gnosis of perforation. Here we have pain, sickness and faintness, with slowly extending tenderness and distension, but all these conditions are much less marked in the early stage than they are in the first group, though they may at the end of two or three days develop rapidly, and end the patient's life in a few hours. Here there is a smaller leakage which becomes more or less encysted by adhesions, and which may eventually form a well-defined abscess, perforating into the intestine, or on to the surface of the abdomen, or into the thorax²; or some accidental exertion, such as that of vomiting, may rupture the collection into the general peritoneal cavity, and set up a rapidly fatal diffuse peritonitis. In this second group, ill-marked as the symptoms are as compared with those in group one, yet with a history of symptoms of gastric ulcer they would generally call for an exploratory incision.

NOTES OF A CASE OF GASTRO-ENTEROSTOMY FOR PYLORIC TUMOUR, WITH GRADUAL DISAPPEARANCE OF THE TUMOUR AFTER OPERATION.¹

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A. H., age 38, was placed under my care by Dr. Crawford, with a history that she had suffered for some months from vomiting at intervals, great emaciation, constipation, and that he had detected a small tumour in the abdomen.

Since March she had been unable to take solid food without suffering from vomiting, which occurred from time to time, and she frequently noticed that she vomited at night what she had eaten in the morning. When taking milk alone she was able to prevent the vomiting for some days, but was more comfortable when she took no food of any kind. A distinct tumour was felt below the normal site of the pylorus. The stomach showed increased area of percussion, and well-marked splashing was made out.

I advised that the abdomen should be opened, the tumour examined, and removed if possible, and that the stomach should be united to the jejunum in order that the obstruction might be relieved. She was admitted to the Blythswood Nursing Institution in Glasgow on November 14th, 1891. She was fed for two days on small quantities of milk and barley water along with meat suppositories, which latter agreed with her. As she was very weak, I did not wash out her stomach previous to operation.

November 16th. Ether was given by Dr. Garnet Wilson, and assisted by Drs. Beaton and Bryce—there being also present Drs. Crawford and Sloan—I opened the abdomen, making an incision slightly to the left of the umbilicus. The stomach was found dilated, and the tumour was easily lifted upwards; it was the size of an orange, but slightly more flattened, and was quite free from adhesions, but had the look of a malignant growth.

As the patient was very feeble it was decided not to interfere with the tumour, so I made an incision $\frac{1}{2}$ inch in length at the pyloric and inferior aspect of the stomach, and, passing my finger in, I examined the constriction, and found, as we expected, that it was not due to contraction after ulceration, but caused by thickening at the pyloric orifice, which would barely admit my little finger. Loret's operation of dilatation could not, therefore, be practised, so I proceeded to join the stomach to the jejunum, making use of Senn's decalcified bone plates. Having first washed out the stomach, the wound was enlarged to $1\frac{1}{2}$ inch, and a bone plate threaded with chromicised catgut ligatures, as advised by Mr. Jessett, introduced. The ligatures, four in number, were passed, two through the coats of the stomach laterally, the other two were brought out at the upper and lower angles of the wound. A portion of jejunum was then selected which could be brought easily in contact with the stomach; the bowel was emptied of its contents, two of Makin's clamps applied with $\frac{3}{4}$ inches of bowel between them; the bowel was opened by an incision 1 inch in length, and a bone plate introduced and fastened as above described. The two openings were now brought in contact and the ligatures tied, a Lembert stitch being used at each end to steady the plates; the stomach and bowel were then dropped into the abdomen and the incision closed with Barker's silk. The usual dressings having been applied, the patient was lifted back to bed.

She made a perfectly good recovery, and in three weeks after the operation was taking solid food, and now—eight months after—she is looking healthy and well nourished. She is doing the usual work of a house, and recently has had extra strain owing to illness in her family, but she says she feels perfectly well and has no discomfort anywhere, and has never vomited since the operation was performed. On examination it is not now possible to make out any tumour—which may partly be due to the fact that she is so much fatter.

As gastro-enterostomy is a comparatively recent operation, I thought it might be an advantage to record this case.

