Excision of the lower end of the rectum, in cases of cancer : read before the Philadelphia County Medical Society, April 11, 1877 / by John B. Roberts.

EXCISION

OF THE

LOWER END OF THE RECTUM,

IN CASES OF

CANCER.

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BY

JOHN B. ROBERTS, M.D.

Reprinted from the Medical and Surgical Reporter, June 9, 1877.

PHILADELPHIA:
SHERMAN & CO., PRINTERS.
1877.

[illegible]
with Dr [illegible]
[illegible]

Cripps's Jacksonian essay
on Exc. of Rectum R.C.S. [illegible] 1878.

2, Finsbury Square. E.C.

Lisfranc [illegible] [illegible] of [illegible]
[illegible] Med. [illegible]
March 1830

Rectum 6 to 8 inches [illegible]
manner of [illegible] measurement [illegible]
[illegible] of [illegible] point at which
the peritoneum [illegible] of rectum

[illegible] less than 3 inches
Lisfranc — 4 [illegible] 6 [illegible]
[illegible] — 4 inches
Cripps [illegible] 2½ inches [illegible]
(3½) and additional inch when distended

"By strong traction the bowel can be drawn down a considerable distance but if the bladder be distended the peritoneal pouch is scarcely at all lowered"

Cases 44 [illegible] 9 died [illegible] 20 per cent

[illegible] 22 [illegible] – 21.0

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EXCISION OF THE LOWER END OF THE RECTUM IN CASES OF CANCER.

As far back as 1739, Faget successfully removed an inch and a half of the whole circumference of the rectum, and the patient subseqently had control of the function of defecation and the retention of flatus.* The subject was, however, left in abeyance until Lisfranc, in 1826 and 1828, successfully treated three patients by this heroic method; but although he operated on six other cases subsequently, the procedure was not so uniformly happy in its termination. Three or four of his patients died, two of them, at least, having pelvic abscess. Dieffenbach† adopted this method of treating cancer of the rectum, and operated on thirty cases, in most of which the disease did not return for many years.

The operation gradually fell into desuetude and became one of the procedures seldom considered, because it had acquired a traditionally bad name. Hence cancer of the rectum was looked upon as inaccessible to surgical interference, and was merely palliated until the patient, after a few years' suffering, ended a miserable existence from secondary stricture of the viscus. Of late years, however, attention has again been directed to this method of dealing with carcinoma of the rectum, especially since Billroth's operations have given such excellent results.

A case recently operated on by Dr. R. J. Levis, in the Pennsylvania Hospital, seems to show that cancer of the rectum should be treated exactly as malignant disease of other portions of the body; that is, if the case be of rather recent standing and not

* Velpeau, Nouv. Elém. de Méd. Opér., iii, 1033.

† Operative Chirurgie.

involving surrounding structures to a great extent. If the patient be in fair general condition, and if he be willing to take the risk of immediate inflammatory results, the surgeon should give him the chance of securing comfort for a few years, even if there be every probability of the final return of the malignant process.

The patient, who was aged 60 years, stated that he had first noticed the existence of some rectal trouble about a year previous to his admission, which occurred December 29th, 1876. The first symptoms were pain and the occasional passage of pus and blood, accompanied by constipation. At times, during this period, he had difficulty in urination, though the desire to micturate was not very frequent. He had never had any form of venereal disease. On making a digital examination, Dr. Levis found a nodulated mass, about 2¼ inches in width, occupying the anterior rectal wall and extending to a limited extent laterally, rather more, it would seem, to the patient's left than to the right. It extended about 2½ inches up the gut, but did not involve the anus, which was free from disease, except that there were a few hemorrhoidal tumors, some of which, according to the patient's account, had been strangulated by a ligature a few weeks previously. It was easy to hook the point of the index finger over the top of the cancerous mass; the posterior wall was free from involvement, and there was no stricture, though, of course, the calibre was slightly lessened by the nodulated thickening of the anterior surface of the cavity of the rectum. The man's lungs, heart, and urine appeared normal, and there was no stricture of the urethra.

