The distribution of the results according to the stage of pregnancy is shown in Fig. 2. Of the two patients who did not experience any effect, the mental approach and environment of one were unstable and difficult. No treatment proved of any avail other than separating her from her home surroundings. The other patient stated that she

FIG. 2.—Results according to stage of pregnancy.

continued to vomit all the time regardless of any treatment, but at no time was her general condition affected. Of the three patients who stated they were worse following therapy, one vomited violently four hours after taking buclizine hydrochloride and did not take any further tablets, one thought her vomiting was more violent during her week's treatment, and one felt ill but took the tablets for only three nights. Unfortunately there was no opportunity to analyse the last patient's statement, as her frame of mind was such that she departed from the out-patient department with her notes.

One patient in the successful group complained that her vomiting was more violent after the first two nights, but she then experienced relief and was pleased to continue with the treatment.

In the successful group two patients had a previous history of hyperemesis gravidarum. One had had a therapeutic termination for hyperemesis at the second month in 1950, and, during her second pregnancy in 1951, treatment in hospital for 14 weeks from the sixth week had been necessary. During the present pregnancy promethazine hydrochloride had already been tried; buclizine hydrochloride was started at the ninth week and continued until the seventeenth week, but at no time was admission indicated. The dosage at first was 25 mg. t.d.s. and 50 mg. nocte, but eventually it was found that 50 mg. on waking in the morning and 25 mg. at midday gave the desired result.

The other patient had been admitted during her first pregnancy at the sixth, twenty-second, and twenty-sixth weeks for hyperemesis. During the present pregnancy buclizine hydrochloride was started at the eighth week on a dosage of 50 mg. nocte and 25 mg. mane. Treatment was continued for three months, during which time she vomited on only four occasions. After the first week it was found that 50 mg. nocte was sufficient.

In six patients who had received treatment for seven to ten days, vomiting recurred at the end of the course. In five this was controlled as soon as treatment was restarted; in the sixth, a patient at the eighth week of pregnancy, vomiting ceased spontaneously after three days, no further treatment being required.

Comment

In drawing any conclusion from a survey into the value of a drug for vomiting of pregnancy it is essential to remember that the aetiology of this condition is not understood and is probably multiple. It is well known that many patients suffering from vomiting will improve after reassurance, and may improve on inert therapy.

All the patients in this survey were given their tablets direct from the hospitals concerned. In most cases it proved impossible to keep from them the fact that the medicine prescribed was not in general use, as normally patients are referred to their own doctors for drugs.

Even after taking into account the possible improvement resulting from "suggestion therapy," the high percentage of patients benefiting would appear to indicate a good thera-

peutic response to buclizine hydrochloride. Many of these patients had previously been treated with other drugs, including antihistamines.

The only adverse factors were drowsiness, when 50 mg. nocte and 25 mg. t.d.s. were prescribed for out-patients, and the incidence of violent vomiting in two patients mentioned.

Summary

The results of a clinical trial into the value of buclizine hydrochloride ("vibazine") for excessive vomiting of pregnancy are analysed.

Thirty-six patients out of 1,267 attending antenatal clinics were treated.

The results showed that 53% of the patients were completely relieved, 14% were much improved, 19% were improved, 5.5% were the same, and 8.5% were worse.

I wish to thank Mr. John Buttery for allowing me to include patients under his care and Messrs. Pfizer Ltd., Folkestone, Kent, for making this clinical trial possible by their generous supply of vibazine.

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BAD GASTRECTOMIES

BY

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The first gastrectomy for ulcer was performed in 1881, by Rydygier in Poland. The main modifications of the operation were worked out in Europe in the nineteenth century and appeared in the European textbooks in 1900. The modification which I use to-day was described by Krönlein, of Zürich, in 1885. In those early days, before the placement of stoma and loops was well understood, various forms of obstruction were encountered. To deal with these Braun, of Königsberg, described in 1892 an anastomosis between afferent and efferent limbs, which now bears his name. Kappeler, of Münsterlingen, in 1898 described an improvement, a "suspension method" designed to prevent rather than to cure, in which the afferent limb of the loop is fixed above the stoma in such manner that kinking is prevented and the stomach empties its contents into the efferent limb. The stitches used for this suspension are now called after Kappeler.

