SPA THERAPY

I have referred to spa treatment briefly when discussing physical measures, and do not propose to go deeply into this aspect of treatment, although in many cases it proves to be very advantageous. Few patients can give the time or afford the expense of a long stay at a spa, and long treatment is essential in arthritis. At the same time the effect of rest and change to a healthy and stimulating climate even for a short period, combined with the treatment only to be obtained at a well-equipped spa, is often of the greatest value, and may start the patient on the road to recovery. Many considerations will influence the choice of a spa: a bracing and stimulating effect is to be sought rather than a relaxing one. The kind of water is less important than the efficiency with which it is adapted to the particular patient, and there is a real risk in too strenuous treatment.

Time has not permitted of an exhaustive examination of the subject, but I hope the general principles and indications I have outlined will prove of some assistance to you in dealing with the different problems which arthritis presents to the practitioner.

HIGH GASTRIC ULCER

A SUGGESTED OPERATION

BY

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(With Special Plate)

This short paper is to introduce an operation which, so far as is known, has not previously been described, and which from the results obtained seems well worth while bearing in mind as a possible solution when the surgeon is faced with the problem of dealing with a really high and difficult gastric ulcer. Briefly, the proposal is to perform a partial gastrectomy below the level of the ulcer.

SURGERY IN THE TREATMENT OF ULCER

An attempt to summarize the literature was soon abandoned on account of the enormous bulk of work which has been contributed to the subject of the treatment of gastric ulcer. All that seems possible is a comparatively bald statement of what would appear to be the most widely and commonly accepted views on the matter—namely, (1) that medical and surgical treatment should be complementary, but (2) that a recent ulcer, wherever situated, is not suitable for surgical treatment except there be cause to suspect malignancy, whilst (3) in the present incomplete state of our knowledge a chronic ulcer, wherever situated, is best treated surgically.

The third of these statements requires a little amplification. It seems unlikely that the surgical treatment of ulcer will survive the test of time. The condition must be preventable, and when the aetiology is a little better understood the rational means of avoiding its occurrence will in all probability appear, and the surgery of the upper abdomen will to a large extent disappear. Until that time, however, surgery will probably hold the field, because its methods, though crude, give good, quick, and permanent results. The question naturally arises as to how these results are obtained, and, disregarding detail, it seems arguable that there are two broad factors—the mechanical and the chemical. *Mechanically*, all the operations in which the stomach is anastomosed to the

duodenum or jejunum lead to a more rapid emptying of the stomach, and the ulcer is either removed entirely or side-tracked from the main food stream. Partial gastrectomy removes the ulcer, and the surviving stomach empties rapidly. *Chemically*, all these operations tend to diminish gastric acidity by the free admission of the alkaline contents of the small gut. In addition, gastrectomy in all its forms also removes part of the acid-secreting mucosa.

THE PROBLEM

For a chronic gastric ulcer the majority of surgeons favour, whenever possible, a partial gastrectomy. The alternatives are excision and gastro-enterostomy or cauterization and gastro-enterostomy; but in whichever direction the surgeon's choice may lie all these procedures are easy when the ulcer is accessible. The operation and the

FIG. 1.—Partial gastrectomy; the standard operation. The shaded portion between the lines A and B is removed. The jejunum is anastomosed at B.

problem become difficult only when the ulcer is high. Gastro-enterostomy alone is looked upon with disfavour because, despite statistics to the contrary, surgeons in general are dissatisfied with the results obtained. It may be that the drainage and the chemical change are too far removed from the ulcer. The combination of excision or cauterization with gastro-enterostomy when dealing with extremely high ulcers is most difficult and not a little dangerous. Gastrectomy *can* be done, but needs to be almost or quite "total." This is not impossible, and cases have been reported where a complete gastrectomy has been done for simple ulcer. The only total gastrectomy the writer has done himself was for a leather-bottle malignant stomach. The patient survived two years, but was quite miserable for the whole of that time. Complete gastrectomy is probably never worth while, and is certainly not justifiable for simple ulceration. As regards the danger of unrecognized malignant disease, a growth in the position under consideration cannot be successfully removed and is better not attempted. This possibility therefore does not justify complete gastrectomy. As a compromise it has been suggested elsewhere that, in performing the partial gastrectomy, the general level of resection should be below that of the ulcer, but that a tongue of tissue should be taken up the lesser curve to include the ulcer itself. This operation resembles excision and cauterization in that it is difficult, dangerous, and shocking.

THE PROPOSED OPERATION

The solution suggested is simply to perform a standardized Polya-Moynihan partial gastrectomy below the level of the ulcer. The technique requires very little description. The pyloric end or the duodenum is divided and the stomach turned up in the usual way. It may be only at this stage that the surgeon discovers that to complete his operation as it was first intended would

require the total removal of the stomach, or it may be that from the first he has recognized the impossibility of resecting the ulcer together with that part of the stomach which already he has isolated. In either event the decision is made to remove as much stomach as possible up to, but not including, the area in which the ulcer lies. In order to facilitate the anastomosis it may be desirable to dissect an adherent ulcer from its surrounding tissues, and this in turn may lead to its perforation. I have not hesitated to perform such a freeing of the ulcer, and in one of the cases to be described a perforation occurred which was immediately closed and caused no embarrassment. The anastomosis itself may be made with or without clamps, according to the choice of the operator, but if he is accustomed to their use it is helpful to employ an instrument made for me by Messrs. Thackray of Leeds, which gives a parallel grip and is particularly

FIG. 2.—The proposed operation. The shaded portion between A and B is removed exactly as in the standard operation, except that the ulcer is left behind. Gastrectomy to include the ulcer (at the broken line C) would involve the sacrifice of the whole stomach.

useful in this special operation in which the tissues dealt with are usually much thickened in the region of the lesser curve and are difficult to hold with clamps of more ordinary type.

