

the forefinger eventually being passed with ease from the stomach into the duodenum. The hæmorrhage was very slight indeed, and the interior of the stomach having been cleansed immediately before the operation no difficulty was experienced with the stomach contents. The wound in the gastric wall was brought together with great accuracy and in a most satisfactory manner by means of Gussenbauer's sutures, which were introduced with specially curved needles, and an interval of about 2 millimètres allowed between each. Fine silk was employed. All the stitches were placed in position before any were tied. The wound in the abdominal wall was closed in the usual manner.

August 12th (evening). Patient complaining of pain since the operation; no vomiting. Enemata of milk \mathfrak{z} iss, and brandy \mathfrak{z} as every eight hours; enemata of port wine every eight hours \mathfrak{z} ij; strychninæ gr. $\frac{1}{4}$, glycerini \mathfrak{z} ij, aq. ad \mathfrak{z} ij. 15 drops = $\frac{1}{8}$ gr. hypodermically every four hours.

August 13th. Patient slept very little during the night; wind troublesome; passed $10\frac{1}{2}$ ounces of urine at 2 A.M. Temperature 100° , pulse 125. Enema of soap and water; no vomiting.

August 14th. Patient slept well during the night; passed flatus *per rectum*, and found great relief; no vomiting.

August 15th. Bowels not open; has passed flatus; there is no abdominal distension, but complains still of flatulence; there is some pain in her stomach.

August 16th. Very restless during the night; still complains of flatulence; no vomiting. A teaspoonful of gruel every two hours.

August 17th. Slept very well during the night; still passing flatus *per rectum*, causing pain; no vomiting after giving gruel; one stitch removed. 6.15 P.M. Patient comfortable. Supp. morph. gr. $\frac{1}{4}$; mitte \mathfrak{z} ij every six hours; enemata of brandy and milk; one teaspoonful of rump steak every four hours; give 10 drops of ac. hydrochlor. dil. a quarter of an hour before, and then gr. \mathfrak{z} ij of pepsin immediately afterwards.

August 18th. Complains of very little pain; still much flatus passing *per rectum*; bowels moved at 3.30 P.M.; no vomiting. A teaspoonful of milk and two teaspoonfuls of lime water every four hours alternately with the beef; enemata of milk every four hours; injection of strychn. twice daily gr. $\frac{1}{16}$.

August 19th. Wounds dressed; a little discharge; stitches removed.

August 20th. Wound dressed; looking well; there is a little inflammatory hardening about the wound; enema of soap and water, and bowels moved well.

August 21st. Omit raw meat—give chops and fish instead, and also bread and butter; enemata every six hours only.

August 23rd. No vomiting; complains of pain in her right side.

August 24th. There is a little discharge from the centre of the wound. Liq. strychn. \mathfrak{m} ij, aq. ad \mathfrak{z} ij, s. o. s. ante cibos.

August 28th. The edges of wound are uniting fairly well; the skin is a little inverted at the edge; still inflammatory hardening about the wound.

August 29th. Patient complains of pain in her stomach; no vomiting; food does not cause her trouble.

August 30th. Still has crampy pains in her stomach at night; relieved last night by some warm water and brandy; scarcely any discharge from the wound.

September 7th. Patient says that "she feels fine;" never feels sick, but nearly every night she has pains of a burning character about her stomach.

She eats bread and butter, eggs, toast, cake, mutton, beef, custard, and drinks milk and cocoa; she does not take pudding, vegetables, or tea. The temperature rose above 100° on only one occasion. For the short notes of the case I am indebted to my dresser, Mr. Verco, and the account of the operation was written for me by Dr. Giles, who assisted.

On December 24th, 1888, Dr. Baly, at my request, kindly sent me the following note after examining the patient:—

"Patient looks and feels perfectly well, and has evidently gained flesh in a marked degree—weight 7 st. 10 lbs. (weight before operation not known, but Mrs. H. thinks she must have gained a stone). Has never vomited since the operation, and has had no pain since leaving the hospital. Is able to eat ordinary diet without inconvenience, but has felt somewhat uneasy after eating beef, cabbage, or rich cake. Can eat mutton, poultry, fish, and farinaceous puddings, and drinks tea three or four times a week. No flatulence, heartburn, or eructations now after food; bowels regular; ate green peas several times during the season without any bad effect.

"*Examination.*—Abdomen well covered, instead of appearing a mere envelope of skin as it did before operation; skin over site of operation freely movable; some induration still to be felt in the region of the pylorus.....Gastric resonance not increased upwards or to the left." He adds: "You will recollect, of course, that before the operation even a little milk used to caused Mrs. H. great agony."