On January 6th, excision of the rectum was done, and the whole cancerous mass removed. After a large metallic bougie had been introduced into the bladder, to serve as a guide to the position of, and to steady the urethra, an incision was made from the base of the scrotum to the coccyx encircling both sides of the anal aperture. The hand of the operator was then introduced behind the bowel, into the hollow of the sacrum, in order to tear the rectum loose from its posterior attachments. By means of the finger and a pair of serrated scissors, Dr. Levis broke up the adhesions all around the rectum to the front, where it was more firmly attached, on account of the disease, to the prostate

gland and neck of the bladder. The cancerous gut was next carefully dissected from these parts, exposing to view the prostate and the lower part of the bladder. While this was being done the vessels were carefully ligated as soon as divided, and double sutures passed through the skin into the rectum, above the proposed line of excision. These were not fastened, but left in position, to give perfect control of the parts. When the rectum, including the cancerous portion, had been thus carefully and thoroughly isolated, the gut was drawn forcibly down by seizing the tumor, and the scissors employed to cut through the walls of the bowel; a section of the rectum, three inches in length, was thus excised, leaving behind a perfectly soft and smooth mucous membrane. The sutures were then shotted, and some extra ones applied to keep the gut in position, which was by this means securely stitched to the surrounding integument. The whole operation was completed with the loss of about one fluid ounce of blood, because the ligatures, some half dozen in number, were applied as each vessel was cut, and the operation suspended until the hemorrhage was thus controlled. The wound was then dressed with carbolized oil. The growth was examined microscopically by Dr. Morris Longstreth, pathologist of the hospital, and found to be an epithelioma. The patient reacted perfectly after the operation, and was treated with small doses of stimulants and anodynes, and large doses of quinine, until twenty-four had elapsed, when he returned to the tonic doses of iron and quinine that he had taken before the operation. His urine had to be removed by catheterization for ten or eleven days, and for a number of days was chocolate-colored, from the admixture of blood. His temperature on the evenings of the second and the fourth days after the operation reached 102° and 101¾°, but afterwards steadily declined, reaching 98½° on the morning of the tenth day; after this time it remained below 100°, with the exception of once, when it attained that height. The wound suppurated pretty freely, without any burrowing of pus, and there was slight tympanites for a few days, but the patient had not sufficient pain to require more than an occasional opiate at night. On the seventh day his bowels were freely opened for the first time by castor oil, and by the tenth day all the sutures were re-

moved. These, by the way, in many instances had pulled loose long before, so that I doubt whether much is gained by attaching the gut to the integument, which, at least, has the disadvantage of favoring the retention of pus in the ischio-rectal space. Fifteen days after the operation the patient was allowed to sit up, and his convalescence from the grave surgical procedure of excision of the rectum was secure.

The condition of the patient on March 1st, 1877, was as follows: The man has habitual constipation, and is obliged to have continual resort to laxatives, to keep the fæces from being retained too long, for then the hardened masses give pain when expelled. To accomplish this he uses compound rhubarb pills, according to indications, and occasionally employs enemata of soap and water; by this means he has a passage every few days. If the contents of the bowels are very loose after an active purgative, he is apt to soil his clothes, but otherwise he has perfect control of defecation, and even seems to exercise slight control over the escape of flatus. By care he has avoided an involuntary evacuation of fæces for weeks, but the call to stool must be rigidly obeyed. He must stand not upon the order of his going, but go at once.

An examination of the parts shows some contraction at the anus, as would be expected from the cicatricial nature of that orifice; and from the anus to the lower end of the gut the cavity is lined with what has the appearance of mucous membrane. When the finger is introduced, it at times passes into a sort of cul de sac alongside of the inferior end of the rectum, but there is no difficulty in passing directly into the bowel.

The ease with which the operation was performed in this case, the slight inflammatory fever following, the rapid convalescence of the patient, and his excellent health since, without even being troubled with incontinence of fæces, certainly present this operative procedure in a much more favorable light than would be expected. What, then, are proper cases to be submitted to extirpation of the rectum? Lisfranc considered it improper to undertake excision if the index finger could not reach the upper limit of the disease, and if the surrounding tissues were involved in the carcinomatous disease so much as to prevent the surgeon pull-

