(*a*) *Patients with mild and transitory symptoms.*—In about half the cases it was found that even when the blood had disappeared from the stools, and the temperature had returned to normal, the exertion of walking to the lavatory was accompanied by a sense of exhaustion, slight dyspnœa, and palpitation. The symptoms were mild, persisted for a few days only, and were unaccompanied by any sign of cardiac inefficiency.

(*b*) *Patients with persistent symptoms.*—Eleven cases of the present series (17 per cent.) presented persistent symptoms of cardiac inefficiency for a long period. The symptoms were still present on the patients' discharge either to England or to convalescent hospitals in Egypt, although on an average 17 days had elapsed since blood had disappeared from the stools and the evening temperature was no longer raised. There was no history of rheumatic fever in any of these cases.

Pulse.—The pulse was of full volume and regular. The average rate, at rest, was 95 per minute.

Cardiac dullness.—The area of cardiac dullness was appreciably increased to percussion in all these patients, transverse cardiac dullness measuring 15 cm. and over. The average for patients who presented no symptoms was less than 13 cm. In addition there was usually an increased area of præcordial pulsation, and in three cases the apex beat was in the sixth space.

Auscultation.—The heart sounds were usually sharp and clear. In one or two cases the first sound at the apex was muffled and toneless. A systolic murmur was present in two cases. The liver and spleen were not appreciably enlarged.

Symptoms.—Dyspnœa.—Six patients complained of dyspnœa on walking 30 yards on the level, the remainder developed dyspnœa whenever they climbed a short flight of stairs.

In addition to dyspnœa, all complained of one or more of the following symptoms while walking on the level: Præcordial pain, 4 patients; vertigo, 5; palpitation, 2; and sense of exhaustion, 2. The exertion of returning by a ramp, from the dining hall on the ground floor to their ward on the second floor, produced such marked symptoms that none of these patients was able to attend the dining hall up to the day of his discharge to England as a convalescent.

Special Treatment.

The only drug found to benefit the extreme cardiac weakness met with in the severe cases was adrenalin, and this drug was given in doses of from 5 to 10 minims, every four hours, subcutaneously. The immediate effect was practically always to increase the volume and force of the pulse, and to lessen the degree of pallor or cyanosis for 10 to 15 minutes, while a feeling of well-being was induced which often lasted for one hour. In collapsed cases subcutaneous saline injections were of temporary benefit.

Summary and Remarks.

1. In a series of 65 cases of dysentery 3 fatal cases all presented signs of considerable circulatory embarrassment. The pulse became extremely feeble and at times was imperceptible at the wrist. The extremities were cold and clammy. In the terminal stages cardiac dilatation occurred and was associated with extreme cyanosis, particularly of the face, head, and neck. Temporary relief of symptoms was afforded by adrenalin.

2. Of the patients who recovered 17 per cent. presented symptoms of circulatory inefficiency, persisting into the third week of convalescence, when the patients were transferred to England. Dyspnœa, palpitation, præcordial pain, vertigo, and a sense of exhaustion were the chief complaints. The exhaustion met with in the severe cases was greater than the muscular atrophy and weakness seemed to justify, though there was no evidence pointing to organic disease of the central nervous system.

3. The high incidence of persistent cardiac symptoms is attributed mainly to the fact that the majority of the patients continued on duty in the trenches until completely exhausted; another factor was the exertion of walking to the lavatory, necessary even during the early stages of the disease, owing to the exigencies of active service.

4. Cardiac symptoms during convalescence from dysentery are of importance in relation to soldier's heart, as dysentery unquestionably contributes a certain number of cases to this group.

5. After a severe attack of dysentery adequate rest in bed should be assured to obviate consequent cardiac derangement.

THE RADICAL TREATMENT OF GASTRIC ULCER.

BY JOSEPH CUNNING, M.B., B.S. MELB., F.R.C.S. ENG.,
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FOR ulcer of the stomach gastro-jejunostomy has come, had its day, and I hope will soon depart with its trail of people who have had bilious vomiting added to their previous misery. That gastro-jejunostomy is marvellous in its effect upon pyloric stenosis from a healed ulcer, or congenital hypertrophic stenosis, is of course true, but in these cases one is dealing with mechanical conditions and not active ulceration. Also it is perfectly true that some cases of gastric ulcer do get well after an anastomosis, but how frequent it is to see some unimproved or relapsing after a few months. The very worst cases of all—those in which the ulcer is embedded in, and excavating, the pancreas or some neighbouring organ—I assert are not in the least improved. It is of no use to send a patient out of hospital free of pain, for the rest in bed will procure that, but the patient must be seen at intervals and remain free from pain to speak of cure.