A Keen Rivalry

By the end of the nineteenth century operative techniques had been established, and then began a critical long-term evaluation of end-results which covered the first two decades of the century. In 1906, at a surgical congress in Berlin, Rydygier showed in good digestive health, and 25 years after operation, the first patient ever to have had gastrectomy for ulcer. A keen and critical rivalry sprang up between the great European schools of gastric surgery, most of them directed by pupils of Billroth. Wedge resections, sleeve resections, gastro-enterostomy, pylorotomy, and extended resection battled for the mastery. By 1920 the advocates of extensive gastrectomy, led by Finsterer, Eiselsberg, and Haberer, had won the day, and this operation.

because of its excellent late results, was accepted as the operation of choice for intractable ulcer, whether gastric or duodenal.

But surgeons in Britain and America questioned it. C. H. Mayo expressed the opinion that "if a surgeon threatened me with a partial gastrectomy for a small duodenal ulcer he would have to run faster than I can." Judd and Nagel, of the Mayo Clinic, in 1926, devised their excision of duodenal ulcer with modified pyloroplasty. Rose and Carless, in 1927, advocated gastro-enterostomy, with excision of gastric ulcers and inversion of duodenal ulcers. Clare in 1923 advocated gastro-myotomy; Braithwaite in 1926 gastro-cholecystostomy. For penetrating ulcers Carson and also Roberts, in 1927, advocated jejunostomy, and Moynihan devised a combination of gastro-enterostomy with jejunostomy, although he used gastro-cholecystostomy in some patients. During this period gastrectomy was tried, at least in those ulcers which were not penetrating the liver or pancreas. But, in general, the mortality was high. Thus *St. Bartholomew's Hospital Reports* (Vol. 69) revealed a primary mortality, from 1919 to 1931, of 16.9% in partial gastrectomy for peptic ulcer.

In 1926 Finsterer attended the annual meeting of the B.M.A. in Nottingham and advocated gastrectomy for ulcer. Unfortunately, he also attempted to demonstrate his highly specialized techniques torn from the proper setting in which they had been elaborated, and met with failure, as have others in like circumstances. In 1928 he added a personal appeal to Hurst on behalf of this operation. He reported that gastrectomy could be done even for the so-called inoperable ulcers penetrating liver and pancreas (if the viscera were separated and the base of the ulcer left behind), and that, even including these, since 1919 he was able to achieve a mortality of 2.6% in 532 patients (4% in the 175 gastric cases and 2% in the 357 duodenal cases), 87 of them between 60 and 78 years of age. In support he quoted Eiselsberg's mortality of 3% in 449 patients. These two surgeons were indeed worthy disciples of their great master, Billroth. But Finsterer met with a cold reception. Hurst (1929) wrote of gastrectomy for duodenal ulcer that "the operation is so formidable, and the mortality is likely to be so high, that it is very improbable that it will ever gain wide popularity." Moynihan (1928) was even more emphatic, and wrote that gastrectomy for duodenal ulcer "is dangerous even in the hands of its warmest advocates; a mortality of 5 to 10 per cent. [*sic*] is, in my judgement, prohibitive . . . there is certainly not a great degree of freedom from the only serious sequel, gastro-jejunal ulcer. My own unequivocal and most confident opinion is opposed to it. It is one more evidence of the familiar Teutonic capacity for finding a difficult way of doing easy things. I regret that the wise and cautious judgement, the sanity of outlook, and care for the individual patient, which hitherto have always characterized British surgery, have not rendered all our surgeons immune from rash and most intemperate persuasions by Continental and transatlantic operators." Lewisohn was probably one of the "transatlantic operators." Moynihan, in quoting mortalities, ignored the masters and went instead to Louria, an American visitor to Haberer's clinic in Graz. Haberer's mortality was high, because he attempted total resection of the difficult ulcers, even those penetrating liver and pancreas. Meantime Finsterer had avoided such dangerous steps, by the method of resection-with-exclusion for duodenal ulcers, and of peeling the stomach off the base of the ulcer in gastric cases—methods which still have their place to-day.

By the way, there is no justification for calling the first of these methods "Bancroft's operation." Finsterer (1918) first described it, including the excision of "as much as possible of the [antral] mucosa." Later he taught that, even without this, the acid could be sufficiently reduced if enough stomach were resected towards the cardiac end. Neglect of the masters has, as we shall see, wrought much harm to gastric surgery. It is of interest to speculate about the number of stomal ulcers caused by overlooking this particular point.

