Original Articles.

RECURRENCES OF ULCER OF THE DUODENUM FOLLOWING OPERATION.

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IN an investigation of the results following operation on 600 cases of ulcer of the stomach and duodenum in which the history subsequent to the operation was ascertained, Graham¹ found that 81% were so relieved as to be considered cured and 10% were markedly benefited, that is, 91% were cured or improved, and 5% of the remainder were moderately improved. The results in the gastric group were not as good as in the duodenal by 3 or 4%. In a small number of the cases there was a recurrence of the symptoms following relief of some weeks or months; a small number of such have been re-operated on in our clinic. Also a small number in which the primary operation had been done elsewhere were re-operated on here. A study of the findings at the second operation has proved both interesting and suggestive, and it is my purpose to discuss the recurrence of symptoms following operation for duodenal ulcer on the basis of this data.

Gastrojejunostomy was the method of choice in the larger number of cases of duodenal ulcers subjected to operation. If actual obstruction existed to the third and fourth degrees, gastrojejunostomy, when properly performed, gave almost certain relief. Plummer² points out that such mathematical estimation is much more definite than the use of the terms "marked," "moderate," "considerable," etc., which have only relative meaning, and in estimating degrees of obstruction he advises the use of mathematical equivalents of descriptive terms. For example, obstructions are divided into four groups (1) represents those slighter degrees which might or might not be found on different occasions, (2) represents particles of food regularly found later than the normal period, (3) a grade of obstruction which retains certain parts of the food but allows the bulk of it to pass, (4) retention from mechanical causes which would result in the necessity for removal of such products by the stomach-tube or by vomiting. In response to mechanical obstruction, the stomach acts much like the heart, having periods of dilatation with feeble muscular action in which food remnants are found, and at other times good compensation when such remnants are not found. Obstruction to the first degree may be temporary, occasionally taking place as the result of pyloric spasm, which in turn might be caused by any one of a large number of diseases. Obstruction to the first and second degrees, if they are due to mechanical causes, will ordinarily be relieved by gastrojejunostomy, but not so

surely as those accompanied by more marked obstruction as occurs in groups (3) and (4). The greater the obstruction within limits the better the results of gastrojejunostomy and the converse holds equally true that those cases with slight obstruction or without obstruction furnish the highest number of failures to cure.

Failure to cure and recurrences following operation can be divided into two general groups: First, failure of the operation to relieve the stomach of its acid, irritating secretions and inadequate protection of the ulcer itself during the healing period. This condition occurs more often in those cases without obstruction or with obstruction to the first degree in which gastrojejunostomy has been done, especially in the well-nourished individual without obstruction. The pylorus is open and much of the food passes out of the pyloric orifice in preference to the gastrojejunostomy. In such cases, attempts have been made to close the pylorus, thus forcing the food out of the gastrojejunostomy opening. Such closure of the pylorus may be brought about simply by infolding the pyloric end of the stomach with buried silk sutures. Fowler³ used silver wire for this purpose. Lambotte⁴ passes a piece of twine about the stomach just above the pylorus, ties it tight enough to mechanically obstruct, but without sufficient tension to interfere with the circulation, which would result in casting the ligature into the lumen of the organ. In radiograms following the bismuth meal Lambotte⁴ has shown the pylorus blocked years after such closure. The general experience has been, however, that closure by the use of sutures has not produced a permanent blockage, but that these sutures are eventually passed into the lumen of the stomach with restoration of the channel, a result which rather regularly takes place in experiments with the normal stomachs of dogs, cats, etc. To obviate this, Wilms⁵ introduced the practice of removing a piece of living tissue, i.e. a strip of the sheath of the rectus abdominus muscle one-half inch wide and four or five inches in length, which was drawn twice around the pyloric end of the stomach, pulled sufficiently tight and fastened, acting as a living obstruction. This has also been done using a strip of omentum.⁶ For some time the method introduced in our clinic by C. H. Mayo has been practiced in such cases, that is, cutting a strip from the gastro-hepatic or gastro-colic omentum, leaving it attached at one end and drawing it twice about the stomach just above the pylorus, or, if the ulcer of the duodenum is sufficiently far below the pylorus, the omental strip is passed about the duodenum below the pylorus between it and the ulcer. The site of blocking should be diminished in size by the application of several interrupted sutures of fine silk to take the strain during the healing process. Since we have used this procedure the blockage remains permanent so far as we have been able to ascertain. However, sufficient time has not elapsed to show its exact