Gastro-jejunostomy has fallen into disrepute for several reasons. 1. Because it frequently fails to relieve the symptoms. 2. Because it is sometimes performed upon a pre-operative diagnosis of ulcer, when the real cause of the symptoms lies elsewhere, as, for instance, in a diseased appendix. 3. Because it may add to the patient's former troubles bilious vomiting or jejunal ulcer. These conclusions have been gradually enforced upon thinking surgeons, and I am sure that gastro-jejunostomy for the cure of gastric ulcer will be entirely given up.

Sir John Bland-Sutton in his Hunterian lecture, "Ulcers New and Old,"[1] has shown that the only certain way of curing duodenal ulcer is by pylorectomy with restoration of the continuity between the stomach and duodenum if possible. For the past six years I have performed excision of simple gastric ulcers in all cases with but few exceptions. The exceptions have been where the ulcer involved surrounding structures, and it seemed the wiser plan to give the patient a chance with the slighter operation of gastro-jejunostomy rather than submit him or her to the more formidable operation of excision of the ulcer. But it was in just these cases that absolutely no relief was obtained, and therefore something further had to be attempted.

Since August, 1914, when I adopted a method which, so far as I know, is original, I have not met with any case of simple gastric ulcer in which the *ostrich device* of gastro-jejunostomy has had to be resorted to. In most cases the gastric ulcer is situated on the lesser curvature or posterior wall. Sometimes the ulcer spreads down both the anterior and posterior walls. In the ordinary case after the gastro-hepatic omentum has been divided, the coronary artery ligatured on either side of the base of the ulcer, it is perfectly easy to remove a small wedge surrounding it, and then unite the cut margins of the stomach by two rows of stitches. The nearer the ulcer is to the cardiac end the greater are the difficulties, but even then it is merely a question of sufficient retraction and exposure. If the ulcer is in the neighbourhood of the pylorus it is better to perform pylorectomy and then unite the stomach to the duodenum. If the lesion is a saddle-shaped ulcer—that is, one perched on the lesser curvature and extending down both the anterior and posterior walls—or, as in one of my cases, an ulcer 2 inches wide completely encircling the stomach at its middle, I prefer to remove that segment of the stomach and then unite the cardiac and pyloric remains. This, of course, lessens the size of the stomach, but as a stomach is a convenience and not a necessity, this only ensures that the patient shall not overeat in the future.

But now I come to the real problem, and that is the case in which the ulcer is fixed to surrounding structures in such a way that it would seem too dangerous an operation to attempt to remove it. In August, 1914, I had to deal with such a case in which a year previously I had performed gastro-jejunostomy, as I considered it unfair to submit the

[1] THE LANCET, Feb. 19th, 1916, p. 387.

patient to so big a risk as excision, for I had found that the ulcer, which was one of the saddle variety, deeply excavated the pancreas with a large area of surrounding infiltration. (Figs. 1 and 2.) However, as the patient had obtained no relief and her life was a constant misery, I agreed to attempt removal. After a thorough exposure

FIG. 1.

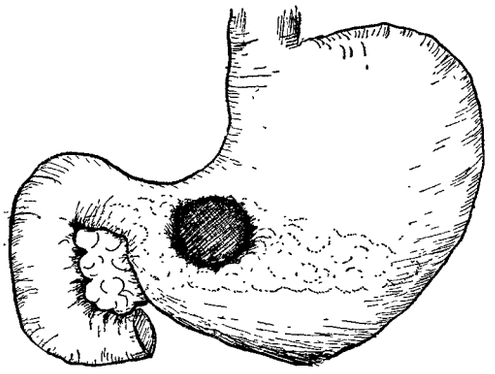


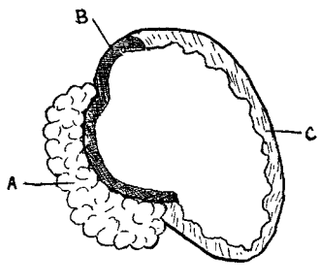
Diagram representing the stomach and pancreas seen through it, with the ulcer shaded black where it excavates the pancreas.

of the infiltrated part and an attempt at dissecting it out, it looked as if I should endanger the portal vein or the common bile-duct, and I did not care to face that; so then it struck me that I might detach the stomach from the ulcer by cutting around its margin, sew up the opening in the stomach, and then deal with the ulcer by scraping and cutting away its base in an endeavour to leave a sterile raw surface, and not worrying whether it should become adherent to the stomach or not. (Fig. 3.) As it has turned out, though it is practically certain that the pancreas is adherent to the posterior wall of her stomach, she has had no troubles since the operation. I have seen her recently looking a picture of health. I have put this operation into practice in two cases since with equally good results.

