Gastrostomy in malignant disease of the oesophagus / by T. Whitehead Reid.

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Patient lived 7 months.

GASTROSTOMY IN MALIGNANT DISEASE OF THE ŒSOPHAGUS.

BY

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The treatment of cancerous obstruction of the œsophagus by permanent catheterism applies to cases seen at a far earlier stage than those now under consideration.

The retention of a flexible tube passed through the mouth beyond the seat of stricture should undoubtedly be tried in cases where the patient is able to swallow liquids at all; but too much caution cannot possibly be exercised in dealing with these cancerous strictures. A red rubber sound and the lightest of skilled surgical hands should alone be allowed; and should the patient be under the influence of an anæsthetic, far more care is required even than that exercised in the treatment of urethral strictures under similar conditions. The pericardium has been perforated, a bronchus entered, or a fatal septicæmia induced by the passage of hard bougies in even dexterous hands. One has seen post-mortem cases of ragged ulceration of the œsophagus, where, had a bougie been used, the result must have been traumatically fatal, and yet during life with no indication to lead one to suspect the existence of such extensive disease—cases where one would have dreaded to have employed catheterisation. Bronchial symptoms most certainly counter-indicate any attempts of the kind; but often discretion is better than counter-indications.

It may be true that no stricture is really impassable to the minutest whalebone bougies extant (half a millimetre in diameter), but it is certain that many cancerous occlusions of the œsophagus contain dangerous ulcerations in close proximity to vital parts peculiarly intolerant of the finest bougies. I would prefer to make a capillary puncture into the stomach itself to guiding a bougie through the wall of an ulcerated œsophagus.

The operation of gastrostomy has steadily grown in favour

since Mr. Howse so strongly advocated and successfully practised its division into two stages, and since Mr. Bryant insisted on a mere puncture with a tenotomy knife for opening the previously attached stomach.

From the time (1849) of Sédillot's first gastrostomy for cancer of the œsophagus till Mr. Cooper Forster performed the operation in England, the attempts to establish a permanent gastric fistula were peculiarly unfortunate; for beyond a certain amount of relief afforded for the remaining few days or hours of life, but little real good was done. Gradually the operation has been performed earlier, better methods have been employed, and antiseptic precautions taken, while progressively encouraging results have been obtained.

Those who have watched to the bitter end cases of complete obstruction of the gullet from disease, who have seen the pangs of insatiable thirst, and viewed the horrors of slow dying from starvation, cannot but rejoice that such need no longer be the inevitable termination of such cases. It is surely just as imperative on the surgeon to avert such a painful climax by a timely gastrostomy, as to perform tracheotomy for admission of air to a starved lung, or to do a colotomy for a bowel obstructed by disease.

The report by my friend Mr. C. B. Gabb (in the *Lancet* for April 14, 1877) of the gastrostomy performed by Callender on a case of cancer of the œsophagus shows well the after troubles and dangers of the old method of operating, as also the complications likely to arise from endeavours to pass bougies, especially in advanced cases and within too near a period of operating. Such attempts must, prior to the gastrostomy, court disaster, and after the operation, in malignant disease are unwarrantable. Though the power of swallowing frequently improves after the operation, the gastric fistula having once been established, feeding by the gullet should be discountenanced.

As now executed, the operation itself is neither so difficult nor so dangerous as was formerly supposed, and every consideration points to the advisability of a more frequent resort to it at a far earlier period; not as a last resource, nor as a mere matter of euthanasia, but as an undertaking full of encouragement for the prolongation of life and staying of the progress of disease by establishing a state of physiological rest for the part morbidly affected.

My friend Dr. Wilks of Ashford tells me he operated last autumn on a female patient, æt. 64 years, who had been rapidly emaciating. When he first saw her, she was only able to swallow a few drops of liquid at a time with great difficulty, and she also

had a bad cough. He made a semilunar incision below the margins of the left ribs, and reached the stomach without difficulty at the edge of the left rectus, where the fascia was exceedingly tough, so that he incised it vertically towards the umbilicus. He stitched the stomach with many separate stitches to the skin, and stitched up both incisions in the fascia, leaving a long suture in the wall of the stomach to steady it for the second operation. The wound was covered with a pad of boracic lint, wool, and bandage. The patient did well for four days, when the cough caused great pain at the site of the vertical incision in the fascia above mentioned, vomiting ensued, and the patient died five days after the operation.

At the post-mortem it was seen that the operation *per se* was quite successful; the stomach was firmly adherent to the skin everywhere; but a piece of omentum had become strangulated in the vertical incision in the fascia mentioned previously. There was no peritonitis generally, nor about the stomach, but only around the piece of omentum. The œsophagus was completely obstructed by a cancerous mass, which was very friable, and tore readily. This case would undoubtedly have been successful but for this unfortunate accident.

