speaking within the limits of a short paper. Few cases run an uneventful course, and it may be said that no operative treatment makes greater demands on the skill and watchfulness of doctor and nurse alike than does the treatment of a patient who is recovering from prostatectomy. All that it has been possible to attempt in the above paper has been to touch on a few of the many complications and emergencies with which the medical man may be called upon to deal.

LECTURE ON GASTRIC SURGERY.

By E. GILLESPIE,

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IN no department of Medicine will you find more faithfully depicted the influence of fashion, than in gastric surgery.

The waist-line, at present high up towards the cardia, has altered frequently; with each change in site beauty is present. So statistics show that results are good, but it is difficult to assess by how much these results are better.

The stomach is the battle-ground between physician and surgeon; each with his "cry." But as usual in warfare the cause is obscure, if not unknown. Also the ranks are by no means united. Heretics there are in either camp. Compromise is the practical method. There are cases which can be treated medically, just as there are others which ought to be dealt with by surgical methods.

INJURIES.

The records of cases of trauma apart from penetrating wounds are meagre, and almost uniformly bad.

It is surprising how seldom the stomach is damaged, probably because of the protection afforded by the ribs and the costal cartilages, also the area of the stomach in

relation to the vertebral column is small and not fixed.

In my own experience I can recall one case.

A boy was standing on a stone-work balustrade, and holding on to a large stone urn, which unfortunately proved to be loose on its seating. He fell off with the urn clasped in his arms. The upper abdomen was squeezed between urn and earth. There were no external injuries. At operation a rupture was found in the lesser curvature close up to the œsophagus. The feature in the case was the difficulty in closing the tear. The boy died.

Early exploration gives the only hope. A careful watch on the temperature and the pulse is essential, the latter being the more important.

GASTRIC ULCER.

With all the energy which has been expended on research it is really remarkable how little has been discovered about the causation of gastric ulcer, or even the relationship between the acute and the chronic. What in fact do we mean by a chronic ulcer? The usual acceptance is an ulcer which has given rise to symptoms and signs for some considerable period, probably years. Yet I have had ocular demonstration of an ulcer in the stomach, with all the appearances of chronicity, and a duration of less than six months. This observation was on a youth of 18 years. Whilst carrying out an exploration of the abdomen I found an ulcer close to the greater curvature of the stomach, and opposed to the spleen. Six months later, he was again admitted to hospital. This time I found a perforation in a large saddle-shaped ulcer on the lesser curvature, an area which I had carefully examined at the previous operation, and found to be normal.

The problem is intimately bound up with focal sepsis, blood-stream infection, and local infection. The difficulty is to demonstrate the presence of organisms in the blood. After the lodgment of the infection in the

stomach wall, such factors as hyperchlorhydria, delay in the stomach, and digestion, play their parts. Until causation has been placed upon a sound foundation there is no hope of a rational treatment.

ACUTE ULCER.

Surgery is not concerned with the acute ulcer, except in the terminal state of perforation, and rarely hæmorrhage.

It is considered that a small proportion of the acute pass on to the chronic.

Elimination of sepsis, rest and suitable diet bring relief. It is probable that the direct introduction of sepsis into the stomach does not cause ulceration.

CHRONIC ULCER.

There is no doubt that primarily the physician should be given every facility to treat many of these cases. When it comes to the question of recurrence, the position has to be revised. Social condition will influence the decision. Good circumstances and the personal factor will probably decide for further trial of medical means. But unfortunately, these are just the conditions which few people enjoy. The time factor is important. An individual can give either (1) frequent intermittent periods, or (2) one long period. The employee often finds it easier to give one long period, and so more chance of holding his job.

X-ray Control of Treatment.—In the stomach the barium X-ray provides a method by means of which progress can be estimated and recorded. Repeated examinations under successful treatment will show the crater becoming shallower until it finally becomes flattened out.

INDICATIONS FOR OPERATION.

Practically all small ulcers respond to medical treatment. When met with in course of an operation it is difficult to decide upon the procedure. If you believe that a gastro-enterostomy heals an ulcer, then you can go forward with courage. But if you

have had the misfortune as I have had to find an ulcer thriving in the stomach in spite of such an operation, one's beliefs get a good shake up.

Ulcers of good size, especially if adherent to neighbouring viscera, or chronic perforations, are in my opinion suitable for operation. Ulcers recurring after treatment should be dealt with surgically. This becomes imperative at middle-age for two reasons :—

(1) Relapses are certain. Years are slipping past, the patient will be faced with the problem when vitality is not so good.

(2) The possibility of malignant disease.

Pain after cicatrization. The occurrence of pain after healing with negative X-ray findings. The patient still complains of pain. There are two probabilities : (1) the beginning of a relapse ; (2) nerves tied up in scar tissue. Comparable to the painful ulcer of the leg.