I have had no mortality from the cases of excision of gastric ulcers, though it involves a bigger operation than an ordinary anastomosis, and the results have been good in all. This contrasts well with gastro-jejunostomy which frequently fails to relieve the symptoms.

Gastro-jejunostomy performed upon a pre-operative diagnosis was more frequently done in the early days of the operation, and may still be done by people new to gastric surgery. Unless there is a definite ulcer whose infiltrated margin can be felt, I do not consider there is any justification for assuming its existence, and it is in just such cases, if gastro-jejunostomy be performed, that patients have bilious vomiting and possibly a jejunal ulcer added to former troubles. I have had many such cases in which the true cause of the symptoms was a diseased appendix, although all the symptoms had been gastric. Some of the patients have had hæmatemesis more than once, but the proof of the cause of their symptoms rests in their immediate restoration to health when the diseased appendix has been removed.

FIG. 2.



Vertical section through the stomach and pancreas, with the ulcer shaded black. A, Pancreas; B, Gastro-hepatic omentum; C, Stomach.

It has been difficult to explain the rationale of gastro-jejunostomy for the cure of gastric ulcer. Following upon the success of this operation for pyloric stenosis, it was assumed that it acted as a drainage operation, so preventing the food from irritating the surface of the ulcer. This had to be given up when X ray evidence showed that food still passed to a considerable extent through the duodenum, and that instead of the stomach emptying more quickly it emptied more slowly. Then followed the explanation that the early entry of alkaline duodenal juice into the stomach through the new opening, thus diminishing the hyperacidity, was the true cause of the occasional good effects. This left it open to Dr. Hertz's query, that if this were the whole truth, then why should not regular doses of sodium bicarbonate have an equally good effect? The answer to that was unsatisfactory.

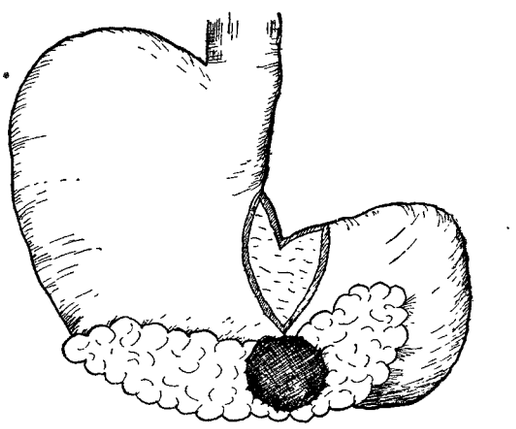
Then another line was chosen, not to explain the rationale, but to improve the results, and arguing that as the cases of pyloric stenosis which had been submitted to gastro-jejunostomy were invariably satisfactory, then the stenosis must have something to do with it, so exclusion of the pylorus was added to it. To my mind the results were no more satisfactory in gastric cases, though they certainly were when the ulcer was duodenal. Surely excision of the ulcer is a more sound and practical operation than one based on such poor arguments and uncertain results as gastro-jejunostomy.

That any operation will ensure non-recurrence of an ulcer in the stomach is, unfortunately, not the case. Certainly gastro-jejunostomy will not, for in one of my patients a fresh gastric ulcer developed and I had to excise the gastro-jejunostomy to gain access to it. She has since acquired a duodenal ulcer which I have had to operate upon.

Jejunal ulcer is fortunately rare as a sequel, but I have known it occur as early as four weeks after gastro-jejunostomy. It may appear as late as seven years after the operation.

If it is true that carcinoma commonly follows upon gastric ulcer there is all the more reason for excision. That this is so I, however, seriously doubt, though there are many authorities who assert it. I rarely come across malignant ulcers of the stomach with a long previous history pointing to chronic simple ulceration. If chronic ulcer of the leg is to be used as an analogy, I think it only proves how rare it is for a simple ulcer to become malignant. In fact, the only chronic ulcer I know which frequently becomes malignant is that which occurs in chronic superficial glossitis, which is not on a par with other chronic simple ulcers.