In the *Lancet* for November 3, 1883, I reported a successful case of gastrostomy performed for scirrhous stricture of the œsophagus in its lowest portion. This woman, æt. 43, after the operation gained, during the eleven weeks she was in the Kent and Canterbury Hospital, 16¾ lbs., and two months afterwards, when I saw her in Dr. Church's wards, having been transferred to St. Bartholomew's Hospital, she was quite plump and comfortable,—a wonderful contrast to the poor starved and wretched being I had admitted in a dying condition from the workhouse six months previously. By the operation she enjoyed life eight months longer than she otherwise could have done, and suffered a less painful death than that she had every prospect of.

The somewhat brief and necessarily imperfect account given at the time in the *Lancet* of this case, and the conviction, from the cases I have seen at the Canterbury hospital during the last seven years, that these poor sufferers might more often be relieved surgically, may warrant my mentioning these details of an operation now well recognised.

As a dresser of the late Mr. Callender during his first year of office as full surgeon, I strictly followed his teaching with regard to patients about to undergo a serious operation, by placing them for a few days prior to the operation under the same conditions as those which were to obtain after the operation.

Jane N. for four days prior to the first stage of the opera-

tion was placed in the small ward she was to occupy afterwards, with the same nurse to attend her; her urine was drawn off at regular intervals; she was fed entirely by the rectum with peptonised meat suppositories (50 grains in each), alternated (to avoid the thirst induced by the suppositories given alone) with peptonised beef-tea or milk; her temperature was taken regularly, and all her surroundings were similar to those which were to obtain after the operation and between its two stages. The result was, that though her temperature was 99.7° two days before the operation, it never went above 99.4° afterwards; and during the five days between the two stages she was quiet and composed, being well accustomed to her position, and apprehensive of no ill; the edges of the stomach consequently united to the wound by first intention, and the one dressing first applied remained on till this was accomplished.

On the fifth day the wall of the stomach was held up and punctured by a tenotomy knife; a No. 12 catheter was introduced into the viscus, and 5 oz. of peptonised beef-tea given to make sure all was right; but the rectal alimentation was continued as previously, and only very gradually withdrawn, the stomach being allowed by almost imperceptible steps to supplement the rectum; and even then for days all food was digested before it was injected into the viscus by means of a funnel tube and catheter.

The patient weighed 5 stones 6½ lbs. before the operation, having lost 1 lb. during the eight days she was waiting.

On the ninth day from the opening of the stomach she weighed 5 stones 8½ lbs., and was well enough to be shown to the members of the East Kent district of the South-Eastern branch of the British Medical Association. She enjoyed 14 oz. of peptonised beef-tea in their presence, but told them that peptonised milk-gruel was more agreeable to her stomach.

With regard to the operation itself, the patient was anæsthetised by bichloride of methylene from a Junker's apparatus, and no sickness occurred at the time, nor afterwards.

Antiseptic precautions were taken; a warmed weak carbolic spray, 1 in 60, being employed, and balls of absorbent cotton-wool wrung out of carbolic acid solution, 1 in 60, used instead of sponges.

The abdominal wound, nearly three inches in length, was made one finger's breadth from, and parallel to, the cartilages of the eighth and ninth ribs, and extended towards the tip of the tenth rib cartilage (a point always to be felt distinctly as a projection movable on the ninth cartilage, to which it is attached by a broad ligament).

Three small vessels only required ligature, and fine chromic

catgut was used for this purpose. The portion of the stomach selected was that which presented itself in the wound. No attempt was made to drag out the viscus or search for the cardiac end, as no importance was attached to the position of the opening beyond its future relation to the skin wound; and though it was imagined at the time that a portion of the anterior wall near its lesser curvature and not far from the œsophagus was secured, it proved eventually to be the centre of the greater curvature, rather nearer the pyloric than the cardiac end, that was actually fixed. A large vein had to be carefully avoided in passing the sutures through the surface of the organ.

The stomach was held in position by two carbolic silk ligatures, so passed as to avoid entering its mucous surface, which, from its looseness, there is really little fear of including, and a portion of the viscus about the size of a half-crown piece was attached to the skin wound, exclusive of the cut edges of the parietal peritoneum, by sixteen stout interrupted chromic catgut sutures, closely applied and passed in the same manner as the two silk ones. The edges of the skin wound were brought into apposition by five similar sutures. There was no tension nor dragging on the wound, but the parts were secured exactly in the position they were found when the abdomen was opened. The only trouble was the protrusion of the left lobe of the liver, which occurred on opening the peritoneal cavity and during inspiration; but this was kept well out of the wound by upward pressure of the finger of a colleague during the bringing of the skin edges together.

A small piece of protective covered the wound, which was dressed with three soft and warmed iodoform absorbent cotton-wool pads in absorbent cotton gauze, and over all the ordinary antiseptic dressing and bandages.