ing down the intestine after the lower end had been removed.* According to Dieffenbach, it is not to be considered when the patient is exhausted and secondary glandular involvement has occurred.† These contraindications are certainly important, and yet cases are reported which show that these apparently necessary precautions may, at times, be disregarded. Nussbaum has several times excised, along with the rectum, a piece of the bladder as large as a dollar, and the wound has healed, as in cases of lithotomy, without causing a urinary fistula. In 1866, he operated on a case of epithelioma of the rectum of five years' standing, where there was stricture of the bowel and disease of the neighboring viscera. Four inches of the intestine, the prostate gland, the prostatic urethra, and a portion of the neck of the bladder were excised, with perfect recovery for three years, except that the patient was troubled with frequent micturition. This does not seem to have prevented him from being quite comfortable, and at times doing a little work.‡ The suffering attendant upon carcinomatous disease of the anus and rectum, from the chronic constipation, the painful defecation, the continual tenesmus, and the exhausting discharges of pus and blood, render the patient a pitiable object, and almost any risk which promises alleviation is justifiable. There is no disease, unless it be cancerous stricture of the œsophagus, that is at all comparable in mental and physical distress to cancer of the rectum. When the suffering is intense in cases where the adjacent viscera are implicated, Esmarch even recommends§ partial excision, and considers applicable the method of Volkmann and Simon, who scoop out with sharp spoons as much of the heterologous growth as possible. By this method a great portion can be extirpated without the occurrence of hemorrhage, and if cauterization be employed in addition, alleviation can be obtained for a long period, even as in cases of uterine cancer. At any rate, this as a palliative measure is as beneficial as colotomy, and withal is less repulsive

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* Malgaigne's Operative Surgery, American edition, p. 439.

† Operative Chirurgie, ii, 707.

‡ Half-yearly Abstract of the Medical Sciences, vol. li, p. 271, 1870.

§ Handbuch der Allgemeinen und Speciellen Chirurgie, Von Pitha und Billroth, Bd. iii, abt 2, Lief 5 (2), 187.

to the feelings. If the cancerous disease be developed as a complication of old irreducible prolapsed rectum, extirpation, as is readily appreciated, is less difficult, and the prognosis more favorable. Dieffenbach performed such an operation on a man aged 50 years, but though making the above statements, does not give the final results of the case.*

In women the position of the vagina in front of the rectum, renders the operation not only less complicated, but more favorable as to prognosis; for the urethra and bladder are not concerned in the extirpation, and the surgeon is better able to determine the extent of the disease, and has also more room to work. The female rectum is, in fact, a much more superficial organ than the male. It is necessary in women, however, to save as much as possible of the vaginal wall, or, if it be removed, to form an artificial septum by proper suturing between the two cavities.

There have been proposed a number of methods of attacking the malignant growth, in order to have as little hemorrhage as is consistent with thorough eradication. Most operators prefer placing the patient in the lithotomy position, though Mandt adopted the knee-elbow posture. Lisfranc operated in the following way: Having encircled the anus by two crescentic incisions, he dissected the bowel loose from surrounding tissues, then split the rectum longitudinally, to expose the parts fully, and excised as much of the cylinder as was necessary. The splitting of the tube was done at the posterior part, in order to avoid the peritoneum and the larger vessels. In females the vagina affords opportunity for introducing the finger in front of the growth, and in males it is well to have a large bougie in the bladder. If the anus is not involved, the external sphincter may be preserved by making a single straight incision from the central tendon of the perineum to the coccyx, dissecting up the skin and the split sphincter on each side, and then extirpating the lower part of the rectum in the ordinary manner. Another method is to form a perineal flap, convex towards the scrotum, and to dissect this and the sphincter backward over the coccyx.

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* Operative Chirurgie, ii, 709, 711.

This manœuvre exposes the rectum, which is excised, and afterwards the flap is sutured into its original position.* In any of these procedures the hemorrhage may be profuse from the hemorrhoidal, the transverse perineal, and the superficial branches of the internal pudic arteries. The cut vessels may be carefully tied as soon as divided, or the galvano-caustic knife, or the écraseur may be employed in the various stages of the extirpation.† The first method was adopted by Dr. Levis in the present case, and was eminently satisfactory, for scarcely one fluid ounce of blood was lost. This is certainly at variance with the usual descriptions of this formidable and so-called bloody operation, though it must be admitted that Pinault often saw the rectum extirpated by Lisfranc, without a single vessel requiring ligation.‡

The last step in the operation consists in drawing down the amputated gut, which is done by loosening the cellular tissue, and by the effacement of the normal curves in the viscus, and attaching it to the integument. The sutures will probably tear out, but it perhaps gives a chance for portions to become united and may thus hasten the cure.