FIG. 3.



Posterior view of the stomach after it has been detached from the ulcer, showing the latter on the pancreas.

Summary.—That gastro-jejunostomy is unsatisfactory as a method of treatment for gastric ulcer, and may even add to the miseries of the patient. That all gastric ulcers can be excised except those which are adherent to important structures in the neighbourhood, and that gastro-jejunostomy is useless for these. When the ulcer is adherent to important structures the stomach can be detached from the base of the ulcer, the opening closed, and the base of the ulcer, after being scraped and being now excluded from the stomach, will give no further trouble.

Wimpole-street, W.

MEDICINAL AND ECONOMIC PLANTS.—The value in education of a study of these plants has been recognised for some time by Dr. Jamieson Hurry, of "Westfield," Reading. A series of medicinal and economic plants have for several years past been grown in the garden and conservatories at "Westfield" in order to enable those interested to become acquainted with their appearance. Amongst the plants are tea, coffee, bananas, olives, pepper, cinnamon, cotton, flax, hemp, arrowroot, cinchona, sugar, papyrus, belladonna, and stramonium. By the side of the plants are arranged specimens of the economic products derived from them and used either for food, for clothing, or for medicine. During each summer the garden and conservatories are thrown open at certain times to any persons who care to avail themselves of the opportunity for study. Demonstrations of the more important exhibits are given at intervals by Dr. Hurry and his assistants.

THE TREATMENT OF HÆMORRHOIDS BY INTERSTITIAL INJECTION.

BY T. BIRD, M.R.C.S., M.A. OXON.,

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ALTHOUGH this treatment has a history of many years, I do not think it has received the attention that its success deserves. It first came to my notice some eight or ten years ago through my old student friend and colleague, the late Sir James Goodhart. Later, requiring some relief from hæmorrhoidal annoyance which was becoming a constant irritation, I chose this treatment for the following reasons: The prospect of complete relief in eight or nine visits, each taking a quarter of an hour; very slight pain of no duration; and at the same time no interference with my ordinary life and work. The only change that I noticed in the parts treated was an appreciable, but very slight, warmth. It is now some years ago, and I am still perfectly comfortable.

I should like to state that this article was written prior to the appearance in THE LANCET of the articles on the same subject by Mr. Arthur S. Morley[1] and Mr. F. Swinford Edwards.[2] I have thought it better to leave it as written, for in matters of detail there must necessarily enter the personal equation.

Some critics have suggested that there is a likelihood of return. This has not occurred in my own case or work, but if a part of the pile be left untreated it is likely to increase, and I think this must have given rise to the idea of recurrence. There can be no return in the part destroyed, and in this opinion I am confirmed by Mr. Dudley D'A. Wright, who kindly operated upon me, and whose brochure on the subject anyone who means to take up the work should certainly procure.

Pure carbolic acid as an injection into pile tissue was first used about half a century ago in the United States of America, but through misuse the practice fell into abeyance. Some 30 years ago it was resumed in a mitigated form by Dr. Hoyt, of New York. The deviations from his treatment in many hands seem to have caused disappointment, perhaps through seeking more rapid or more complete success.

Sir James Goodhart[3] speaks very strongly on the operations in vogue, and as I can confirm his remarks, both by my own practice and that of over 50 years of anæsthetic work with first-class surgeons, I cannot do better than quote him, with the remark that the forecast held out by the surgeon is not always realised by the patient:—

Now, why should I, thus out of order, put in a plea for the more frequent use of injection? I do so because I happen to have seen a good deal of the partial and poor successes of the common operations, whereas the results of injection have seemed to me to be uniformly good.

Some years ago I became very dissatisfied with the results of ligature. More recently I have known of poor results by the Whitehead operation as well—first, because the patient was laid up for several weeks; secondly, because the shock of the operation may be very detrimental; thirdly, because even within my own small experience I have known of cases of serious local trouble afterwards invaliding the patient for a long time; fourthly, I have many times found a definite membranous stricture at the anus where an operation has been performed; and, lastly, so many have told me that there has remained, more or less permanently after operation, a state of discomfort in one way or another that was by no means pleasant.

