A case of gastro-enterostomy for cancer of the pylorus and stomach : good recovery : a new method of suture : with a note as to the patient's condition four months subsequently / by Arthur E. Barker.

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A CASE OF GASTRO-ENTEROSTOMY

FOR

CANCER OF THE PYLORUS AND STOMACH: GOOD RECOVERY.

A NEW METHOD OF SUTURE.

I DESIRE to publish the following case simply as a record of facts bearing upon a most important question in the surgery of the present day; namely, the position which operations on the stomach are to take in the future. The whole question is now, and must remain for some time still, *sub judice.* For, though a good deal has been already done, both at home and abroad, in the field of gastric surgery, the cases have been so isolated, and the operations have been performed by different surgeons, under such varying conditions, that we have as yet but slender grounds for safe generalisation. It appears desirable, then, that every item of information regarding these operations should be recorded as fully as possible, and carefully studied. If it be true that it is difficult to decide as to the exact position of radical operations for cancer of internal organs, it is immeasurably more so to arrive at a decision as to the position of palliative operations.

Since first designed and performed by Wœlfler in 1881, gastro-enterostomy has been undertaken at least twenty times abroad. In sixteen of these cases it was done on account of advanced carcinoma of the pylorus, with ten deaths, and in four for non-malignant pyloric stenosis, with one death. Most, if not all, of the first sixteen were desperate cases for any operation.

As the following appears to be the first recorded instance in which the operation has been performed successfully in this country, and as the foreign sources of information are scattered, and not accessible to the general reader; and as, further, I devised and practised here a new method of suture, which seems likely to offer advantages in the future, I venture to describe this case rather in detail.

The patient, Mrs. L., aged thirty-seven, the mother of eight children, one of whom died of a malignant growth in the neck in infancy, began to suffer from severe gastric disturbance a year and a half ago. This consisted of great sickness and vomiting, with pain in her stomach. Since then, hardly a day passed without retching; this was always worse after dinner, but was less in the evening and when the patient was at rest.

On August 25th, 1885, the patient noticed a lump about the size of a walnut, in the epigastric region, and, at the same time the vomiting and pain became much worse; the latter was aching and dragging in character. The tumour had grown larger since, especially within the last three months. When first noticed, the lump, the patient thought, was a little more to the left than now; it appeared irregularly nodulated from the first.

On admission into University College Hospital on December 19th, 1885, the chief complaint was pain in her left side, and great weakness and loss of flesh (weight 7 stone 3lbs). During the week preceding, her attacks of sickness had not been so severe; she had had only four or five. The vomit was watery and frothy, but never consisted of food, and never showed traces of blood; there had been much constipation for a long time.

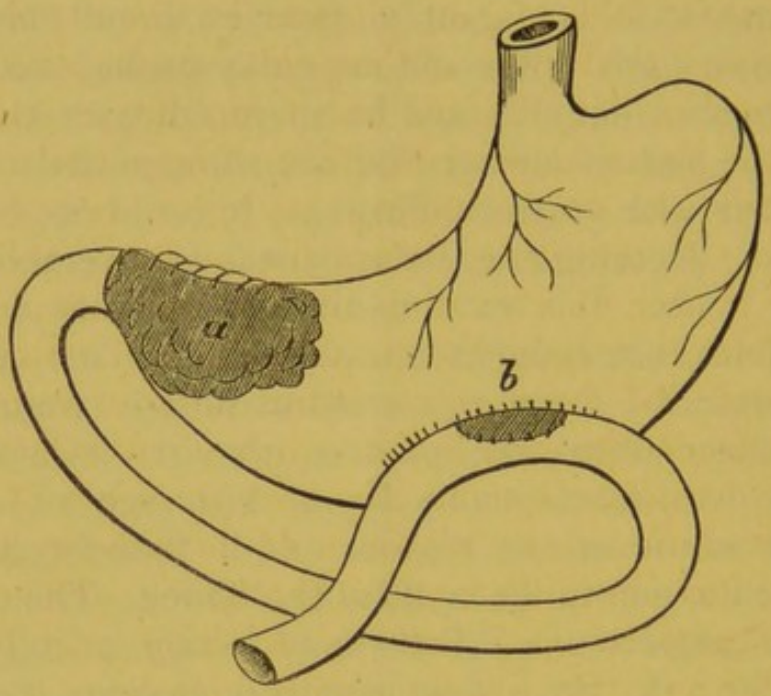
State on admission.—In the middle line of the body, about two inches above the umbilicus was a hard nodular swelling, about the size of an egg, very superficial, and very mobile. It shifted spontaneously from side to side during the day, and ascended a little, but did not descend below the point indicated. When in the middle line it pulsated with the stroke of the aorta. It was tender on pressure, and caused most suffering when it lay towards the left

side. There was no deficiency of resonance to be detected over it, and there was no gastric dilatation, the tumour moved with respiration; the abdominal organs appeared quite healthy.