The Treatment of Choice for Ulcer

But time and a critical testing of results justified the Viennese surgeons. After a delay of about 25 years, gastrectomy became at last established in Britain as the operation of choice for ulcer, thanks to the superiority of its results and to the efforts of younger surgeons, such as Ogilvie. At the same time, in the U.S.A., the younger surgeons at the Mayo Clinic were able to dispel the doubts of its great founder and to report that the late results were excellent in 95% of cases (Deller, 1948). Meantime Moynihan can be taken as representative of the transition period. In spite of his condemnation of gastrectomy for duodenal ulcer he described it as an "almost flawless operation" for gastric ulcer (1926), and later he reported (1930) that he had "yet to meet a case in which the ultimate result was disappointing, and secondary operations are almost unknown."

Such was the position when my own series began in 1937. At that time I felt that the long-term follow-up could only prove what was already well known—namely, the excellence of the end-results. But the position changed. When gastrectomy became accepted as the treatment of choice for intractable ulcer, it was widely taken up by general surgeons, irrespective of their training and special interests, of their knowledge of gastric pathology and surgery, and of their sympathy with the complex related problems of technical and psychological reconstruction. In this way the development of gastric surgery has suffered, in comparison with cerebral, pulmonary, and cardiac surgery. These have enjoyed the benefits of a proper specialism, including a proper and rigorous training for their practitioners, who undertake the work only in response to a special vocation. A veritable rash of reports of small series appeared in the literature. Immediate mortalities of 8%, 10%, and 15% were not uncommon. Surgeons went ahead without effective tuition and without a proper understanding of the operation. The more gifted of them, by a method of trial and error, succeeded in detecting and eliminating their worst faults, finally achieving good results. Thus Hedley Visick (1948) had a mortality of 12% in his first 75 patients and of 3.3% in his last 480 patients, his overall mortality being 4.5%. There were no deaths in his last 123 cases, and there can be little doubt that in these he treated the efferent loop more circumspectly than in those patients who suffered from his "question-mark deformity." His figures exclude emergency operations, and in only one-third of his patients had the ulcer penetrated all coats of the viscus.

But what about the survivors? Soon the end-results came under scrutiny. Widespread dissatisfaction was manifested, for it was evident that a new disease was coming into being. The results of the great masters were not being duplicated.

Two Schools of Thought

So to-day, once again, we find gastrectomy flanked by two schools of thought: on the one hand the supporters of the operation, who get good results and would retain it; on the other its critics, who would supplant it because their results are bad.

Porritt (1952) writes: "95% of patients who have a gastrectomy are satisfied." This corresponds with the experience reported many years ago by Finsterer, who found "symptoms of the small stomach" in 7% of patients, and these usually avoidable by taking frequent small feeds. Ogilvie (1925) wrote: "I have spoken of gastrectomy as a uniformly successful operation. I have found it so. My friends have found it so. Their patients and mine are a happy crowd and are never tired of saying so. The unhappy ones are equally vocal, but they are so rare that they hardly cloud the picture." "Recurrent ulceration at the stomach . . . I have seen no instances" (except when the antrum and its mucosa were mistakenly left). Tanner (1951) finds partial gastrectomy "100% successful for gastric ulcer and 97-98% for duodenal ulcer." Hollenbach (1950) in his last 1,148 cases found the end-results to be good in 90%; there

were no recurrences, but 39 patients had gastro-jejunitis, necessitating second resection in 4, and a few complained of palpitations and heat relieved by lying down for 20 minutes. According to Maingot (1955) the final results "leave little to be desired." Barclay and McIntyre (1954) find that post-gastrectomy complaints are rare.