Patients unfortunately do not seek relief until an acute "attack of piles" occurs. This it is as well to palliate in the ordinary way until the inflammation or strangulation is relieved, otherwise the treatment may be painful. The best time for treatment is while the piles are giving no trouble. An acutely inflamed external or strangulated pile may with relief be emptied of blood and then have three or four piqûres; when introduced the solution stops the bleeding and often relieves the pain immediately.

Hoyt's treatment requires no private home or hospital for a fortnight or three weeks, no anæsthetic, no keeping to bed, no nurse, and no subsequent pain. There is no stretching of the sphincter. It is better to avoid spirits, highly seasoned dishes, salt, and coffee; otherwise life may go on as usual. In many cases relief is almost immediate. One patient of mine, a clergyman, whose life was a misery, said on the third day, after the first piqûre, "I have not had such a two days for six years." Subsequently in a note he thanked me for his "new life." Riding men, rowing men (I have seen all the seats in a college eight stained with blood), men from the trenches, and drinkers of Gallipoli water seem to be the chief sufferers amongst otherwise healthy men.

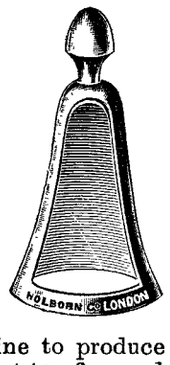
It is 50 years ago since I first had a hard external pile when captain and stroke of my college eight. I did not want to leave the boat, and wrote to Mr. James Long, professor of surgery at Liverpool, to whom I was still indentured, asking what I could do under the circumstances. The reply was worthy of a pupil of Abernethy: "Row on it until it bursts." I did, and I hope my crew never noticed the first ten minutes' rowing each day, until the parts got warm. The acutely expected event came off, and we made four bumps.

The solution recommended and used by Hoyt consists of equal parts of hazeline and distilled water, to which is added 10 per cent. of pure carbolic acid; the whole of the acid is not dissolved unless warmed; the bottle must be shaken when the solution becomes turbid from the finely disseminated acid, and is then ready for use. It should not be allowed to run on mucous membrane or skin, as in both cases it gives rise to soreness. I have had no trouble through carbolic acid absorption, though I have injected as much as 15 minims at one sitting.

It is not only for hæmorrhoids that the treatment is useful (in my own case there was a polypus in addition to three hæmorrhoids), but also in cases of prolapsus ani. I can look back upon some cases in old people that were treated by astringents which I should now treat in this way rather than with cautery or by incision—the uncomfortable alternatives.

What are the disadvantages of the treatment? There are certainly two: the number of visits, and the passage of the anal speculum. The speculum I have found to be best has been Kelly's sphincteroscope, both for the first examination and the ensuing treatment, but it should always be well warmed before insertion and well lubricated either with vaseline or lubifax, which is more easily washed off with water than vaseline.

The Holborn Surgical Instrument Company have made me a self-retaining speculum, as Kelly's requires one hand to retain it during the injection by the other. The illustration shows the bulbous extremity which passing through the sphincter retains it in position. The windows vary, the one illustrated is a small speculum for ladies, and allows one to look for fissure or fistula before introducing Kelly's instrument. Another has the window shaped to prevent the mucous membrane in front interfering with the view of the hæmorrhoid.



It is better not to inject a pile near the junction of the mucous membrane and the skin or external to that line before the inner or upper portions have been treated.

External piles (inflamed) should be allowed to subside under appropriate treatment before injection and the patient should be advised against taking wine and spirits and highly seasoned dishes and should be given medicine to produce soft evacuations. A platino-iridium needle not too fine and about an inch and a quarter long is perhaps the best, though I use a short, stiff needle on a prolongation that fits on to the "Record" syringe, as this gives a clear view of the length of the speculum. Care should be taken to keep the needle in the long axis of the bowel and a slight side-to-side motion as the plunger is pressed on tears the interior of the pile, and if the needle is kept in for a few seconds there is seldom any bleeding. After an injection or two the pile surface becomes hard, so that future injections should be made between the old scars until the pile is completely treated. An ordinary pile condition requires eight or ten piqûres; a commencing pile only one or two. A soft, freshly-formed hæmorrhoid may be injected with from six to ten minims; these are the ones that bleed most, but there is no occasion to apply any styptic, the carbolic acid and the hazeline being sufficient to control bleeding. At the first visit I now give preference to injections of not more than three minims superficially to

[1] THE LANCET, March 18th, 1916.
[2] THE LANCET, April 15th, 1916. [3] Practitioner, December, 1914.