The sequelæ of excision of the rectum most to be dreaded are pelvic suppuration, phlebitis, and peritonitis. Two of Lisfranc's early cases succumbed to the first of these causes, and cases have been recorded of a fatal issue attending the occurrence of phlebitis. Billroth considers the use of many drainage-tubes a very important item in the operation, to prevent burrowing of pus. Owing to the proximity of the peritoneum in all cases, and the great danger of wounding it in those instances where the disease is situated high up in the rectum, peritonitis is to be anxiously looked for in every patient, and its advent gives a very foreboding outlook. This membrane passes from the bladder or uterus to the anterior surface of the rectal tube, but the exact distance from the anus at which this takes place must be an indeterminate quantity. Lisfranc, so says Vidal, gave the distance as six inches in woman and four inches in man; while Malgaigne states that

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* Philadelphia Medical Times, November 15, 1873, p. 103.

† Edinburgh Medical Journal, March, 1874, p. 854.

‡ Vidal (de Casis) Cancer du Rectum, p. 89.

two inches for the female and two or three for the male is the proper estimate. Blandin, according to the same authority as above, gives three inches in man and one and a half in woman. Vidal himself measured it in several subjects, and found that the mean was less than two inches, the women being below the men in every instance.* Notwithstanding the discrepancy in these measurements, and the low mean at which the distance from the anus to the peritoneal investment is put, it seems to be a fact that at least three, if, indeed, not four, inches of the tube can be removed with comparative impunity. The importance, however, of respecting the immediate vicinity of this readily inflamed membrane is seen when it is recalled that Vidal reports a fatal case in which the autopsy showed a hole in the peritoneum large enough to admit three fingers.† On the other hand, Maisonneuve had a case of recovery where the peritoneum was extensively wounded.‡ The great difference in these measurements depends, I think, on the manner in which they were made. The rectum is a tube that is subject to great distension, and hence does not extend from the anus upward as a perfectly straight smooth cylinder. Consequently it is easily appreciated that to determine the number of inches that may be excised without wounding the peritoneum, it is necessary to have the tube detached from its surroundings, and to have the reduplications and curves effaced. This is the condition in which the surgeon places the gut by dissection and traction before he cuts it off from its connection with the remainder of the alimentary canal. To determine this point I have made a number of measurements in the following manner:

First, having placed the left hand in the peritoneal cavity, I carried my finger-nail to the point where the serous membrane crossed from the bladder or uterus to the anterior wall of the rectum; then I introduced a graduated stick into the anus, and thrust it upward until the end touched the finger nail. This was done as carefully as possible, to avoid undue pressure. By this means the distance from the bottom of the peritoneal cavity to

* Cancer du Rectum, p. 82.

† Pathologie Externe, v, 229, 230.

‡ Nélaton's Clinical Surgery (Atlee), p. 566.

the verge of the anus was given; but this was not the length of rectum that extended from the lowest point of attachment of the peritoneum to the anus, for that was longer, on account of the folds in the tube. To obtain the latter measurement, I dissected out the rectum, and a piece of the bladder or uterus, with the peritoneum still attached; this was laid upon a table and a graduated rule pushed into the anus as before. The rectum was then smoothed out upon this, but not rendered tense, and the number of inches noted. The difference was so marked that it surely must be the cause of the great discrepancy between authors as to the number of inches of the rectum that are uncovered by peritoneum in front; posteriorly it makes no difference, because the peritoneum does not come anywhere near the seat of operation.

A table of the results shows that in the eight cases measured the average was $3\frac{4}{5}$ inches.

1.	Male,	21	years,	In situ.	$1\frac{1}{2}$ in.	Removed	4 in.
2.	"	28	"	"	2 in.	"	4 in.
3.	"	27	"	"	$1\frac{1}{4}$ in.	"	$3\frac{3}{4}$ in.
4.	"	23	"	"	$1\frac{1}{4}$ in.	"	$3\frac{1}{2}$ in.
5.	"	26	"	"	$1\frac{1}{2}$ in.	"	$3\frac{3}{4}$ in.
6.	"	40	"	"	2 in.	"	$4\frac{1}{4}$ in.
7,	Female,	45	"	"	1 in.	"	$3\frac{1}{2}$ in.
8	"	68	"	"	$1\frac{3}{4}$ in.	"	$3\frac{3}{4}$ in.

The measurements *in situ* are, of course, of less importance, because, when the operation of excision is performed, the rectum is drawn down, and has its folds obliterated. They are given in the table because I believe that the conflicting opinions mentioned above are the results of inaccurate statements as to which method of measuring was adopted.

It is now necessary to discuss the immediate results of the operation of extirpation of the rectum, to consider the subsequent condition of the patient thus deprived of his sphincter muscle, and to obtain some idea of the prognosis in regard to a return of the malignant disease. Lisfranc operated on nine cases, obtaining five cures, three deaths from pelvic cellulitis, phlebitis, etc., and one doubtful result.*

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* Velpeau, Nouv. Elém. de Méd. Opér., iii, 1033.

