Operation for artificial anus / By J. Mason Warren, M.D.

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Publication/Creation

Boston : David Clapp, printer..., 1849.

Persistent URL

https://wellcomecollection.org/works/x4wyx89p

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p. 62.

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BY J. MASON WARREN, M.D.

ONE OF THE SURGEONS OF THE MASSACHUSETTS GENERAL HOSPITAL.

FROM THE AMERICAN JOURNAL OF MEDICAL SCIENCES.

BOSTON:

DAVID CLAPP, PRINTER....184 WASHINGTON STREET.

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[From the American Journal of Medical Sciences.]

Artificial anus is an affection generally caused by the sloughing of the intestine in strangulated hernia, although occasionally, the result of abscess and penetrating wounds. Sometimes a small portion only of the calibre of the intestine is destroyed, the bowel becomes attached to the parietes of the abdomen, and a fistulous opening is the result, usually amenable to the ordinary method of treatment. At other times a whole loop of the bowel sloughs off, and both ends of the intestine unite to the abdominal walls, leaving an opening from which the feces are constantly discharged, and only to be remedied by surgical means.

Cases of the latter character are of unusual occurrence, and the means for their strictly scientific treatment by surgical operation, have not, until within a few years, been fully established. The one I intend to relate is, I believe, the only instance successfully operated upon after the method of Dupuytren, in this part of the country, so far, at least, as my medical experience extends.

A patient with this affliction is one that may fully claim the sympathies of those called upon to administer to, and alleviate human suffering. Generally suspended, in the possession of his mental faculties, between life and death, he is destined, unless relieved, to drag out a miserable existence, an object of disgust to himself and a burden to his friends, or to sink worn out by pain, and the emaciation produced by deficient nutrition. Great satisfaction must therefore be felt by the surgeon, if he can be the means of relieving so distressing a misfortune.

The patient with artificial anus, of whose case I propose to give an account, was sent to me by Dr. Brown, of Nova Scotia, in June, 1847. She was thirty-four years old, the mother of six children, and previous to the occurrence of the present accident, of good constitution. A small crural hernia had existed on the right side for an indefinite period of time.

Dr. Brown was called to her fourteen months previously, and found her laboring under a strangulated hernia of forty-eight hours' duration. An operation was immediately performed, but on opening the sac, the intestine was exposed in a gangrenous state. The stricture was therefore divided, and the intestine left in the wound. At the end of a week the sphacelated portion separated, and the feces flowed freely through the opening. After some time she partially regained her health, was able to sit up, and finally to work moderately, until the following September, when abscesses began to form in different parts of the thigh. From this period she gradually lost her flesh, and declined in strength. Two of the abscesses were opened by the lancet; the others, on the under surface of the limb, opened and discharged spontaneously. Pus at first issued, followed by fecal matter, and great suffering attended the effusion of the latter into the soft parts. Until within a few weeks previous to her coming under my care, there were occasional fecal discharges per anum, but the greater proportion of matter was evacuated through the various fistulous openings.

The patient arrived in town in the early part of June, 1847, just after my term of service had expired at the hospital; but through the politeness of Dr. Townsend, who was then in attendance at that institution, she was placed under my charge. Her condition at that time was as follows:

She was extremely weak and emaciated; the countenance pale, nearly exsanguineous, indicating the almost total failure of the assimilating process. From long confinement she had become nervous and timorous, hardly allowing the slightest examination. And on the day subsequent to her entrance, she was so completely homesick, that notwithstanding the great trouble and expense undergone by her physician and friends to enable her to accomplish her journey to Boston, she insisted on returning home at once by the same vessel in which she came. After a day or two of consideration, however, and by a little persuasion, she was induced to change her mind on this point.

The position of the patient was almost entirely on her back. The feces in a very liquid state were constantly running out through two openings in the groin and three in the posterior part of the thigh. The right limb was drawn up almost to a right angle with the body, and the whole thigh much enlarged and hardened. The skin around the openings in the groin, had a red irritated look, was thickened almost to callosity, and excoriated. The openings were quite small, so as hardly to admit an instrument larger than a common director.

A nourishing diet was allowed and great cleanliness of the wounds enjoined, with the more especial object of preventing the painful excoriations.

The situation of the intestine could not at first be determined, which added to the embarrassment of the case. In those of a similar

nature, which I had an opportunity of seeing abroad under the care of Dupuytren, the intestine opened on the surface of the abdomen by a large aperture, and there was no difficulty in exploring at once, the end of the bowel with the finger, or by instruments. In the present instance the fistulous openings ran in every direction ; those in the groin were immediately in the neighborhood of the probable orifice of the artificial anus, allowing a probe to penetrate for its entire length.

I therefore determined to dilate the two latter openings, which was done very gradually by sponge-tents, on account of the sensitiveness of the patient to any manipulations, and it required the persevering application of this method for a month, before the two ends of the intestine could be with certainty distinguished. This, however, was finally accomplished, and a gum-elastic bougie passed into the upper and another into the lower orifices of the intestine. The bougie first penetrated through a thick callous mass of integument, then through the muscular or tendinous covering of the abdomen, in all about an inch in depth, when the septum or spur, as it has been called, which separates the two ends, was encountered and with difficulty entered, being so closely applied to the parietes of the abdomen as to prevent the least passage of matter from the upper into the lower part of the bowel. There had not been, in fact, for two months, the slightest fecal discharge per anum. The intestinal ends seemed to lie parallel to each other, so that the bougies introduced for exploring made but a very slight angle. The patient still remained nervous and quite feeble.