value, but it is undoubtedly true that living tissue drawn about the pylorus is more permanent than mechanical devices in which foreign bodies, such as threads, are used. Recently I re-operated on a case in which the pylorus had been closed in this manner for something more than a year. The strip of living tissue was still in place and covered with adhesions and the pylorus was securely blocked. Von Eiselsberg⁷ divides the pyloric end of the stomach and closes both ends. This method is sure, but with a definite although small mortality. Haberer⁸ advocates the unilateral exclusion of the pylorus (von Eiselsberg) in all ulcers of the pylorus and duodenum, not only because of the certainty of preventing food and gastric secretion from passing into the ulcerated area, but also because it prevents pyloric spasm and traction on the adhesions. In some instances, this latter condition is the cause of much pain and distress. While the unilateral exclusion has not been used in our clinic as a primary operation, it has been found very successful as a secondary procedure for the relief of pain, of recurring hemorrhage, or recurrence of the ulcer-syndrome in patients on whom a gastrojejunostomy has been made, which was mechanically successful, but in which some of the above symptoms continued. For several years it has been our practice in duodenal ulcer without obstruction and in which the conditions were favorable, to remove the ulcer from the duodenum by excision if possible. In our early cases the ulcer alone was excised. A considerable percentage of the cases subjected to simple excision relapsed within a year and it then developed that in addition to the excision it was necessary to do some type of drainage operation, either gastrojejunostomy, or a plastic on the pylorus, preferably the gastroduodenostomy of Finney¹⁰. The Finney operation lends itself admirably to excision of ulcers of the duodenum, the ulcer, being drawn directly into the operative field as the sutures are placed, can be excised with great ease and safety. Following gastrojejunostomy, if obstruction to the first and second degree exists, the ulcer should be infolded, as suggested by Moynihan,¹¹ and the pylorus blocked by living tissue. Especially should this be done if no obstruction, potential or actual, exists. If obstruction to the third and fourth degree be present, nothing more than gastrojejunostomy is essential, although infolding the ulcer is advisable. When hemorrhages were noted in the histories of the patients, the regional blood vessels were caught by sutures and tied.

In the second group of cases recurrence of the ulcer following gastrojejunostomy was apparent rather than real, and had its origin in improper suturing in the gastrojejunostomy. This happened in some cases which were most favorable for gastrojejunostomy, even when obstruction to the third or fourth degree existed at the time of the primary operation. Secondary operation showed that there was no recurrence of the orig-

inal ulcer, but that a new ulcer had formed at the site where the gastrojejunostomy was made, due to heavy silk or linen sutures hanging in the suture line. Radiograms following a bismuth meal before re-operation showed that the gastrojejunostomy was not working well and that food was delayed in passing out of the stomach. The acidity of the gastric secretions in these cases was high and the retention of secretions on an empty stomach, as shown by the stomach-tube, indicated a high degree of hypersecretion, in fact, the whole ulcer-syndrome had re-developed to such an extent that recurrence of the original ulcer seemed certain.

In a previous paper¹² I reported cases of gastrojejunal ulcer secondary to gastrojejunostomy due to defects in the operation itself and especially suture ulceration. Further experience has confirmed the views then expressed. The length of time these sutures will hang in the suture line is remarkable; one case as long as 22 months after the original operation. Eight cases of this description, in five of which the original gastrojejunostomy was performed in our clinic, were re-operated on. In two (one of our own) there were intercommunicating fistulas between the stomach, jejunum and transverse colon. Both of these patients had feculent material in the stomach. The finding of colon contents in the stomach following gastrojejunostomy is an indication of perforating gastrojejunal ulcer into the transverse colon. In a third case an abscess was found connecting a perforation of such an ulcer to the abdominal wall. In five of the cases re-operation showed a heavy strand of silk or linen hanging in the wound, and I have reason to believe that this was the original cause of the gastrojejunal ulcers in the others. In two cases, the condition of the tissues were such that after removal of these heavy ulcerating sutures it was thought wise to cut away the gastrojejunostomy, completely restoring the wall of the stomach and jejunum by suture and then doing a plastic operation on the pylorus. This procedure proved so difficult that in later cases the gastrojejunostomy was reopened in the suture line and the suture extracted. The opening was then enlarged by a plastic operation, using interrupted sutures for the purpose. Experiences of this kind teach that very fine silk, not heavier than 0, should be used for gastrojejunostomy, that the bite of the sutures should be as near the margin of the incision as possible and that, if it is necessary to reinforce a weak suture line, interrupted fine silk sutures are advisable or such sutures used for part or the whole of the outer row. It has been our practice for a long time to use catgut for the inner row, but it is not the inner row that gives trouble. It is the outer or musculo-peritoneal suture, and I have no doubt that if the order were reversed, using silk or linen for the inner row and catgut for the outer, better results would follow. How-

ever, catgut is so good a culture medium that one hesitates to use it on the peritoneal surface of a necessarily infected wound.