On December 28th, I made a careful examination of the abdomen under ether. The tumour could now be easily grasped through the thin parietes, and was found to be rugged in outline, about half the size of an orange. It showed the most remarkable mobility in all directions except downwards. It could be easily pushed under the last rib on the right side, and be there felt with the hand. It could be pushed almost into the same position on the left side, but with greater difficulty. It could not be made to descend. Nothing else abnormal was discoverable in the abdomen. After this examination the patient was sick several times, but brought up no blood. The urine remained normal. From this examination, I strongly suspected cancer about the pylorus, though it was clear that there was much room for a difference of opinion as to the nature of the tumour, and I thought it might possibly turn out to be a floating kidney. One of my colleagues suspected a collection of biliary calculi in the gall-bladder. As the patient was very anxious for operation, I explained the matter fully, and agreed to make an exploratory incision, and be guided by what was found. Every preparation was made for dealing with whatever kind of tumour should be found, and especially for excision of the pylorus, should it be necessary. The stomach was washed out twice on the day before operation, and again two hours before the latter with warm water, introduced through a long flexible tube; and no food was given afterwards.

Operation: With the most scrupulous care as to antisepsis, I operated on January 5th, 1886, under the spray. An incision was made in the middle line, from just below the ensiform cartilage to the left side of the umbilicus. When the peritoneum was opened, the tumour presented at once to view. It was then easily diagnosed to be a mass of new growth, reaching from the anterior border of the pylorus about three inches to the left, and upwards towards

the lesser curvature of the stomach (*vide* plate *a*). It was about the size of half an orange, flat externally underneath the serous covering of the stomach, and projecting into the narrow end of the latter. The posterior segment of the pylorus appeared sound to the touch. The tumour was perfectly non-adherent, but there were a few small hardened glands in the gastro-colic omentum. From the position of



the growth and the presence of infiltrated glands, I concluded that excision of the pylorus was contra indicated, and at once commenced the palliative operation of gastro-enterostomy, or the establishment of an artificial opening between the stomach and jejunum (*vide* plate *b*). After pushing the omentum, which was not voluminous, to the right, the first part of the jejunum was caught in the fingers, and a loop of it was drawn out of the incision. The middle of the anterior surface of the stomach was also drawn out, and was supported all round by warm carbolised sponges. I now passed a piece of the India-rubber tubing through the mesentery at each end of the loop of intestine; and having emptied the portion of gut between by gentle pressure, drew the ends of the tubing tight enough to prevent access of the contents of the bowel into the loop

to be operated on, and fixed each piece of tubing with a catch-forceps. The empty loop of gut was now laid upon the portion of the stomach to be opened; and a longitudinal fold of the latter, about an inch and a half from the great curvature, was pinched up between the finger and thumb of the left hand, together with the collapsed gut. I now made an incision about an inch and a half long in the fold of the stomach, and another corresponding in the approximated fold of gut. These incisions only penetrated through the serous and muscular tunics, and left the mucous coat of both viscera intact for the present. Still holding the parts, as before, between finger and thumb, I now united the corresponding posterior edges of the wounds by a continuous suture, the needle entering and emerging in each case between mucous and muscular coats, and the threads crossing the cut edges of the muscular and serous coats. In this way, the serous surfaces were closely united from end to end before either viscus was opened. This row of stitches (which were about an eighth of an inch apart) was carried about a quarter of an inch beyond each end of the incision in the coats of the bowel. The moment had now come to open both the stomach and intestine completely; and this was done with a stroke of a scissors through the mucous coat in each case, special sponges being ready to receive any fluid which might escape. A few drachms of *succus entericus* flowed from the bowel, little or nothing from the stomach opening. After careful cleansing the anterior borders of both openings were now united by a row of interrupted fine silk sutures, introduced according to Czerny's method. When this was completed, the two openings were securely closed; but, as an extra precaution, the intestine was turned over, and the posterior suture was reinforced by a second row of interrupted sutures, placed about a quarter of an inch away from the first. The anterior row was then similarly reinforced by a row of continuous suture, taking up, as before, only the serous and muscular tunics. The elastic compressors were now removed from the gut. Lest there should be any "kinking" of the latter, as in one of Billroth's cases, I stitched its

efferent portion to the stomach wall, about three-quarters of an inch from the right extremity of the opening between the stomach and jejunum now established. The "toilet" of the peritoneum, replacement of the viscera, and closure of the external wound completed the operation, which had lasted an hour and thirty six minutes. The wound was dressed with salicylic wool. This mode of suturing the posterior edges of the opening before the stomach is actually opened appears to be a new departure, and offers many advantages, which are obvious.