I directed that the sponge-tents should be continued ; also that a pint of oatmeal gruel should be given, per anum, daily, for the purpose, both of stimulating the intestinal coats to the performance of their natural functions, and with the object of enlarging the calibre of the bowel, which must have become much contracted from long disease.

On the following day I found that some scybalæ had come away with the enema ; and, on the next day, the injected fluid made its appearance at the apertures in the groin.

In the course of a few days the principal opening had become so dilated, that by a steady and patiently applied force, I could insinuate the little finger quite down to the intestine. The septum could now be distinctly felt lying against the wall of the abdomen, and be hooked up, so as to permit the end of the finger to be carried into the lower portion. The sensation of the valve was that of a delicate membrane, like the coronary valves of the aorta, though somewhat more resisting. A director was now carried down at the side of the finger for the purpose of keeping the valve open, a gum-elastic catheter passed in, and a quantity of warm water injected, to make sure that the lower orifice had been found. This water afterwards appeared, and was discharged per vias naturales.

The patient being well prepared, I determined to apply the en-

terotome, which was done July 12th. Having made sure of the lower opening by a director, as on the day previous, the male branch of Dupuytren's enterotome was carried into the lower intestine; the director was then withdrawn, and the female branch introduced with ease into the upper. The two parts of the instrument now occupied nearly the whole calibre of the dilated passage leading to the gut. It was necessary particularly to separate and lock them. This I found at once to be impossible, for the jaws of the female portion would not allow of sufficient motion at the hinge to lock with the other part of the instrument. If the intestine had opened directly on the abdominal surface, there would have been no difficulty, but the locking of the forceps under the existing circumstances was impracticable.

I therefore withdrew the instrument, and had recourse to another, which has since proved much better than the enterotome of Dupuytren. This instrument was about six inches in length; the handle was constructed with a screw-vice, and the joint with a movable pivot, as in that of Dupuytren; the blades, however, were different. In the place of one blade being received into a groove in the other, they were serrated, like the polypus forceps, for the space of three inches. The whole instrument was four inches and a half long, or about two inches shorter than that of Dupuytren. The blades being introduced in the manner already described, were locked without difficulty, and at once brought together as tightly as the screw would permit.

On the next day I found her quite free from pain. She had complained a little for a few hours after the instrument had been put in place, but there was a question whether this might not have arisen from fear.

The fecal matters passed by the side of the instrument, and warm water was daily injected into the wound, to prevent any obstruction. She had also an enema daily, which kept the lower bowel in action.

On July 15th, three days after its application, the instrument came away. In the jaws of the forceps, and bearing the impress of the teeth, was a blackish slough, two inches and a half long, four lines wide, and about three thick. The finger, passed into the orifice, could distinguish an opening between the two ends of the intestine, corresponding in size to the slough, the edges of which were greatly thickened and fleshy, imparting a sensation entirely unlike the delicate valvular one of a few days previous.

This examination was conducted with the greatest delicacy, from fear of destroying the adhesions, which must have been, of course, at this early period, of the slightest kind.

In the afternoon she had a small fecal discharge through the wound. She complained of no pain, and there was no tenderness of the abdomen.

On the following day, the 16th, she was quite comfortable, had had a free dejection per anum from an enema, more slimy in its

character than usual. There had been no discharge from the wound since the day before. A gentle compression was made by means of a compress and bandage on the openings in the groin, and the orifices ordered to be touched daily with the nitrate of silver.

The patient improved in health, rapidly acquired her strength, and there was no farther discharge at the artificial anus from the day of the separation of the instrument until she left the hospital, at which time the openings in the groin had almost completely cicatrized.

On July 29th, being very eager to return home, she was discharged from the institution at her own request, but against my wishes, as I was anxious to watch the progress of the case to its very close.

From a desire to learn the final result of this case, I have lately addressed a letter to Dr. Brown, of Horton, N. S., her physician, and received a reply bearing date May 5th, 1848. In his answer this gentleman informed me, that immediately upon her return my patient was greatly improved both in health and spirits, the feces had their natural exit, and every thing looked very promising. In a short time, however, owing to over-indulgence in the use of coarse, flatulent food, and the want of that general surveillance so necessary for this class of patients, fecal matters had again appeared at the old orifice, as well as at several places on the hip, some of which were fresh outlets. This was the condition of things in December, when Dr. B. was summoned to a meeting of the legislatue at Halifax.

"On my return in April," writes this gentleman, "about a week ago, I was quite taken by surprise to find our patient perfectly recovered, looking as plump and gay as ever, and busily employed about her house. Being in haste, and she being busy, I did not examine her, but she informed me that all the ulcers as well as the original outlet were entirely healed, except one new one, and that had not discharged fecal matters for some time, and was in fact nearly healed; that the hip had greatly decreased in size, and had assumed quite a natural appearance; that her bowels were entirely regular, and she could take any kind of food without the least inconvenience. She even said, she had not enjoyed so good general health for several years previous to her misfortune, as now."