Dieffenbach excised the inferior portion of the rectum no less than thirty times, and reports that not one case died soon after the procedure, but that a large proportion continued well for many years. Billroth is said to have operated sixteen times, out of which number only four died. Indeed, with him extirpation of the rectum is the rule, in the treatment of cancer of that organ.*

Dr. Schmidt, of Leipzig, gives† a table of thirty-three cases, collected from various sources, with the following results:

Cured,	20	cases.
Improved,	2	"
Death,	8	"
Return of disease,	1	"
Doubtful,	2	"
Total,	33	

If we consider the doubtful cases to have been fatal ones, this gives a mortality of 30.3 per cent. occurring subsequent to extirpation of the rectum. It is not possible to make any more accurate deduction than this, because the time after operation that each case is reported has much to do with its place in the table, as cured, improved, or returned. That in the majority of instances the malignant process does finally recur, is, I suppose, admitted by all. That a long period of amenity from the torture of cancerous disease of the anus and rectum may be obtained by operative interference, is evinced by the fact that Nussbaum's case, above mentioned, where portions even of adjacent organs were removed, survived three years before being obliged to succumb to the recurrence of the disease. A case of Billroth's lived four years and nine months, and this surgeon examined a case that had been submitted to operation four years previously by Schuh, without finding any trace of return.‡ Another case of Schuh's lived seven years. These facts certainly speak well for the adoption of the procedure in cases where the disease can be entirely eradicated.

In view of the circumstance that the operations, though nu-

* New York Medical Record, November 11th, 1876.

† Günther's Blutigen Operationen, iv, 1, p. 65.

‡ Esmarch, in von Pitha, and Billroth, op. cit.

merous on the Continent of Europe, are not all carefully reported, it is impossible to arrive at exact data to determine the average period between the excision and the return of the disease, and in what cases the malignant trouble is truly extirpated forever. Dieffenbach was of the opinion that relapse occurred far less frequently than in cancer of the mamma.* While, on the other hand, Malgaigne says he has seen it occur in many instances, and mentions one patient where it occurred before cicatrization was complete.† At any rate, the long periods of survival after the operation, in the cases mentioned above, would seem to show the possibility of relapse being very distant, and it is well known that epithelioma, which is the form usually found, is the most easily eradicated of the varieties of cancer.

The experience in the vast majority of cases where several inches of the bowel have been removed, is that incontinence of fæces does not follow, unless the contents be very fluid. Whether it be because the superior circular fibres of the muscular coat of the rectum act as a subsidiary sphincter, or because in the normal condition the rectum is empty and becomes full only as the desire to go to stool occurs, it matters not; case after case have caused operators almost universally to know that absence of the sphincter ani muscle, and even of three or four inches of the rectal tube, does not necessitate a condition of involuntary evacuation of consistent stools; and in certain instances liquid fæces and even flatus have been under control.

A secondary result which sometimes occurs is cicatricial stricture; but this is a condition quite readily treated by dilatation, and is not by any means such a severe complication as the cancerous constriction likely to be developed if no operative interference had ever been undertaken.

Let us, in conclusion, take a survey of the operation of excision of the rectum as practiced in America. Here we shall find very few data, for though Lisfranc and Dieffenbach operated so frequently in Europe nearly half a century ago, and though rectal cancer is a common affection in this country, yet the operation does not appear to have been accepted as a method of treatment.

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* Op. cit., p. 714.

† Op. cit., 441.

I have found reported but five instances of extirpation for cancerous disease, and a few cases where a prolapsed rectum has been excised with a knife. The latter procedure, indeed, seemed to be an introduction to the more daring operation of dragging down a diseased rectum from its normal position and cutting off several inches of the tube.

In 1825, J. W. Brite, of Kentucky, excised five or six inches of the rectum in a case of prolapse occurring in a negro child of three years. At the end of five months, after numerous complications, the child is said to have been "fat and in perfect health."* The same operation was recorded in 1832, as performed on a child about six years of age, by J. W. Heustis, of Alabama.†

In this same year Bushe, of New York, was consulted by a man who suffered from cancer of the lower end of the rectum, extending about one inch and a half upward from the anus. He made an elliptical incision around the anal aperture, and removed the diseased portion of the gut. There followed slight prolapse, which was, however, supported readily by a sponge and elastic bandage, and the patient was able to keep the solid fæces pretty well under control. Seven months later the patient died of what his family called consumption.‡

Some time before 1839, Mott, of New York, must have had at least two cases, for Velpeau, in speaking of the condition of patients after extirpation of the rectum, says, "Those of V. Mott were perfectly restored." Although I have been unable to find the original report of these cases, I consider them authentic, because the above words occur in Mott's American edition of Velpeau.§

In 1868, Alden March, of Albany, removed one and a half inches of a schirrous rectum from a woman aged 26 years.‖ Six months afterward the case was doing well, and there was appar-

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* Medical Recorder, Philadelphia, 1826, vol. x, p. 311.