The patient bore the operation, on the whole, well, though towards the end the pulse became a little feeble. She was warm and comfortable when removed from the table. Peptonised enemata were ordered every six hours and only ice by the mouth. There was no marked shock noticeable when she had recovered from the anæsthetic, but she complained of pain about the abdominal wound and to the left of it internally. She soon vomited some turbid fluid, and continued to do so for a couple of days, at intervals of four or five hours, bringing up from one to two ounces each time. This was not relieved much by hypodermic injections of morphine. As the vomiting went on, the fluid brought up became more and more turbid, and then became very fœtid. It clearly contained matter regurgitated into the stomach from the jejunum, appearing most like pancreatic secretion very slightly stained with bile. The eructations, which were frequent, were also fœtid. Thinking all this was due to simple gravitation of the contents of the jejunum through its dependent opening into the stomach, and as there were none of the signs of peritonitis, I had the patient placed in the semi-recumbent position in bed on the third day; at the same time, she was ordered one minim of creasote every hour in half-an-ounce of emulsion by the mouth. Whether as the result of the change of position, or of the use of creasote, the vomiting now ceased, and did not again return until next morning, when she vomited for the last time. I am inclined to attribute the result to the change of position allowing the intestine to sink a little downwards, so that its opening into the stomach came to lie not exactly over that in the

stomach as before. It probably returned the next morning on account of her slipping again into the recumbent position. She was now (third day) given a drachm of brandy every second hour by the mouth, and half-an-ounce of beef-tea every two hours.

The improvement was now uninterrupted; the rectal temperature was usually below 100°. It is marked as 102° on the fourth day, but this is believed to be an error: two hours later it was 99.2°. On this day she was rather depressed, probably on account of menstruation having set in. The amount of brandy and beef-tea was doubled. On the fifth day she was given beef-tea by the mouth in ounce doses every hour, and on the sixth day an ounce of champagne every second hour and a tablespoonful of arrowroot. On the eleventh day she took some minced chicken, all of which was well digested. On the sixth day, there were two natural stools, accompanied by a good deal of pain. On the thirteenth day, I ordered half a drachm of confection of senna; and on the fourteenth day she complained of a good deal of pain about the descending colon, which was relieved by a high reaching enema, which brought away a large quantity of fæces. Her general appearance began to improve after the first week, and the sunken look under the eyes to disappear. She also became cheerful, and expressed herself as very grateful for what had been done for her. She seemed so well on the seventeenth day after operation, that she was allowed to sit up in a chair for half-an-hour, and enjoyed it greatly.

The stitches in the abdominal wall were all removed on the ninth day, and the wound was found to have united by first intention everywhere. It was still supported by broad strips of American rubber plaster in case of straining of any kind.

That the patient has been relieved by this operation, anyone who has watched her can see plainly. That the greater rest secured to the diseased stomach by its new aperture of exit directly into the commencement of the jejunum may lead to a retardation in the development of growth, there are some grounds for hoping. The food has not now to force itself past the cancerous and ever

narrowing pylorus, but can pass easily through the new opening, and so, perhaps, that ulceration of the surface of the growth, which leads to grave complications in many cases, may be staved off. As there is no interference here with the processes of digestion, the secretions of the liver and pancreas mixing as before with the food from the stomach, that slow process of starvation, accompanied by distension of the stomach and frequent vomiting, is prevented, which often renders these cases so painful and distressing to witness; the more so because, in many cases, the process is often very slow.

Finally, I think it is fair to hope that not only does this operation diminish suffering, but it may also materially prolong life by sustaining the vital powers. But, as remarked above, it is too soon to pronounce upon the procedure definitely; we must suspend our judgment for a time. In the meanwhile, one thing may be most decidedly deprecated, namely, undertaking such a measure in utterly desperate cases where the patient is *in extremis* and unfit for any prolonged operation of any kind.

It is now more than a month since the operation,* and still the patient continues well. She has suffered a little from constipation on one occasion, but has been relieved by enemata, and, to prevent this trouble recurring, is now taking small doses of laxatives. She sits up every day for some hours, after being confined to bed for more than five months. Her pulse is 78, her temperature normal, her bowels acting well, and altogether she is much improved and cheerful.

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* I have seen the patient to-day, May 4th (exactly four months after operation). She walked into the room looking very well, and seemed to have gained flesh since I last saw her two months ago. Beyond some dyspeptic troubles she does not complain. She says that, with the exception of potato, she can take all ordinary diet, but requires confection of senna still to keep her bowels regular. She was rejoiced when I told her she might go out to walk. I could not detect any change in size or shape in the tumour on manual examination of the abdomen.

The poor thing was in hopes she might be able to return to the charge and management of a large dressmaking establishment, but it is needless to say that, with such a disease, she was over sanguine. Even the hope, however, speaks well for her improvement after operation.