My own experience after 280 gastrectomies for ulcer (Kinsella, 1955) is that the results, twelve months and later, when the operation had been properly performed, are uniformly successful. A few patients still complain of bile vomiting, sometimes with headaches; a few others had occasional bouts of vomiting small amounts of clear or food-stained slimy fluid, sometimes in the early morning when cleaning their teeth or following coughing; a few others were intolerant of certain foods. In all these cases the records revealed that the same symptoms were present before operation. It must be strongly stressed that a post-gastrectomy follow-up, perhaps delegated to a registrar, is of little value unless correlated with a carefully and fully recorded pre-operative history, aimed particularly at the analysis of gastric symptoms. It should be remembered that when an appendix is removed for pain in the right iliac region, and when the pain persists after operation, the patient always dates the pain from the operation. Partial gastrectomy cannot cure a migraine or gastro-duodeno-jejunitis or food allergies. But nevertheless patients are delighted that their pain has gone, that meals and sleep can now be enjoyed, and that work, interrupted for years, can now be resumed.

But, as mentioned already, there are other clinics in which the late results have been bad; in some so bad that the operation, in spite of its substantial background, is given up and patients are subjected to new and untried methods. Thus Gilbert and Dunlop (1947) found 5 patients in 45 so disabled after gastrectomy that they were totally unfit for employment. Grayton-Brown and Wood (1955) found that 20% of their patients suffer from "considerable disability . . . daily attacks of nausea followed by vomiting of bile . . . accompanied by considerable loss of weight and lack of energy." Such reports could easily be multiplied.

Causes of Bad Results

An analysis of the literature thus reveals a dichotomy of opinion about late results. It would be of still more value if the search could throw light upon the cause of the bad results, so that they may be avoided. Barclay and McIntyre (loc. cit.) suggested that bad results are frequent in England because of the faulty nutrition of the people. But this is unlikely, for the people are not so badly nourished; some English surgeons get good results and some Australasians bad ones. Ogilvie (loc. cit.) has "come to believe that the bad results of gastrectomy are the results of bad gastrectomy." The high primary mortalities often reported support this conclusion. But does the literature throw any light upon the details at fault? I believe that it does, thus providing further evidence for the truth of Ogilvie's opinion. I have already mentioned the efferent-loop obstruction, or "question-mark deformity," recognized and pointed out by Visick himself. But there are many other examples in textbooks and journals.

Among the textbooks we may select *Abdominal Operations*, by R. Maingot, published in 1955. He describes two modifications of the Billroth II operation: with full-width and with part-width stoma. The description of the first type is defective in that the principle of Kappeler has been ignored, thus ensuring at least partial obstruction of the afferent jejunal loop at the point where it meets the lesser curvature of the stomach. This obstructive kink is clearly seen in Fig. 15-25 showing the completed operation. It is the main cause of the so-called "dumping syndrome." (Maingot secures good results in his personal series because he, like Ogilvie, uses the second method, not the first. In the second method the principles of Kappeler have already been incorporated by Hofmeister and Finsterer. But, as we

shall see later, it is even possible to misuse this second type of anastomosis.) This criticism of the latest and best British textbook applies *a fortiori* to the others.

Likewise Custer, Butt, and Waugh (1946) found that "dumping" followed the full-width stoma, but was only mild and transient with the half-width stoma. They recognized that the jejunum is the source of the symptoms, but express themselves as puzzled by the fact that all the patients show rapid emptying of the stomach into the efferent loop but only a few experience dumping. They have forgotten the more important afferent loop.

Mimpriss and Birt (1948), in a series of 130 patients, lost one from an obstructive kink at the lesser curvature and saved two others by immediate re-operation; a fourth was relieved of dumping by late re-operation. They then refer to the method which would have prevented these complications and attribute it to Maingot, writing in 1948. It is the suspension method described by Kappeler just 50 years previously.

Capper and Butler (1951) report a 12% incidence of early "dumping," and give an excellent description of it, showing, in their own patients, the obstructive kink of the afferent loop at the lesser curvature, the dilated and hypertrophied bowel proximal to this, the symptomatic relief due to temporary release of the obstruction when lying down, and the associated discharge into the stomach of large quantities of bile, which may or may not be vomited. They then cause their patients discomfort by introducing mercury into the stomach, and argue from this that the normal mechanism of dumping is the drag upon the stomach remnant by the heavy jejunal loop. This conclusion is quite invalid, because the specific gravities of mercury and of jejunal loops are quite different. A heavier jejunal loop, floating in the fluid contents of the abdomen, would not drag if its greater weight were compensated by a greater volume. Moreover, "dumping" occurs after total gastrectomy. The jejunal loop causes the symptoms, not because it is a heavy loop dragging on the stomach, but because it is an obstructed loop; and if it is obstructed it causes the symptoms whether the stomach is there or not. The obstruction is the essence of the matter. The loop is heavy because it is obstructed, not obstructed because it is heavy; and the obstruction, not the heaviness, causes the symptoms. However, they hit upon a happy solution: they design an operation to suspend the heavy loop, and incidentally they undo the obstruction. In fact they have, 53 years later, rediscovered Kappeler's suspension method.

