cuticle. The size of the opening in the urethra seemed from the first to be too large to encourage any hope that any but operative treatment would suffice for its complete cure; but for a few weeks I tried various measures in the hope of somewhat diminishing its size. The patient fortunately was able after a few lessons to pass a large catheter upon himself very deftly, and so he was instructed never to allow any urine to come through the urethra, but, when he required to micturate, to pass his catheter and then get on to his hands and knees and evacuate the bladder in that position. The edges of the urethral gap were stimulated with nitrate of silver and other caustics at the same time. No good whatever resulted. The cleft was as big as ever. So both patient and I got tired of this work, and, on 10th September, I proceeded to operate upon him in pursuance of an idea which I had for some time been excogitating. The object was to keep the urine from flowing over the urethral aperture after its edges were rawed and brought together. Of course, a great variety of plans have been devised to attain this end, but none of them have

been admittedly successful. I put the patient in the lithotomy position; then I took a curved rectum trocar and canula, and passed them into the bladder from the fistulous opening in the perineum. I put the left forefinger into the rectum and felt the hinder edge of the prostate, and then thrust the trocar and canula into the rectum from the bladder, and, withdrawing the trocar, brought the canula out at the anus or rather what remained of it. In place of tapping the bladder from the rectum, I tapped the rectum from the bladder. Through the canula I then pushed an indiarubber winged catheter, bringing one end of it out of the anus, and then withdrawing the canula over the catheter, that instrument was left with its winged end in the floor of the bladder, and its other end hanging out of the anus. By this means, the urine, as soon as it came into the bladder, escaped by the winged catheter. I next very carefully pared the edges of the deep cleft which led down to the urethral opening. This was a most difficult matter, on account of the sharpness of the hæmorrhage, which obscured everything. However, the more these things bleed the more I cut away at them, as I have found that it is hopeless to wait at every incision till the bleeding stops, and it is infinitely



The woodcut shows the nature of the original tri-radiate fistula, and also the winged catheter lodged in the bladder.

better to pare away too much than too little. Having finished my paring I then waited for a while till the bleeding ceased, tying one or two good-sized vessels with fine catgut, and finding every part quite thoroughly rawed, even to the edges of the opening in

the urethra, I proceeded to stitch up. First I restored the anal orifice by bringing together its mucous membrane and sphincter with fine silver-wire; then, with a very delicate curved needle in a holder, I sewed up the deep aperture in the urethra, bringing together with fine catgut the raw edges of the mucous membrane. This was a very troublesome job on account of the depth of the parts from the surface. Next, with strong silver sutures passed very deeply through the tissues, I brought the perineal gap in front of the anus together, and so the whole thing was shut up quite tightly. The whole proceeding somewhat resembled, on a small scale, the operation for split perineum in the female, where one unites the rectal split and then the vaginal split, and finally brings into apposition the perineal tissues themselves. The patient was then put to bed and opium given to keep the bowels from acting. He lay upon his side with the catheter hanging from the anus. Over the end of it was slipped an india-rubber tube, which went into a basin on the floor by the side of the bed, and into which the urine ran as it came into the bladder. The man was fortunately very patient, and lay quietly on his side for a week, during which period nothing could be done for him. At the end of that time I forcibly pulled the winged catheter out through the rectum. Its winged part had become encrusted with phosphates during its stay in the bladder, and it required a good tug to get it out. For some days after this I passed a full-sized bougie along the urethra to keep it well open, but did not venture to look at the wound, lest the mere separating of the patient's legs should pull asunder the tender adhesions. The first movement of the bowels took place about eight days after the operation, and, as the motion was very hard, I feared it would tear everything up, in spite of an emollient olive-oil enema. I rather think it did do some mischief, because, from that time, there were grave suspicions that a little urine was escaping from somewhere. As I thought it would do harm to have a mass of scybalæ lodging always in the rectum, I ordered the patient to have a teaspoonful of castor-oil each morning, about 5 A.M. This produced a soft, easily-passed motion about 9 o'clock, which he took great pains to get quit of without straining. After between two or three weeks had elapsed, I made a thorough examination, and, to my delight, found that the perineal cleft was quite sound and tight, while the anal orifice was restored in all its primal entirety. Whence, then, did the slight leakage of urine, to which I have just alluded, take place? I confess to a slight misgiving lest the aperture by which the soft catheter had passed between bladder and rectum might not have closed, and then there would have been a recto-vesical fistula so high up that I do not know how it could have been closed by operative means. However, on examining with the speculum, I found that there were no traces of that aperture, but that just within the newly restored anal orifice was a small hole communicating with

the prostatic portion of the urethra. It was, in fact, the upper end of the original large cleft which extended into the rectum, and which alone had failed to unite. Probably the passage of the first hard motion tore it open. I waited for a month or two to let this aperture shrink down to its smallest size, the patient in the meantime drawing his water off regularly, so as to prevent any from flowing through it. I then found the hole was a trifle too large to be quickly cured by hot wires or similar treatment, and so performed a small operation for its closure. With the patient in the lithotomy position I dilated the anal orifice with the small end of a duck-bill speculum, and then paring the edges of the aperture brought them together with three silver sutures, introduced by means of a hollow travelling needle. This does not take long to tell, but it took about an hour to do, on account of the very confined space in which all the manœuvres had to be performed. For about ten days the patient carefully drew off his water, even doing this twice or three times in the night, so that his bladder should never get distended and so perhaps lead to his involuntarily passing some water through the urethra. At the end of that time the stitches were withdrawn, and an experimental micturition being made not a drop was found to escape, and the patient pronounced the whole urethra "as tight as a drum." He left the infirmary in January of this year to resume his employment in all respects as sound in the urinary tract as ever he was, and extremely grateful for having been rescued from his former deplorable plight.