The theoretical consequences of this operation considered by criteria similar to those employed above are that: (1) *mechanically*, the ulcer is left in a portion of the stomach in which the food lies for a very short time indeed; and (2) *chemically*, much acid-bearing fundus mucosa is removed and the alkaline jejunal content is brought into direct contact with the ulcer. The possibility of an operation of this kind had been borne in mind for some months before the first patient suitable for such treatment presented himself some three years ago. Since that time three other similar cases have been dealt with, and a further three cases could with advantage have been treated in this way, but were subjected to more serious and dangerous measures on account of the uncertainty attaching to the new method. These figures, drawn from one man's comparatively small practice, will illustrate that the indications for the operation are by no means rare. In considering these figures it is most important that it should be clearly understood that the operation has been strictly confined to really high ulcers, which could not be removed together with the stomach except with the sacrifice of almost all of that organ and at great risk to the patient.

REPORTS OF CASES

Case 1.—A man operated upon in February, 1930, at the age of 51. Had had severe symptoms for three years, becoming worse. Marked hour-glass deformity. A gland sent for section showed no malignancy. Is a ship's cook. Has been in constant employment and excellent health since operation. *X-ray findings*: (1) before operation (February, 1930) pronounced hour-glass deformity obscuring large high ulcer, deformity due almost entirely to spasm; (2) two years after

operation, immediately after food—food passes rapidly through stoma, no *x-ray* evidence of ulcer; (3) two years after operation and 1½ hours after food—stomach empty except for a few scattered shadows, and a trace of barium in the new floor formed by the jejunum.

Case 2.—A woman operated upon in November, 1930, at the age of 44. There was a large ulcer astride the lesser curve and one inch from the oesophagus, admitting the fingertip. No glands. Stringy adhesions to the liver and a dense plaque of adhesions to the pancreas. It was impossible to get the usual pack above the fundus. Operation—resection three-quarters of an inch below the ulcer. At least two-thirds of the stomach removed. Seen in December, 1932, this patient had mitral disease with failing compensation, but was perfectly happy so far as concerned appetite, digestion, body-weight, etc. *X-ray findings*: (1) before operation (October, 1930)—only small niche of ulcer showed; (2) two years after operation, immediately after food—meal passes rapidly through stoma, no *x-ray* evidence of old ulcer; (3) two years after operation and 1½ hours after food—only very small trace of food remains in loop of jejunum forming bottom of stomach.

Case 3.—A man operated upon in June, 1931, at the age of 50. The ulcer easily admitted the end of the thumb and extended to within half an inch of the oesophagus. Had it been malignant the case was clearly hopeless. A gland sent for resection did not show malignancy. Operation—resection half an inch below the ulcer. No trouble with his food after leaving hospital. Slight flatulence after heavy cycling or long walking, but *within a month* he began a full day's work. His work is very arduous, as he makes concrete and lifts heavy timbers. Has a good appetite. Breakfast consists of fresh egg, fresh bread, tea, and a round of toast; dinner, a bowl of soup, potatoes, and vegetables, sometimes fowl or rabbit, no other sort of meat; tea, boiled egg, bread-and-butter, and tea; supper, a mug of cocoa and a round of toast. There is no pain or flatulence; bowels are regular. He takes no medicine of any sort, and "feels about 20 years old." He has gained a lot in weight, and looks and feels well. *X-ray findings*: see Special Plate.

Case 4.—A rigger, keen for work, but finds no work for him. Operated upon in February, 1932, at the age of 56. Had had symptoms since the war days. Previous laparotomy at another hospital—nothing found. At operation an ulcer was seen on the posterior surface of the lesser curve, admitting the thumb; it was adherent above the pancreas. Partial gastrectomy was commenced and the ulcer perforated deliberately. Above the ulcer impenetrable adhesions were found. The perforation was sutured, and gastrectomy performed below that level. Seen in December, 1932, this patient declared that he felt young and ate anything and everything which he could get. *X-ray findings*: see Special Plate.

DISCUSSION AND SUMMARY

It is apparent from the *x-ray* evidence that rapid and satisfactory healing of the ulcer is promoted by this operation without stenosis of the opening into the small intestine. The remaining stomach empties as speedily as is usual in partial gastrectomy generally, and the post-operative pictures do not, in fact, suggest that any variation from the classical procedure has been made. Symptomatically, the four patients—admittedly an extremely small group—have spoken for themselves in so enthusiastic a fashion as to render any amplification of their testimony unnecessary. These practical considerations would seem to outweigh the manifest theoretical objections that could be raised, and to justify the putting forward of this procedure as a serious proposal in the surgical treatment of the most difficult type of gastric ulcer.

1. The present-day attitude towards peptic ulcers is briefly summarized.
2. The difficulty of dealing with very high ulcers is described.
3. A new operation for this type of ulcer is proposed.
4. Four cases are reported.

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FIG. 1.—Case 3, June, 1931. Large lesser curve ulcer suggesting malignant disease. Actually innocent chronic ulcer at operation.

FIG. 2.—Case 3. 18 months after operation. Immediately after meal. Small intestine filling rapidly. No ulcer now visible.

FIG. 3.—Case 3. 18 months after operation and one hour after meal; not a trace of food remains in the stomach. No evidence of ulcer.

FIG. 4.—Case 4. Before operation, December, 1931. Very large ulcer lesser curve.

FIG. 5.—Case 4. Ten months after operation. Immediately after meal. The food enters intestine rapidly and there is no sign of any ulcer.

FIG. 6.—Case 4. Ten months after operation. Three hours after meal, showing rapid emptying and no trace of ulcer.