Goligher and Riley (1952) find that 75% of their patients suffer from dumping, 12.5% severely. They recognize that distension of the jejunal loop is the cause. They conclude that the efferent limb of the loop is responsible, because "dumping" appears even when there is no reflux into the afferent limb. Custer *et al.* forgot the afferent limb altogether. Goligher and Riley have not forgotten it, but they have forgotten that it can be distended through obstruction as well as through reflux. Their skiagrams show barium passing back into the afferent limb of the loop and stopping sharply at the point of obstruction, unable to trickle down towards the duodeno-jejunal flexure. Other skiagrams show bulging of the jejunum opposite the stoma, suggesting partial obstruction of both afferent and efferent limbs. It is evidently possible to obstruct the afferent limb even when using the Hofmeister-Finsterer method.

Schofield and Anderson (1953) report that "a new disease is being created," and give some inkling of the method of creation. They describe their operation as an "antecolic Polya-gastrectomy with a Hofmeister valve." Actually the Polva operation is retrocolic with no valve, and the Hofmeister is also retrocolic. Although they include only the early post-gastrectomy syndrome, they find a "large proportion" of bad results. In their series (number of cases unspecified) they find seven patients with such severe "dumping" that re-operation is required for afferent-loop obstruction. They perform an anastomosis between the afferent and efferent limbs of the jejunal loop and call this "the

procedure of Illingworth (quoted by Muir, 1949).” As we have seen, it was devised by Braun in 1892. It was useful in the early teething stages of gastrectomy, but nowadays it should no longer be necessary. The “new disease” of Schofield and Anderson was understood, treated, and prevented in the nineteenth century; forgotten, and then re-created. But it has not yet been recognized by the twentieth-century surgeon as very largely the product of his own technical failure; instead he has ascribed the fault to the operation itself.

Wells and McPhee (1954) introduce their article with the remark that “very little is known about the late results of the operation ten or more years after surgery.” This is astonishing, in view of the history of the operation as briefly outlined at the beginning of the present article. (I have myself seen a patient who was quite symptom-free, so far as his stomach was concerned, after partial gastrectomy by Lorenz of Vienna forty years ago.) The authors go on to describe 24 cases treated by “high gastric resection with an antecolic Polya operation, and Finsterer-Lake valved anastomosis.” They state that “such cases are quite representative of the modern technique.” At least the terminology is representative of modern confusion. The operation described by Polya was retrocolic with a full-width stoma, and the Hofmeister-Finsterer (“Finsterer-Lake” so-called) is retrocolic with a valved anastomosis. The authors go on to report their five patients with recurrent ulcers out of 25 treated by a “limited Polya” operation; and their six patients with recurrent ulcers out of 11 treated by a “limited Billroth I.” That the limited operation is followed by frequent recurrence was stressed by Finsterer and others in the first two decades of this century.

Placement of the Jejunal Loop

The jejunal loop, in full-width stoma operations, should pass in a slight, even curve from the duodeno-jejunal flexure to a point on the lesser curvature immediately below the oesophagus, about 2 cm. above the stoma, where it is fixed by Kappeler stitches. These should fix the anterior and posterior surfaces of the jejunum to the corresponding surfaces of the stomach, so that, as the jejunum descends, it lies in the same plane as the gastric surfaces. This is necessary to avoid minor obstruction by kinking or torsion of the afferent limb of the loop, as, for example, if the apex of the loop were fixed to the anterior surface of the stomach. Moreover, if this loop is too long it may kink; if it is too short the tension will result in the gradual cutting out of the suspension sutures, if nothing worse. From this point above the stoma, which should be the summit of an even curve, the jejunum should continue in the same straight line, downwards and to the left, past the stoma and into the efferent loop. This is the normal anatomical direction of the first loop, as can be seen in pre-operative skiagrams, and it should be maintained whether in gastrectomy or in gastro-enterostomy. Disregard for this direction will result in minor obstructions, as in the series reported by Holt and Robinson (1955). So also will rotation at the stoma, produced, for example, by an oblique incision into the jejunum. Finally it is desirable to place the omentum so that the limbs of the loop cannot adhere either to each other or to the incision in the abdominal wall.