The first point to be noticed about this case is the rarity of fistulæ so large as this. With the small fistulæ which are found in the "watering-pot" perineum connected with the ancient and gristly stricture one is sufficiently familiar, but the size of this one exceeded anything I have seen before. Seeing that there were two openings, one within the rectum and one on the perineum, it is not improbable that the tissues between the membranous part of the urethra and the last part of the rectum were very rotten, and that, when they were cut open, the weakened urethra gave way for some distance. Whatever be the explanation, when the man came under my care, there is no doubt that when a bougie was passed into the bladder quite an inch of it could be seen lying at the bottom of a very deep cleft, part of which ran up into the rectum. From the first I confess I had no hope except in an operation, but the dressing it and touching it with nitrate of silver amused the man, while meantime his general health was getting much better, and he was becoming an adept in using the catheter and passing his water through it on his hands and knees. It is undoubtedly to this power that he owed the success of the second or minor operation. With the exception of an operation, I cannot think of any treatment likely to have been of the least service except the use of the galvanic wire. This is most strongly recommended by Sir Henry Thompson and other writers of great practical experience in urinary diseases, and is un-

doubtedly a most valuable method of treatment. But I think this fistula was almost too big even for it, and, besides, I do not mind confessing that I was anxious to put the idea of tapping the bladder into actual practice first, and falling back on the hot wire if the operative proceeding failed.

The next point is with regard to the mode of performance of the operation. After paring and stitching up fistulæ in any part of the urethral track, the great difficulty is to prevent urine flowing over the slit in the urethra and then making its way down between the freshly pared lips of the wound and so preventing union. The tying of a catheter in the bladder is known to be a perfectly futile method of providing against this accident, inasmuch as the urine flows freely by the side of the catheter as well as through it. I should think that the irritation, often almost unbearable, produced by the tying-in of a catheter would do more harm than good. The knowledge of this fact induced me to try the effect of draining the bladder by the rectum. This proceeding, so honourably associated with the name of Mr Cock, has been found most useful in giving the urethra rest in cases of very narrow and irritable strictures, sometimes accompanied by small fistulæ. After a week or a fortnight's draining, an instrument of fair size has been known to pass where previously not even the smallest one could be got in. The improvements made of late years in our urethral instruments and in our means of treating stricture generally, have, however, rendered the rectal tapping a very rare operation nowadays. In the female the bladder has been frequently drained through the vagina in cases of intractable cystitis, and for other reasons, without any bad consequences resulting; so that I had no fear either as to the safety of doing the operation, or as to the aperture not closing up after the withdrawal of the catheter. I believe the only accident that can occur is when the recto-vesical pouch of the peritoneum happens to pass unusually low down. A case was reported a few years ago of rectal tapping for distended bladder, with an impervious stricture, and, after the death of the patient, it was found that the trocar had gone through the peritoneum twice, and set up fatal peritonitis. The pouch was abnormally low. To the thorough manner in which the urethra was kept empty during the first week after the operation I attribute the primary union which occurred along four-fifths of the long fistulous track, which existed in my patient. It will be noticed that I perforated the rectum from the bladder, passing the winged catheter in through the hole in the perineum; and it may be said that this plan of treatment is only applicable to perineal fistulæ. But I do not see why it should not be applied also to fistulæ in front of the scrotum. If the patient be directed to retain his water until the bladder be well distended, the bladder can be perforated with a large trocar from the rectum in the usual way, the winged catheter thrust up into it, and the canula drawn down over it, leav-

ing it comfortably lodged in the bladder. The only precaution would be to ensure the thorough dilatation of the bladder, so that the peritoneal pouch might be drawn well up out of harm's way. Of course the vast majority of fistulæ are to be quite readily disposed of by full dilatation or hyper-dilatation of the urethra, or, failing that, by repeated applications of the galvanic cautery; but there will always remain a few for which plastic operations will be necessary, and for these I respectfully submit to my professional brethren the plan of treatment which I adopted. As there is nothing new under the sun, I am quite prepared to find that it has been already put in practice; and, if so, I shall only be happy to learn that somebody else has seen the possible utility of it. I looked the other day through the *Lancets* and *British Medical Journals* for a good many years back, but could not find any similar case; but on turning up the last edition of Erichson's Surgery, I was pleased to see that the rectal tapping was suggested, although no mention was made of its having been tried.

In connexion with the process of suturing the rawed surfaces of various kinds of fistulæ, I have found the use of fine catgut to bring together mucous membranes most valuable. In repairing split perineums also I have constantly used it for the same object. Good stout silver wire is, on the whole, the best and safest thing, to my way of thinking, for holding together the more massive parts. It irritates as little as anything else, and you know what it will do, whereas you never know what even thick catgut will do, which sometimes suddenly melts away long before you wish your support removed.

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