I have quoted Dr. Baly's words, although not intended by him for publication, as I am anxious not to interpolate in this account any bias of my own in favour of the operation. In conclusion, I must say that, in my opinion, this case warrants me in recommending any surgeons who have the chance to give the operation a fair trial, and publish their results both immediate and remote, for only in this way can we arrive at a satisfactory conclusion.

I have since performed this operation (May 22nd, 1889) on a patient who has been a sufferer for years from pyloric stenosis. He had made a perfect recovery from the operation, and whereas before the operation he had to wash out the stomach daily, he has not since had an attack of vomiting, and has not had any necessity to use the stomach tube. As sufficient time has not yet elapsed to enable me to form an opinion as to the ultimate result, I reserve the notes of the case for a future communication. Mr. Treves's interesting paper in the JOURNAL of May 18th, 1889, gives only two recorded cases in Great Britain, and I send mine as a further contribution to this department of surgery.

ON A CASE OF DIGITAL EXPLORATION OF THE PYLORUS (LORETA'S METHOD), WITH REMARKS ON THE RELATION OF GASTRIC ULCERATION TO PYLORIC STENOSIS.

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ALTHOUGH the present case cannot be included under the heading of Loreta's operation, yet as the stomach was opened with the object of digitally dilating the pylorus, if necessary, I have thought it better to describe the case under the above heading, in order that it may be compared with other cases in which dilatation has been fully carried out. There have been, as far as I can ascertain, two successful cases of Loreta's operation reported in this country, one by Mr. Hagyard, and one by Mr. F. Treves, both of which recovered and remained well two years and one year after the operation respectively; in neither of these cases is any mention made of any ulceration or abnormal condition of the pylorus beyond the contraction and the adhesions. The following is the history of the present case.

E. R., aged 42, married, eight children, a previously healthy, temperate woman, with a good family history. Her present illness commenced five years ago, with frequent attacks of vomiting; these lasted three months, when she became pregnant, and was well and free from sickness until ten months after the confinement. She then weaned the child, and about this time the vomiting recommenced, and has continued more or less to the present time, and the patient has kept her bed for the last six months. She is very emaciated, weighs 5 st. 8 lbs., and vomits every two or three days two or three pints of yeasty fluid, which contains free acid. Between the attacks of sickness she eats well and feels pretty well, with the exception of at times violent epigastric pain. There is a distinct hard swelling to be felt in the epigastrium a little to the right of the middle line.

The stomach having been previously washed out two days and, again two hours before operation, the vicius was exposed by a 4-inch median incision nearly over the swelling; the liver then came into view, and below its edge the thickened nodular mass, which was the pylorus adherent to the liver and to the pancreas. The stomach was now drawn out of the wound, and by inverting its coats with the forefinger the projecting thickened ring of the pylorus could be distinctly made out. A short incision was made into the stomach parallel to, and midway between, the curvatures, and about 3 inches from the pylorus, and a large quantity of fluid was drawn off, and the forefinger introduced. The pyloric ring was felt to project somewhat into the stomach cavity; it felt, however, hard but smooth, and easily admitted the forefinger. On the posterior wall of the stomach was a hard nodular surface,

feeling like malignant disease, but which proved to be the surface of the pancreas exposed by ulceration (see photograph). After passing the finger well through the pylorus, I decided to close the stomach wound. This was done by a fine silk Lembert's suture with a reinforcing row outside the first.

Convalescence was uncomplicated by any sickness, rise of temperature, or any other complication. The patient was fed for the first three days on nutrient enemata, then on peptonised food, and took solid food on the tenth day. She was a little sick (8 ounces) on the thirteenth day, but got up on the fifteenth day, and gradually improved. She was sick twice only in December, and was discharged on January 1st, her weight at that date being 6 st. 5 lbs., or a gain of 9 lbs. since the operation. She still suffered at times, however, from epigastric pain. After her discharge from the hospital she continued well for three or four months, though there was occasional and slight sickness, and she walked out of doors. She then, as she expressed it, began to suffer from the scanty supply of poor and indigestible food, and the pain and vomiting gradually returned, and she died from exhaustion after an attack of diarrhoea on September 20th, eleven months after operation.



Cavity of stomach laid open, showing the projecting ring of the pylorus, A, A, and the ulcerated surfaces. A, pylorus; B, ulcerated areas.