Before the Kappeler stitches are inserted the slight kink in the afferent loop may be seen. If the stitches are properly inserted they do not merely result in displacing this kink to a higher level, but they convert it into an even curve.

Substitute Operations and Basic Pathology

There are many ways of doing each of the many steps in gastrectomy, and the number of possible combinations of these is very large indeed, but only a few of these will give consistently good results. Those clinics in which the results of gastrectomy are bad are faced with the necessity either of eliminating the detailed steps which have contributed to their bad results or else of inventing a new approach. New approaches may be divided into two groups.

In the first group are operations of increased difficulty and magnitude, in which a separated loop of jejunum or colon is used to replace the stomach. The most fantastic of these comes from Japan (Tomoda, 1952); it is for use after total gastrectomy. It includes five anastomoses, two of which are fashioned so as partially to obstruct the new “stomach,” a jejunal loop, which therefore gradually distends, and can be triumphantly shown in the skiagrams as large as the original stomach. The natural aim of treatment is thus reversed and function is made to await upon form. The words of Moynihan applied to gastro-enterostomy 30 years ago may well apply to gastrectomy to-day. “In this operation, as in all others, the keynote of success is simplicity. The great variety of suggestions as to ‘new methods,’ many of them uncouth, shows beyond doubt that the principles underlying the operation have not been adequately appreciated” (1926). These operations violate the principle that, in a given operation, increased difficulty and complexity lead to increased mortality and morbidity.

In the second group an effort is made to conserve much, or even all, of the stomach. A gastro-enterostomy or a pylorotomy is done. To prevent the grave hazard of recurrent ulcer surgeons may do nothing (for example, Wells and McPhee), or add vagotomy, or the worse than doubtful hazard of radiotherapy. Holt and Robinson (1955) describe their gastro-enterostomy as horizontal and isoperistaltic, which means that the first loop of the jejunum is displaced from its normal downwards and outwards course, so that difficulty in emptying results, and 19 of their 110 patients suffer from the vomiting of bile. These authors remark that “not the least” advantage of their method is that it can be used by surgeons of limited experience. It appears that the sufferer from peptic ulcer is to be denied the advantage of specialism which is given to those who suffer from disease of the urinary tract, of the bones and joints, of the thoracic organs, or of the brain.

But even more important than the technical defects in these methods is the fact that they have been fashioned in disregard of basic pathology. Their authors consider only the acid-peptic factor. But this is not the basic factor, for ulcer is found in the less acid parts, and even when there is no acid. The basic cause is an organ defect, or, more properly, a defect in part of an organ. “Organ” must, of course, be taken to include not only the local tissues but also their vascular and nervous connexions. The exact nature of this defect is unknown, but it is known that chronic gastritis is in some way associated with it. The results of Aylett’s operation will therefore be bad. As for radiotherapy, there is little hope that it will prevent ulcer in the ulcer-prone areas, for it does no more than temporarily substitute gastro-duodenitis for acid, one ulcer factor for another.

Already the harvest of recurrences is beginning. In Melbourne, even after 12–18 months, Grayton-Brown and Wood (1955) report 4 recurrences in 79 patients. In Liverpool, Bennett-Jones and O’Domhnaill (1955), after a short follow-up, found 11 patients with symptoms of recurrent ulceration, 7 of these needing re-operation, out of 95 patients who had had gastro-enterostomy with vagotomy. All the reports now coming to hand show not only a high recurrence rate, but also an excessive incidence of other complications, following the use of this method. A similar crop of recurrences and hour-glass deformities is, for the reasons given above, likely to follow the sleeve resections now being advocated by Grayton-Brown (1955) for high gastric ulcers. This operation was tried by Riedl in 1904 and by Payr in 1909, and soon given up.

The basic soundness of partial gastrectomy lies in its removal of the ulcer-prone part of the organ. And this is indeed the best that can be done, until we learn the cause and prevention of the disease or until medicine can effect a cure. But partial gastrectomy is a precision operation and more than an anatomical exercise. It differs from most other major operations in the extent and delicacy of the

reconstruction which must follow the ablation, and which demands of the surgeon a special sympathy with the object of his work.