When all was healed, after the fifth day, the fistula lay well out of the way, protected by and under the costal cartilages.

There was never at any time any soreness from regurgitation of food, nor any digestion of the edges of the wound, nor escape of gastric juice, by reason of the smallness of the opening made into the stomach. This is a very important point so far as the comfort of the patient is concerned, and is very justly insisted on by Mr. Bryant.

As proved experimentally on a cadaver a few days before the operation, the incision planned came directly on to the stomach. There was consequently no searching for the stomach, no unnecessary disturbance of the natural relation of parts, and nothing but the viscus and the left lobe of the liver came into view. The stomach was not drawn out of the wound at all,

but secured *in situ;* consequently the parts all fell together naturally afterwards, so that there was no necessity for an outer ring of sutures including the peritoneum, as suggested by some operators.

For the subsequent history of this case I am indebted to Drs. Church, Moore, and West, and to Messrs. Bowlby and D'Arcy Power for allowing me to examine the specimen before it was put up for the Museum.

Extract from Faith Ward Book, vol. vi. p. 869 :—

Jane N., admitted August 3 ; died December 6, 1883.

On May 10 gastrostomy at Canterbury Hospital. For five months before that she had great difficulty in swallowing; no food returned, and she was much emaciated.

Still vomits a little watery fluid ; no epigastric pain.

The opening is just where the outer border of the left rectus touches the margin of the ribs.

Nov. 18.—Tent in wound last night passed easily ; expanded well ; no pain in abdomen.

Nov. 29.—Cervical glands much enlarged on the right side ; pain in hypochondriac region relieved by morphia.

Dec. 6.—Patient died of inanition ; during the last few days of her life she expectorated great quantities of fœtid material.

Through the kindness of Dr. Norman Moore, I am able to give the following account of the post-mortem examination (Post-mortem Book, vol. x. p. 294) :—

Jane N., æt. 43, admitted August 3, 1883 ; died December 6, 1883, under Dr. Church ; post-mortem December 7 ; Ward Faith. "Stricture of œsophagus :" body wasted ; scar of gastrostomy ; head not examined. Œsophagus normal to about two inches from stomach, then thickened and ulcerated ; the growth stopped at the cardiac opening, not going into the stomach. Lungs : emphysematous ; a few old tuberculous concretions. Heart : atheroma of mitral valves ; left ventricle hypertrophied ; right ventricle dilated ; atheroma considerable at beginning of aorta. Stomach adherent to skin ; slight adhesion to liver. Kidneys : rather small ; capsule adherent ; surface granular ; cortex cloudy and coarse. Organs of generation : small polypus on fundus uteri.

I am indebted to the courtesy of Mr. D'Arcy Power for the following description of the specimen, which he has placed in the Museum :—

Series XV., No. 1846B.—"Œsophagus and stomach from a case of cancer of the œsophagus in which gastrostomy was performed eight months before death.

"The œsophagus is narrowed and ulcerated for a distance of 3½

inches above its cardiac extremity; the ulceration has commenced at a point opposite the bifurcation of the trachea, and has extended downwards. It has not invaded the stomach. The ulceration at its upper part has perforated the walls of the œsophagus, and has exposed a bronchial gland, which appears as a black mark extending transversely across the tube. The stomach appears to be normal; the gastrostomy opening is situated at the lowest point in the greater curvature, midway between the cardiac and pyloric orifices, *i.e.*, about 8½ inches from each.

"The skin, with its orifice, and a portion of the costal cartilages adherent by the results of old inflammation to the greater curvature of the stomach, are left *in situ*. The cancer is of the scirrhous type. There were no secondary growths; no glands were infiltrated."

In addition to these notes of the case, the observations of Dr. Church during the patient's five months' residence in St. Bartholomew's Hospital are interesting.

He says the operation was perfectly successful, as for many weeks she could fairly enjoy life. There was occasional difficulty in feeding her from contraction of the wound, but the insertion of a laminaria tent for a few hours always overcame the difficulty for some weeks. A No. 8 catheter was used for feeding; at times the passage of this was painful, but until a few days before death there was no tendency for food to run out of the wound. After I saw her, on October 1, 1883, at the hospital, Dr. Church said she began to complain of occasional pain about the epigastrium, and towards the end of October she began to be much troubled by a very nasty taste in her mouth, and the presence of much frothy ill-smelling expectoration; she began at the same time rapidly to lose flesh; the stomach then began to reject the food introduced into it, and she gradually sank and died without much suffering.

At the post-mortem it was noticed that the walls of the œsophagus at the stricture were about a quarter of an inch thick and that its mucous membrane was gone, and sloughing was going on in the mucous surface; there was no infiltration of neighbouring parts nor glands. The posterior and lower portion of one lung was gangrenous.

She really died of septicæmia from the absorption of putrilage from the cancerous œsophagus, and not from starvation.