† American Journal of Medical Sciences, vol. xi, p. 411.

‡ Bushe on Diseases of the Rectum. New York, 1837, p. 294.

§ Velpeau's Operative Surgery, vol. iii, 1138, Mott's edition of 1847, from Paris edition of 1839, and Günther's Blutigen Operationen.

‖ Transactions of New York State Medical Society, 1868.

ently no return, for in a letter received by me a short time ago from Dr. Henry March, son of the operator, the writer says: "The successful operation (as well as no return of the disease), the case spoken of in Professor Gross's latest edition, was performed by my late father, January 8th, 1868." From this it would seem there has been no return of the malignant process, or that the patient has died since the operation, of some other trouble. The very day that Dr. Levis operated on the case forming the basis of this paper, the New York *Medical Record* arrived, containing an account of an almost identical operation in the hands of Dr. C. K. Briddon, of New York.*. The case was that of a mulatto woman, aged 45, in whom the disease extended upward some two and a half inches. The operation was performed in November, 1876, and Dr. Briddon tells me that the patient expresses herself as benefited and relieved of pain and tenesmus. He states that "the cut end of the rectum has retracted nearly two inches, and is contracting, so that, if she lives long enough, she will have stricture; there is a disposition to return of the disease, not in the rectum, but in the cicatrix intervening between the bowel and the peritoneum." In this case the rectum was freely movable, and the adjacent tissues were not involved, except that there was slight implication of one of the lymphatic glands, which was removed, however, at the time of the operation. The patient had, subsequently, ischio-rectal abscess and phlebitis, has only imperfect control over defecation, and a month and a half ago was still confined to bed. Whether there was any attendant organic disease of other viscera, I know not; but Dr. Briddon, who has had unusual results in cases of colotomy, says he regards the latter as the preferable operation in cases of rectal cancer.

About two weeks ago Dr. Levis operated on a second case, but the issue was not so fortunate. According to the notes of Dr. F. C. Hand, the patient, aged fifty-two years, had a carcinomatous tumor, the size of a small hen's egg, situated at the right side of the bowel, which had existed about three months. An incis-

* New York Medical Record, January 6th, 1877, p. 12, and Archives of Clinical Surgery, February, 1877.

ion was first made along the right side of the anus, and the finger introduced to tear up the attachments all around the lower end of the rectum. The incision was then extended around the anus in such a manner as to encircle it, and the operation completed in very much the same manner as in the first case. The section of the tube removed was about one and a half inches. The patient became jaundiced, and died on the fourth day. The autopsy made by Dr. Longstreth showed a slight pneumonic patch in the right lung, considerable lymph and pus in the pelvic cavity, and general peritonitis. The jaundice appeared to be the result of pressure from a few enlarged glands, probably not cancerous, near the common duct. There was no wound found in the peritoneum, the lowest point of which was three-quarters or one inch above the end of the excised bowel.

Summing up, then, we have in America, Bushe, Mott, March, Briddon, and Levis, who have ventured to perform the operation of extirpation of the rectum, and in only one of the seven cases has death occurred as a consequence of the procedure.

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NOTE.—Recently I have been informed that Dr. Briddon's case finally died of pneumonia and pleurisy, and that an examination of the specimen showed the opinion in regard to the return of the disease to be erroneous. I have also become cognizant of three other cases where excision of the rectum was done within a few weeks past for the removal of cancer of that organ; one in the hands of Dr. James R. Wood, of New York; another by Dr. D. Hayes Agnew, of Philadelphia, and the third by Dr. Levis, in San Francisco, whither he was summoned to perform the operation. Dr. Agnew's case died with symptoms of pyæmia, and Dr. Levis's apparently from shock of etherization and operation. Of Dr. Wood's case I know nothing as to result.

An abstract of Dr. Levis's first case was originally published in the *Archives of Clinical Surgery* for February, 1877.