A SUCCESSFUL CASE OF PYLORECTOMY: PERFORMED IN TWO STAGES.

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OPERATING surgeons are by no means agreed as to the best method of performing pylorotomy, and some look with disfavour on the operation generally. Under these circumstances it seems right that operators should record their results, and thus add weight, however small, to one or other side of the balance.

A man, aged forty-three years, had suffered from vague gastric symptoms since August, 1899. Pain was never severe ; vomiting was not constant, and for some time before coming to hospital he vomited very seldom. Since Christmas last his general health began to fail, and he lost one and a half stones in weight. He came to the Adelaide Hospital in April, and was placed under the care of my colleague, Dr. Wallace Beatty. A tumour was found in the abdomen, just above the umbilicus. It measured about three inches in transverse diameter, was hard and irregular, and could be felt to move readily with respiration. One could move the tumour remarkably freely ; thus it could be pressed to the upper parts of the epigastrium, downwards, so that its lower margin was below the umbilicus, and to the right side well into the right hypochondrium. A divided Seidlitz powder was given, which demonstrated a moderate degree of dilatation of the stomach below the growth. There was no liver enlargement, and this fact, together with the remarkable mobility of the tumour and the man's condition of fair general health, led us to hope that we might find an absence of adhesions, and of secondary cancer deposits.

On April 2nd, 1901, I opened the abdomen somewhat to the

left of the middle line. After making a hasty examination of the tumour, which seemed to justify the hopes we had entertained, I turned upwards the transverse colon and performed a posterior gastro-enterostomy. I made the stomach opening as far over to the left as I could, and the method adopted was that of Roux. In this operation, it will be remembered, the jejunum is divided some distance from the duodenal flexure, the lower end is fixed to the stomach opening, and the upper end (of the cut jejunum) is made to anastomose with the jejunum again some four inches or more from the stomach junction. I used simple suturing throughout. The gastro-enterostomy completed, I closed the abdomen, leaving the pylorotomy to be performed when the man should have recovered from this first operation.

After operation the course of the case was satisfactory. There was little or no shock, and he only vomited once, as he was recovering from the anæsthetic. I gave liquid nourishment, such as barley-water and whey, on the day following the operation, and he was able to take solid food by the ninth day. In rather less than three weeks I sent him for one week to a convalescent home.

On April 27th—*i.e.*, twenty-five days after the gastro-enterostomy—I again opened the abdomen. This time I made the incision to the right of the first one, and almost in the middle line. The incision was an ample one—quite five inches long. There were some slight adhesions behind the scar of the first operation, but they did not materially interfere with my work. When the stomach region was exposed my first step was to make an opening in the lesser omentum, through which I passed my finger to explore the posterior aspect of the tumour, and then to act as a guide in the division of the great omentum. This division was effected by cutting between pairs of Kocher's clip forceps. I now placed one Doyen's clamp forceps across the duodenum. I was unable to get on a second, for the readily available duodenum—*i.e.*, that within the lesser peritoneal sac—was very limited in extent. I cut across the duodenum; very little leakage occurred from the pyloric orifice, and then, at once, I sewed up completely the opening of the duodenum by two rows of silk sutures. This done, I cut the stomach across between clamps placed well beyond the apparent limits of the growth. The opening in the stomach was also sewn up by a double row of silk sutures. In closing the abdomen I left in the area of operation a gauze drain. Hæmorrhage during the

operation was very small in amount, with the exception of a small bleeding which took place owing to the slipping of a ligature on the pyloric artery.

The operation lasted almost an hour and three-quarters.

The excised portion of stomach showed a considerable narrowing of the pylorus by a growth which proved, on microscopic examination, to be a columnar-celled cancer. The tumour ended abruptly on the duodenal side, but its limits in the opposite direction appeared to the naked eye less definite. However, microscopic sections failed to demonstrate any cancer in the wall of the stomach at the level of the duodenum.

For some days after the operation the patient remained in a very precarious state. His temperature on the second day was 102°, and his pulse was on one occasion as much as 160. On the fourth day a considerable discharge of bilious fluid occurred from an opening at the lower end of the first incision; but the general condition of the patient had materially improved. At the end of the first week, however, he seemed to be losing ground. I decided, therefore, to risk a considerable increase in the amount of food taken by mouth, and I found he could take four pints of peptonised milk without any discomfort. Steady progress began and has continued. On June 22nd the patient weighed 9 st. 4 lbs.; on July 21st, 9 st. 10 lbs.; on October 6th, 9 st. 10 lbs.; and on Nov. 27th, 10 st. 2 lbs. He now feels well and strong, and is able to do some work every day. The biliary fistula has never completely closed, but this is probably due to the separation of the silk sutures which have from time to time been extruded from the fistula.

On July 1st, 1902, I received a satisfactory account from the patient. He now weighs 10 st. 8 lbs. No bile has escaped from the fistula for the past nine weeks. His temperature is normal, his bowels act regularly, and he is able to work all day.

REMARKS.