Chronic Gastritis and End-results

Although this article deals with technique and end-results, reference should be made to chronic gastritis, because it has this in common with the technical niceties, that end-results are jeopardized by neglecting its importance.

In patients with ulcer the symptoms come from (1) the ulcer; (2) the diffuse gastro-duodenitis which so often accompanies ulcer, especially gastric, and sometimes simulates it; and (3) the mind of the patient. Many physicians and surgeons have failed to understand the fundamental importance of chronic gastro-duodenitis in diseases of the stomach and duodenum. This failure is due to the fact that they have relied upon the naked eye, either direct or through the gastroscope, for the diagnosis, not realizing that the disease is essentially microscopical. The disease may ruin the health or take the life of the patient and still remain imperceptible to the naked eye. These clinicians have falsely argued that the changes indicating chronic gastritis (the excessive cellular infiltration, with deformity and destruction of the epithelial and glandular elements) may be present without symptoms and are therefore without significance. The same argument could be applied to carcinoma in many organs, to ulcer, to gall-stones, and to chronic nephritis. Such a defective comprehension of gastric diseases leads in some cases to faulty selection, and in others to post-operative disappointment, because the symptoms due to diffuse chronic gastro-duodenitis may not disappear after operation.

Summary

There are two schools of opinion in regard to the late results of partial gastrectomy for peptic ulcer. The history and recent literature are briefly surveyed in an effort to explain this divergence. This survey confirms the opinion of Ogilvie that "the bad results of gastrectomy are the results of bad gastrectomy."

The commonest fault in technique is an improper placement of the afferent loop. This results in the so-called "dumping syndrome." The proper placement of the loop is described.

Substitute operations aimed at conserving ulcer-prone tissue are based upon an inadequate conception of the pathology of ulcer and will result in an excessive crop of recurrences and other complications. Substitute operations which include replacement of stomach by isolated loops of bowel are unnecessary and should therefore be abandoned.

In gastric surgery bad results and confusion reign to-day because insufficient attention has been paid to the old masters who fashioned the operation.

Gastric surgery should be left to those surgeons who have received a special training over and above that required for the general surgeon. Gastrectomy involves a more extensive and delicate reconstruction than that required in most major operations, and for this a special sympathy is required.

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PERONEAL MUSCULAR ATROPHY WITH MENTAL DEFECT AND MYOPATHY IN SIBLINGS

BY

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Peroneal muscular atrophy is characterized by the gradual onset and slow advance of atrophic weakness in certain groups of muscles. The disease begins in adolescence. According to Bell (1935) the mean age at onset is 10.93 years where neither parent is affected, but 18.95 years where one parent is affected. Atrophy of the peroneal and anterior tibial groups, with bilateral foot-drop, is an early finding in the disease. Progressive wasting spreads gradually, to involve the muscles of foot and leg, terminating at the knee or in some cases at the lower third of the thigh and producing the "inverted champagne-bottle" leg. Involvement of hands and forearms occurs some time after the onset of the disease in the legs, and here also can be seen a slow spread up to the elbows. Reflexes are generally diminished or absent following the atrophic weakness of muscles. Sensory changes include impairment of vibration sense, with often some diminution of postural and tactile sensibility. Mental defect is a frequent accompaniment, the grade of defect varying from moron to imbecile.

The disease is most commonly dominant in its transmission and only occasional instances have been described of its transmission by an unaffected carrier. In some cases a recessive mode of inheritance has been suggested, although Pratt (1953) has pointed out that the absence of disease in either parent may be due to low penetrance.

In the family under review three out of five siblings are affected with a progressive muscular atrophy beginning in the feet and legs and associated with a marked degree of mental defect. In order of birth the defective members are the first, second, and fourth. The third and fifth members are regarded as normal physically and mentally. At school the affected offspring were unable to progress beyond the lowest grades, 2, 3, and 4 respectively. On removal from school they were incapable of gainful employment and were kept at home until the burden became too great for the surviving parent. Both the remaining siblings, with no physical abnormality, satisfactorily completed their school grades and were gainfully employed as stenographers until marriage.

The family history, which has been extremely difficult to obtain and is admittedly incomplete, provides no