Joining the stomach to bowel is evidently the natural operation to do, as Professor Gairdner drew my attention to a plate in an old pathological atlas which shows distinctly the union of the stomach and bowel in a case of ulceration with obstruction.

It may seem almost a matter for regret that the tumour was not removed, but doing so adds greatly to the risk, as there are then four wounds to heal instead of two, and the length of the operation is greater. I felt that the patient whose case I have detailed was so weak that removing the tumour would have been fatal, and I knew that if she recovered from the minor operation and the tumour gave trouble, I could reopen the abdomen and remove it.

The operation has given the tumour rest, and if it is malignant it is quiescent; if it is a fibrous enlargement it has subsided. Fibroid growths at the pylorus are not quite so uncommon as used to be supposed, and a careful examination of the abdomen should be made in all cases of indigestion, more especially when there is vomiting. The method of joining the stomach and intestine by Senn's plates is quicker than stitching the openings together, and is quite as satisfactory. Two preparations, which my friends Professor Chiene, of Edinburgh, and Dr. Beaton, of Glasgow, have kindly lent me, both show complete union of the stomach and intestine in cases of gastro-enterostomy operated on by them, the one by Professor Chiene having been united by stitching, that by Dr. Beaton by Senn's plates. The use of india-rubber rings has also been advised, and in cases where intestine has to be joined to intestine Mr. Jessett, to whom we are greatly indebted for our knowledge of intestinal surgery, has used these rings with perfect success. As the rings are not absorbed, he points out the importance of not using them in cases of stricture, as they might cause trouble by not passing.

The after-treatment of patients who have had this operation performed is most important; feeding by the mouth in small quantity should be commenced two hours after the operation, aided by meat suppositories, the quantity being gradually increased as the patient's strength returns.

The points of importance to consider are: 1. Is the operation one to be advised, and when should it be performed? 2. Should the tumour have been removed? 3. Are Senn's plates the best means of effecting union between the stomach and bowel?

CASE OF PERFORATING GASTRIC ULCER: PERITONITIS: RECOVERY.

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CASES of recovery after peritonitis, due to perforating gastric ulcer, seem to be rare. I have been able to find records of only six cases. Three of these¹ are recorded as having completely recovered, while three² died in the course of subsequent attacks, and the accuracy of the original diagnosis was verified by *post-mortem* examination. In the following case recovery has, happily, been so far complete; and clinical facts alone can be offered in justification of the diagnosis:—

On February 1st, 1891, while I was doing duty for my friend, Dr. Waterhouse, one of his patients called me to see her nursemaid, who had become suddenly very ill. On my arrival I found a well-built young woman reclining on an elbow-chair, and apparently in a dying condition. I learned that, five years previously, patient had had hæmatemesis; that she then was treated for gastric ulcer as an in-patient at St. Mary's Hospital; that she had come out sooner than her friends expected; that she had had stomach troubles ever since, with occasional exacerbations of pain at a fixed point in the epigastrium. Of late, but for the epigastric pain, she had been unusually well. She had had a normal menstrual period a fortnight previously. On the morning in question she had breakfasted at 9 A.M.; she had passed water naturally at 11.30 A.M.; all the morning she had been unusually busy. Finally, at 1.15 P.M., while at house-work, she had been seized with sudden acute pain in the epigastrium accompanied by faintness and paleness, but no retching.

At 2.40 P.M., when I first saw her, the patient was of a ghastly pallor; the radial pulse was about 60, but almost imperceptible; temperature

¹ See an interesting paper by Taylor, *Birmingham Medical Review*, April, 1883.

² Read in the Surgical Section at the British Medical Association meeting at Bournemouth.

¹ Redwood, *Lancet*, vol. i, 1870, p. 647; Ross, *ibid.*, vol. i, 1871, p. 81; Tinley, *ibid.*, vol. i, 1871, p. 533.

² Fraser (2 cases), *Ranking's Abstract*, vol. i, 1861, p. 95; Hughes, quoted in Hilton Fagge, vol. ii, p. 472.