Although there are many points in this case which call for criticism, I propose to confine my remarks to the consideration of one question, which, while it is of fundamental importance, its answer is unfortunately still open to serious doubt. "Is pylorectomy under any circumstances legitimate?" In an

endeavour to answer this question we must take two things into consideration—

1. The immediate mortality.
2. In case of survival, the prospect of long-delayed recurrence or perfect recovery.

Some years ago the mortality was overwhelming, and even now we must regard pylorotomy as, perhaps, the most dangerous operation in all abdominal surgery. Still, if it can be shown that the operation holds out a reasonable prospect of ultimate success we need not be deterred from giving this chance to the patient through fear of its 30 per cent. mortality. Unfortunately in the very large majority of cases recurrence takes place, and that early. On the other hand, we find from year to year an increase in the number of recorded cases where patients have lived, or are still living, two, four, and even seven or eight years after the operation. How, then, shall we answer the question we have put before us? Is it sufficient to meet this 30 per cent. mortality and, let us say, 80 per cent. recurrence within three years, with the defence that the disease without operation is incurable, and hence each life saved is as a brand plucked from the burning? Or, again, may we find comfort and justification in the reflection that pylorotomy is still in its infancy, and that the better results of these later years suggest hopefulness for still further improvement? My own impression is that if we cannot thus reasonably look forward to a better general record at the end of the next ten years than can be shown for the past ten, this operation is as certainly doomed as is splenectomy for leucocythæmia, or thyroidectomy for exophthalmic goitre. I believe, however, that we may be hopeful, and I will devote the remainder of the time at my disposal to-night to a consideration of the lines along which we may look for improvement. The subject may be divided

under two headings. First, improvement in selection of cases ; second, improvement in operative technique.

1. *Improvement in Selection of Cases* :—I am convinced that pylorectomy should be employed only in cases which appear, when the abdomen has been opened, to be absolutely favourable. Where the patient's general health and strength have been wrecked, where there are enlarged glands beyond the immediate vicinity of the growth, or where there are adhesions, the surgeon ought either at once to close the abdomen, or, if necessary, to perform a gastro-enterostomy. It may be said, "one never sees cases so perfectly favourable," to which I would reply, "Then, in Heaven's name, never perform pylorectomy."

It is a fact which should be thoroughly grasped that cases suitable for this operation are exceedingly rare, and they will continue to be so until physicians recognise it as a duty to submit doubtful cases to an exploratory laparotomy. At the same time, let us be reasonable in our judgment. Can we expect either physicians or patients to be enthusiastic while the results of pylorectomy are such as they are at present ? Moreover, there is surely a limit to the application of exploratory laparotomy ? With the present uncertainty of diagnosis it is clear that if physicians were to yield as they have been urged to do there would be performed many negative explorations. It may be that but little harm would thus be done to the individuals operated upon, but might not a very serious harm result to abdominal surgery generally ?

So much for selection of cases. Let me now draw your attention to the operation itself.

The operation which I performed may be taken as an example of a pylorectomy in which the open ends of stomach and duodenum which result from the excision of the pylorus are sewn up, and a new exit is provided by a gastro-enterostomy. This method has, it seems to me, several advantages.

In the first place, with its recurrence of the cancer does not necessarily include recurrence of obstruction, for the opening between stomach and intestine is far removed from the area of disease. Again, the gastro-enterostomy will remain equally easy of performance whether the amount of stomach excised be great or little, of course within certain limits. This is a matter of no small importance, now that surgeons have begun to apply to pylorotomy the same principle which guides them in, let us say, amputation of the breast—i.e., to carry their incision or dissection far beyond the apparent limits of disease. On a liberal application of this principle depends mainly the prospect of improved *ultimate* results in this operation, and it is because the method of operation we are considering *facilitates extensive excisions* that I have thought it right to give to it this prominent attention.

I wish now to say a few words concerning the advantage of performing the operation in two stages. The principle which underlies it is that of substituting for one very dangerous operation two of lesser risk. The method is comparatively new, and the number of recorded cases small, but it has already the support of many of the best operators, and the results have been remarkably good. This change in technique aims at a reduction of the mortality of pylorotomy, and if it attains this end the first step towards better things will have been accomplished.

There remain many points of detail in my operation which will suggest criticism, but I have thought it best to confine my remarks to broader questions.

In concluding, let me briefly summarise—

1. The present position of pylorotomy is unsatisfactory, but there is no cause for despair.
2. That an advance may be made, it is, in the first instance, necessary to *reduce the immediate mortality*. This is to be

done by (1) a more careful selection of cases, and (2) by performing the operation in two stages.

In the second place, it is necessary *to obtain better ultimate results*. The way to this end lies in (1) wider resections, and (2) in this case also in better selection of cases.

3. Let these things be accomplished and we may then, with more justice than at present, call upon physicians to resort more frequently to exploratory operation.

MR. T. MYLES begged to heartily congratulate Mr. Gordon on the first successful pylorectomy performed in Dublin. The difficulty of diagnosing tumours of the stomach was very great. In one of his cases he cut down on the viscus with the intent of doing a pylorectomy, but found so much thickening of the gastric walls by what he and his friends thought was cancer that he returned the stomach unopened to the abdomen, and the woman is to-day, after some years, alive and well.

MR. SWAN congratulated the author of the paper on his great success.

MR. E. H. TAYLOR drew attention to the anatomical condition found in the duodenum close to the pylorus. Surgeons before beginning a pylorectomy would do well to examine the duodenum.

MR. G. JAMESON JOHNSTON spoke, and

MR. GORDON replied.