On reviewing the above case, it will be perceived that it presented difficulties of a formidable character. In the first place the extreme debility and emaciation of the patient, and her great mental depression, were obstacles almost as troublesome to contend with, as the disease itself. Twice after much labor had been expended, and some progress made in the preliminary treatment, she insisted on relinquishing it at once and returning home; and on the day when the instrument was to be applied, she declared that she was certain

she must die the following night, and that it was quite useless to attempt the operation. These depressed turns generally passed off after a time, and then the patient was very urgent to have the treatment continued, but for the moment they were sufficiently discouraging to the surgeon.

The numerous fistulous openings, with the effusion of fecal matter into the groin and back part of the thigh, occasioned considerable embarrassment in pursuing the treatment for discovering the end of the intestine. Added to this, and caused by it, the thighs were flexed nearly to a right angle with the body, and were constantly in the way of the instruments used for exploring the artificial openings.

The instrument used, I conceive to possess great advantages over that of Dupuytren. In fact, it consisted of, or may be almost exactly represented by, a common pair of old-fashioned polypus forceps, with the branches detached and united by a movable pivot, instead of a fixed joint, the handles perforated with a screw-vice, and the jaws serrated throughout. It is less clumsy than that of Dupuytren, causes more complete strangulation, and does its work in less than half the time.* By an examination of the cases of this distinguished French surgeon, it will be found, that the enterotome generally separated about the seventh or eighth day: in the present instance it came away on the third, yet no effusion or other evil consequence resulted, although the patient was as little provided with the materials for forming plastic lymph as can well be imagined. She was, in fact, almost exsanguineous.

In the relation of this case we have only mentioned the course of treatment ordinarily pursued by Dupuytren, without alluding to the methods of Physick, Gross, and others in this country, or in Europe, who have done so much to advance this branch of surgery.

A case of a similar kind to that narrated, occurred to me in an infant some years since, and as it illustrates one of the accidents liable to take place at any moment in patients laboring under this unfortunate affection, namely, a prolapse of the end of the bowel, the details may be here given.

I was requested by the medical attendant of the family to see an infant eight months old, and received the following history from him. He was first called to it when three weeks old: the parents stated to him, that for a few days subsequent to its birth it was in much distress, and had no alvine evacuation until the cord separated, when an exudation took place at the navel, followed by much relief. Shortly after, a small red tumor appeared at this spot, from the central portion of which the fecal evacuations occurred; there was no discharge per anum. He directed them to make use of a compress and bandage over the tumor, and under this treatment the child began to have evacuations by the anus, to gain strength and flesh. I advised that this treatment should be persevered in.

* I am not aware of the name of the inventor of this instrument, or whether it was constructed for the purpose for which it was employed in the former case.

About two months subsequently, after a sudden exertion, a couple of tumors protruded from the navel, attended with some constitutional symptoms, and an entire stoppage of the evacuations. I saw the patient two days afterwards, and at once recognized a prolapsus of both ends of the intestine. The tumors lay across the abdomen, one to the right side, the other to the left; one portion, which proved to be the lower, was dark colored, and more contracted than the other. The second, or upper part of the bowel, was large, covered with mucus, and the vermicular motion could be distinctly seen in it. An effort had already been made to reduce them into the abdomen, but without effect; and a proposition had been made by some physician who had seen the case to apply a ligature to the root. This was done in doubt as to the exact nature of the affection; and, in fact, the parts were so changed, that they were with difficulty distinguished as belonging to the intestinal canal.

The child being cold, its pulse small, and having every appearance of rapidly sinking, I declined for the moment any operation, but advised stimulants, and agreed, if it revived, to attempt an operation on the following day for the purpose of returning the bowel.

On the next morning, the child having revived under the treatment suggested, the following operation was practised. A small neck or tunnel existed at the navel where the intestine protruded, being, in fact, the common everted orifice for the two openings of the bowel. An incision was made at this spot, being within the peritoneum, though protruded from the abdominal cavity. The two ends of the intestine as they issued, were now seized with a blunt hook, and slight traction made on them. The inverted portion gradually began to recede, and by continuing this manœuvre, at the same time using some external pressure on the tumor, it gradually returned into the interior of the abdomen. The neck of the tumor, where the incision was made, and which represented the tunnel-shaped portion, was retained outside, so as to prevent the effusion of fecal matters through it into the peritoneum. Immediately on the return of the bowel, free evacuations took place from the anus, with great apparent relief. The patient, however, did not rally, but sunk, and died on the next day.

An examination after death presented no peritoneal inflammation, or effusion, and no attempt seemed to have been made by nature to close the incision of the operation, showing the low state of the vital powers at the time it was done. The upper portion, which had been returned, looked comparatively healthy: the lower was quite dark colored, and showed the effects of the partial strangulation; an invagination of its coats for about an inch also was discerned.

Boston, May 30th, 1848.