Operation gives relief to these cases.

ULCERS HIGH UP ON THE LESSER CURVATURE.

If the physician fails to relieve the patient, surgery should be used to put the stomach at rest. The performance of what amounts to be a complete gastrectomy is to be deprecated as a primary measure.

The methods are : (1) temporary gastrostomy. The tube is passed through the pylorus on into the duodenum ; (2) jejunostomy.

CHOICE OF OPERATION.

When faced with the problem of a small ulcer my preference is to deal locally with the ulcer, and do a gastro-enterostomy. Much reliance will have to be placed on the restriction and control of diet.

THE LARGE ULCER.

Here apart from the general condition of the patient the factor of occupation must be given prominence. Ruling out for the present the large adherent ulcer, the

ruthless sacrifice of stomach in an endeavour to diminish acidity is to be deprecated. I recently read an account of a recurrence of ulceration after a partial gastrectomy. The failure was attributed to the fact that too little of the stomach had been removed. I am doubtful if this is good surgery.

Relation to operation.

Take the two extremes of occupation : (1) heavy manual labour; (2) sedentary life.

From the point of view of resuming normal work after operation the former requires a large bulky diet which may have to be taken under circumstances which render care in selection difficult. The latter can get along well on a restricted diet. Also he is not so liable to suffer from the difficulties of choice.

The former may never return to normal work, after a partial gastrectomy the latter can get along very well after an extensive resection. So in my opinion much care should be exercised in the selection of the method.

Any of you who have had experience in nasal feeding will appreciate some aspects of the problem. Attempts to fill the stomach rapidly produce much discomfort. Take double the time, the discomfort is nil, and the quantity of food given greater.

LARGE ADHERENT ULCER.

If the patient's condition permits, partial gastrectomy is the measure offering the best prospect of relief.

If, however, the general condition is poor, a two-stage operation must be considered. A temporary gastrostomy or a jejunostomy will produce a complete change in the aspect of the patient.

In a case of my own after a jejunostomy the patient put on a stone in weight. To X-ray appearances the ulcer healed, but three months later there was a return of discomfort. X-ray now showed an hour-glass stomach. A partial gastrectomy was carried out with relief to the patient.

ULCER AT THE PYLORUS.

Excluding the duodenal ulcer situated close to the dividing line, nowadays an ulcer is rarely found here. If stenosis is present gastro-enterostomy gives its best result.

HÆMORRHAGE.

This seldom calls for immediate surgical intervention, unless blood transfusion be considered an operation. It may be extremely difficult to get a history; diagnosis may be obscure. There may be great difficulty in dealing with the lesion in the short time available. So the considered opinion is that as hæmorrhage tends to arrest itself, the best time for intervention is during the interval period, when blood formation is on the rise.

Every now and again, however, the surgeon, faced by a serious hæmorrhage, may have the greatest difficulty in making up his mind as to procedure. This is certain: operation if at all must be done at once, and the intervention limited to dealing with the site of hæmorrhage by ligation of the vessels on either side of the lesion.

PERFORATION.

Once more we are on safe ground as to operation. Diagnosis is as a rule easy. The sudden onset of severe pain and the rigidity of the abdominal muscles once seen are not readily forgotten. The state of the pulse varies, and may not begin to rise until some time after onset. A like remark applies to the temperature.

There is naturally some variation in detail on methods of treatment.

- (1) Simple suture.
- (2) Suture and gastro-enterostomy.
- (3) Suture and temporary gastrostomy.

Simple suture is reserved for early cases. No drainage.

Suture and gastro-enterostomy. Statistics have been drawn up which show a greater mortality for the combined operation. I am quite convinced that in an early case a gastro-enterostomy does not increase the risk. In

a case of more than twelve hours' standing the anastomosis might upset the balance. When considering this subject it is almost impossible to rule out the closely situated perforation of the duodenum.

The method which I favour at the present time is the making of a temporary gastrostomy. A large size catheter is passed through a conveniently placed opening in the stomach wall, on through the pylorus, and well into the duodenum. Then in the case of a duodenal ulcer the perforation is closed. If the perforation is closed first there may be difficulty in passing the catheter. Need I remark that when the catheter is not being used for fluid or feeding, it must be closed. The advantages are : (1) a satisfactory drip of saline can be started at once ; (2) the ulcer is put at rest, and the healing process given a good start. A satisfactory diet can be maintained.

The gastrostomy heals of itself. Convalescence is not prolonged. In late cases I look on the method as one which definitely improves the outlook.

Drainage is not used except in the late cases, where there is gross involvement of the peritoneum.

In my own experience during the past few years, perforations of the stomach have not been at all common, whereas those in the duodenum appear to have increased. It may be that the pendulum will swing over again.

TUMOURS.