If the margins of the opening in the transverse mesocolon contain fatty tissue, it should be sutured to the stomach rather than to the gastrojejunal suture line. Otherwise, it may form a collar-like mass constricting the opening.¹³

The gastrojejunal opening, as a rule, should be placed at a point directly under the cardiac orifice and not in the pyloric end. The point to be selected has its origin on the lesser curvature a little to the right of the incisura angularis and passes vertical oblique to the left. Two cases of contracture of a gastrojejunostomy made in the pyloric end close to the pylorus have occurred in our experience; in neither of the cases was the original operation made in our clinic. There were no symptoms of recurrence of the ulcer in these two cases, but only those of interference with drainage from contraction of the opening and in each case the gastrojejunostomy was reduced to small size. In both of the above cases, the gastrojejunostomy was cut off and made at the usual situation with permanent relief. It is evident that an opening made in the muscular pyloric end of the stomach has a greater tendency to contract than when made at the point of election.

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PROGRESS IN THE DIAGNOSIS AND TREATMENT OF SYPHILIS.*

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If modern thought has any new truths to contribute to the inherited stock of medical wisdom, it is because we are in a position to study more exactly the forces and conditions.

Until within the past few years our knowledge of syphilis has not been of a scientific character; the parasite causing the disease was unknown and the personal equation in the establishment of the diagnosis was too often an important factor in the recognition of this disease,

and treatment was conducted in a most arbitrary and unreliable manner. We did possess much inherited knowledge in regard to this disease based upon physical observation; the opportunity for which has been great, syphilis being one of the most universal diseases, and no organ in the body being exempt from its effects.

Syphilis has been recognized by the modern world since about 1494, at which time it appeared among the soldiers in the army of Charles VIII, then King of France. It spread rapidly over Europe and has become one of the common diseases in all civilized countries. The weight of evidence seems to be that the disease was introduced into civilization by Christopher Columbus's men, and that it was acquired by them on the Island of Hayti.

Syphilis, gonorrhea, and chancroid were considered as the same disease until about 100 years ago, when Phillippe Ricord proved that syphilis and gonorrhea were distinct diseases and established the theory for primary, secondary and tertiary syphilis. The discovery of the gonococcus by Neisser and Bassereau's work, differentiating true chancre from chaneroid, established these three diseases as distinct, and from that time they have been clearly separated. Since syphilis has been considered as an entity observations have established the facts that syphilis is an infectious disease, acquired by contagion or heredity, chronic in its cause, intermittent in its character, and may involve any structure of the body. We have inherited the knowledge that the acquired disease begins as in the eroded, indurated papule, at the point of inoculation, within a few weeks (usually three) after contact with the virus, the lesion being known as the chancre, and that accompanying the chancre there are associated changes in the adjacent lymph nodes, characteristic inasmuch as they are small, shotty, hard and discrete, except when the chancre is secondarily infected with pyogenic organism. We have the knowledge that within a few weeks following the appearance of the chancre (usually six) there is a general infection manifested by characteristic exanthemata, upon the skin and mucous membrane, a characteristic general glandular involvement, and perhaps an iritis or a periostitis. We have been aware that after all symptoms and lesions have disappeared, that the disease may again manifest itself in a variety of forms which we have termed tertiary lesions, and that a group of symptoms may appear which are really syphilitic in origin but which may not be clearly correlated with syphilis and are termed the parasymphilides, as, for example, tabes and general paralysis.

We have been well informed that a child born of syphilitic parents may inherit the disease, and that the disease may manifest itself in one way or another at any period of subsequent life, and that the majority of miscarriages are due to infection by this disease. Also that the disease may remain latent in the offspring of syphilitic

* Read before the Worcester District Medical Society, Nov. 12, 1913.