Post-mortem Examination.—This showed an absence of disease in any organ except the stomach. This organ was much dilated, and lay almost entirely to the left of the mid line; stretching from the cicatrix on the abdominal wall to the anterior surface of the stomach was a thin old adhesion. The pylorus was much thickened, and adherent to the under surface of the liver, and to the pancreas posteriorly. On opening the stomach, no sign of the incision in its walls could be seen, and, apart from the dilatation, the cardiac end appeared healthy; the ring of the pylorus was found as described at the operation, smooth, but tough and inextensible, but easily admitting the forefinger, and projecting like the lips of the os uteri into the stomach cavity. The greater portion of the wall of the stomach in its immediate neighbourhood was ulcerated away, exposing the pancreas posteriorly and the liver in front, to both of which the stomach is very firmly adherent all round, so that there has been no extravasation.

REMARKS.—There can be no doubt, I think, that the roughened surfaces felt at the operation and suggestive of malignant disease were the ulcerated areas in which the rough surface of the pancreas could be felt; in fact, the stomach presented a threefold lesion (1) a hardening and loss of expansibility with some contraction

of the pylorus, with firm adhesions to neighbouring parts; (2) extensive ulceration of the wall of the stomach of a non-malignant kind in the neighbourhood of the pylorus; (3) great dilatation of the general stomach cavity.

Now it appears to me that these three conditions have a causal relationship to each other, and I would place the ulceration first, this leading to adhesions and then to chronic spasm, and eventual rigidity of the pylorus, this leading in its turn to the dilatation of the stomach; in fact, the condition of the pylorus may be compared to the chronic spasm of the sphincter ani when irritated by an ulcer of the mucous membrane just within the rectum. Moreover, it seems likely that beyond mere constriction of the pylorus in cases which have been treated by Loreta's method, ulceration in its neighbourhood has an important share, for in the history of chronic illness which such patients give, a vicious circle has been established, the ulceration leading to constriction, and the pyloric constriction again preventing the healing of the ulceration. It is not easy to understand how real pyloric stricture comes about in the absence of any cause of irritation, such as the presence of an ulcerated surface, and the conditions found in this case, and verified by *post-mortem* examination, especially the degree and stages to which the different lesions had respectively arrived strongly supports, I think, this view. If this be so, the probable presence of ulceration, either recent or healed, should lead to care in extreme dilatation of the pylorus in cases of Loreta's operation.

That great relief was afforded in this case is shown by the decrease in vomiting and pain, and by the increase in weight; it is not so easy to explain how the good result was brought about. Although the finger was passed through the pylorus, no force was used to dilate it. Whether any nerve filaments irritated by the ulceration were divided by the incision in the stomach wall, and so set at rest, or whether the pleating in of the walls of the stomach (which was considerable at the operation) helped to temporarily lessen the dilatation, must be a matter of conjecture. Dr. Ord has suggested that the prevention of apposition of the opposing gastric surfaces in the empty stomach in ulceration is an important cause of pain of an epigastric character, and this may have been present before operation in this case.

I would, however, suggest that moderate digital dilatation of the pylorus should be practised in cases of extensive chronic ulceration of the stomach with dilatation, even where there is not extreme pyloric stenosis, with a view of curing the ulceration by setting the pylorus at rest, and Professor Loreta's operation may thus have beneficial results in a further class of cases.

NOTE ON CHARCOT'S JOINT DISEASE.

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As Charcot's disease is a somewhat rare affection, I have thought that the following case, together with the few remarks suggested by the study of the causation of the deformities which accompany it, may be of interest to the profession.

A. B., aged 45. Patient was suffering from ataxy for twelve years. Illness was produced by a fall from a horse. No hereditary history of nervous disease. During the course of his malady he presented all the characteristic symptoms. The Argyll-Robertson pupil, the lightning pains, and peculiar gait were followed in due course by gastric crises, cystitis, complete loss of reflex and cutaneous sensibility. Bedsores developed towards the end of his illness, and he died from exhaustion. For some weeks before his death he lost the perception of all but sweet taste, and refused all food which had not been sweetened. This phenomenon might be explained upon the supposition that the hypoglossal nerve was unaffected by the sclerotic changes. Unfortunately, it was impossible to examine the brain and spinal cord, as consent for such examination could not be obtained. The principal feature of interest, however, lay in the well-marked bone lesions which occurred during the later stages of the disease. About four years before the termination of the illness the joints of the feet and hands commenced to show traces of disease. There was no effusion into any of those affected, and but two of the finger-joints showed any inflammatory action; in these pus formed under the flexor tendons covering the joint. The pus was evacuated, the incision causing no pain, and the wounds healed. All the metacarpo-phalangeal joints became subsequently

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