Simple tumours are met comparatively rarely. There are records of polypi, lipomata, and fibromata. Such an incident as blocking of the pylorus by a polyp has been responsible for the discovery of a simple tumour.

Recently in cases showing disturbance of digestion, a peculiar mottling has been described in barium X-ray films, suggesting the presence of polypi.

CARCINOMA.

Carcinoma is the lesion claiming interest to a preponderating extent.

The insidious onset makes diagnosis almost an accident. The important point is to realize the significance of the complaint of a change in digestion, even mere discomfort, in a patient of middle age or more. This should at once suggest the necessity of a complete examination, X-ray, stomach contents. After elaborate investigation most of your patients will be told that nothing has been discovered. Some will be shown to have a lesion far in advance of expectations. A few will be found amenable to surgical intervention. X-rays have not so much demonstrated the presence of an early carcinoma, as the fact that infiltration has extended far beyond the ulcer crater.

RADIUM.

So far the treatment of isolated cases has been carried out. The disappearance of tumours has been described. By the present methods, needles and radon seeds, it would appear that there must be difficulties in obtaining an even radiation of the walls of such a viscus as the stomach. This will probably be overcome in time.

THE INCIDENCE OF CARCINOMA ON A CHRONIC ULCER.

If we consider the change of a chronic ulcer on the external surface of the body from simple to malignant, the first thought is, how seldom this occurs. With some authorities it is otherwise as regards the stomach. This means that there must be some special condition in the stomach which encourages this change. This has never been found. Again, the finding at operation of a carcinoma in a case with a long-standing history of indigestion does not seem to be very strong evidence of a change from a simple to a malignant state. No one, however, would deny that the change does occur sometimes.

SURGICAL TREATMENT.

For most of the patients that come to operation, all that can be done is to perform

a gastro-enterostomy when obstruction is present.

For the favourable case an extensive gastrectomy, with special attention to the lymph glands in the subpyloric region, and those along the lesser curvature to the coronary artery, is the operation of choice. The omentum should also be removed.

SOME POINTS IN CONNECTION WITH THE TOXIC EFFECTS OF LEAD, ARSENIC, MORPHINE, COCAINE, ETC.¹

By SIR WILLIAM WILLCOX,

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LADIES AND GENTLEMEN,—I was asked to give a lecture in this course, which I understand to be a post-graduate course especially arranged for the M.R.C.P. examination. The subject I have chosen for it is "Some points in connection with the toxic effects of lead, arsenic, morphine, cocaine, &c."

I do not propose to go over the ordinary toxicological features which you see detailed in the textbooks relating to these subjects; what I propose to do is to deal with some more recent researches and developments in the toxicological aspects of the subjects. And I shall not speak of anything which is not of very great importance at the present time; I shall not deal with anything in the way of abstruse scientific investigation; everything I shall tell you will be of real importance.

First of all with regard to lead. A great deal of knowledge has been gained during the last twenty years with regard to lead poisoning. You are all familiar with the

symptoms and the modes by which it is acquired. There is acute lead poisoning and chronic lead poisoning. Acute lead poisoning is caused by the swallowing of a large quantity of some salt of lead. Lead is an irritant poison, and the symptoms, when a large quantity of lead has been taken by the mouth are: acute gastro-enteritis, vomiting, diarrhoea, pain in the abdomen, a metallic taste in the mouth. In the case of lead this condition is followed by constipation. Many of the mineral poisons cause gastro-enteritis and a lasting diarrhoea. Lead causes constipation as an after-effect. Whenever any large quantity of poison is taken, whether it be arsenic or lead, you get the acute effects of the lead, and afterwards there may be such symptoms as occur in the chronic poisoning. Therefore sometimes after taking one dose of lead the patient gets the acute symptoms of gastro-enteritis, and then these symptoms may be followed by those of chronic lead poisoning which I will deal with directly.

Chronic lead poisoning is a very common disease; it is one of the notifiable industrial diseases. It has to be notified to the Home Office, that is, every case of it which occurs in industry. And the causes of industrial lead poisoning have been very thoroughly worked out in this country. Sir Thomas Legge, who was formerly a Medical Inspector for the Home Office, devoted a great deal of time and research to the subject, and as a consequence, the occurrence of industrial lead poisoning has become very much less than it was formerly. Chronic lead poisoning may occur from accidental causes due to contamination of water, as has occurred in the North of England, such as in the Sheffield district, where a soft plumbosolvent water has been used as the water supply, and outbreaks of chronic lead poisoning have occurred in that way. And sometimes food becomes contaminated with lead, in consequence of it being wrapped in lead wrappers, or being stored in lead vessels, or through contact with lead in any

¹ A lecture delivered in connection with the Fellowship of Medicine and Post-Graduate Medical Association (M.R.C.P. special course) at the rooms of the Medical Society of London, on Tuesday, June 3, 1930.