history is of great importance. Direct questions as to the presence of symptoms of which the patient has not complained are to be avoided. A thorough, if rapid, routine examination should be carried out on the first occasion, if only to impress the patient with the fact that nothing has been omitted. Again, as one organ after another is examined, it is advisable to say, "Your heart, at any rate, is quite sound"; "your lungs are quite healthy," and so on, for it must be remembered that the patient may have fears which he has for the moment forgotten to mention, or has purposely refrained from mentioning. If there is evidence of organic disease it is best to tell the patient so; we must take him into our confidence, and explain to him exactly what significance we attach to it. When the opinion is expressed to the patient it must be as dogmatic as the facts permit, there must be no prevarication, and the symptoms to which he attaches special importance must be specially mentioned.

Finally, if no organic disease is found, don't clap the patient on the back and say, "There is nothing the matter with you, old fellow." This, it is true, may be all that is required in some cases, but other patients will go away and say, "By Jove! that doctor would know there *was* something the matter if he had my trouble." No, we must try to give the patient an intelligent and intelligible explanation of his symptoms. If the patient asks whether his symptoms are "imaginary," we must clearly explain to him what is implied by the word "imaginary," that there is nothing to be ashamed of, and that these pains may cause just as much suffering as those due to organic disease. We practitioners, I repeat, are often responsible for creating and perpetuating states of invalidism, either from want of knowledge or want of understanding. It may be that we fail to read the patient's mind and realize his misconceptions; again, we may forfeit the patient's confidence by giving him the impression that since his symptoms are not dependent upon organic disease his condition does not call for special attention, as there is nothing to be done. Even more culpable is the action of the weak man with whom we occasionally meet, who, posing under the guise of a "kind, attentive doctor," follows the path of least resistance, panders to his patient's whims, and unwittingly cultivates a curable neurosis as he would a hot-house plant.

In a last word I would refer to the value of isolation as an adjunct in the diagnosis and treatment of pain in which there is an obvious psychogenic element, and in the detection of malingering. Isolation has, in my opinion, fallen undeservedly into disuse. I have repeatedly demonstrated its efficacy in hospital practice in this type of case. There are three chief reasons why the "rest cure," as it was called, is nowadays but seldom employed: first, because at one time it was utilized indiscriminately in the treatment of all kinds of unsuitable cases; secondly, because it was often exploited by those who failed to appreciate its underlying principles; and thirdly, because the modern psychotherapist argues that if a patient is treated in isolation his environment is artificial, and that, although he is thereby protected during his course of treatment from counter-suggestion, he will relapse when he is once more let loose in the world. Dejerine, who did more than anyone to popularize this therapeutic measure, held a contrary view. This objection is purely hypothetical, and I know of no evidence to show that it is borne out by fact. Isolation might, I am convinced, be utilized with advantage very much more than at present is the case. It is a most useful adjunct to suggestion and persuasion in the treatment of cases of pain in which the psychogenic factor is predominant.

I have spoken of pain, but what I have said is equally applicable to many symptomatic manifestations with which we meet. Our conception of disease must not be limited by the confines of morbid anatomy, clinical pathology, and biochemistry. We are necessarily concerned with all those disturbances of function which tend to shorten life and produce incapacity, and with all the determining factors which give rise to them. What better illustration in this connexion than the symptom pain, the subject of these remarks?

PERFORATIVE DIVERTICULITIS OF THE COLON.

SOME PROBLEMS DURING THE TREATMENT OF A FATAL CASE.

BY

SIR W. I. DE C. WHEELER.

DUBLIN.

PERFORATION of the pelvic colon into the free peritoneal cavity in the case of an apparently healthy adult is sufficiently uncommon to justify, I think, this short communication.

Discussions on the prediverticular state, the comparatively common condition of diverticulosis, with such sequelae as diverticulitis, abscess and fistula, obstruction, and carcinoma, have received considerable attention in recent surgical literature (Spriggs, Mummery, Mayo, etc.). The case under review is in a different category.

History.

On April 27th last an apparently healthy man, aged 44 years, took a dose of salts in the morning, before breakfast. He had felt vague pain and discomfort in his abdomen for some days previously. Within an hour of taking the salts his bowels acted twice. He was seized with a sudden excruciating pain in the left iliac fossa after the second motion. He could put his finger on the exact spot. He said he felt as if he had been shot. He lay down with his legs drawn up, applied hot-water bottles to his abdomen, and drank some brandy, which was at once vomited. He was seen within an hour, and was then in a condition similar to an early case of perforated duodenal or gastric ulcer, except that all the local signs and symptoms were confined to the left iliac fossa. The pulse was slow, the temperature normal. There was fullness and rigidity of the lower abdomen, much more marked on the left side. There was nothing to be felt per rectum. The upper abdomen was soft, and high abdominal respirations were still present.

Diagnosis.

The diagnosis presented little difficulty. No left-sided appendicitis could have developed with such dramatic suddenness; the bowels had acted well, there was no distension, the picture was one of acute peritonitis, and not that of an obstructive lesion. In an adult, vigorous and healthy an hour previously, it was difficult to think of any likely cause other than perforative diverticulitis which would produce such an acute condition in the left lower abdomen. The diagnosis was made within a few minutes of seeing the patient. It was recognized that perforation of the colon into the peritoneal cavity, such as occurred in this case, or in cases above a malignant obstruction, is followed by a peritonitis of intense virulence, and a grave prognosis was given. (The segment of colon involved is notoriously septic, and when there are no limiting adhesions the assault on the peritoneum is seldom successfully countered.)

Operation.

Within three hours of the onset of pain the abdomen was opened on the left side below the umbilicus. So-called pus, probably of the defensive and protective variety, welled up. The coils of small intestine first seen were covered already with patches of protective lymph. The pelvic colon was sought, and was found loose, boggy, and swollen. The exact site of the perforation was difficult to locate at first, but was subsequently found. The friability of the swollen loop was such that an attempt at suture of the perforation was found to be impossible.

The exceptional freedom of the coil from adhesions suggested that there never had been previous attacks of diverticulitis, and confirmed a negative history given by the patient. The perforation was dealt with by leaving the loop of colon outside the abdomen, with a subsequent Mikulicz resection in contemplation if all went well. The caecum was drained, as it was thought unlikely that faeces could pass for some considerable time through the affected loop. It was possible to introduce the caecal tube through the primary incision. The pelvis was also drained.

At the conclusion of the operation the stomach was washed out, and, notwithstanding the short space of time which had elapsed (three hours) since the perforation, it already contained ominous black material.

After-History.

There was very little drainage from the caecum. On the day after operation vomiting became frequent; repeated lavage of the stomach only gave very temporary relief. A stab wound was made in the extruded loop of bowel, through which enemata were given without effect. Vomiting continued, and it was soon obvious that

a high obstruction was established, and high jejunostomy was indicated. An incision was made parallel to the left costal cartilages under gas-oxygen and local anaesthesia. A distended loop of jejunum was selected and a catheter was introduced by the usual Mayo method. A few ounces of green fluid came through the tube, but there was no subsequent drainage. Fluid, however, could be freely introduced.

A, Duodenal tube. B, High jejunostomy (tube inserted too low). C, Stab wound in colon. D, Caecal drainage. E, Drain in pelvis.

Vomiting continued throughout the third day. A second jejunostomy after identification of the flexure was considered, but it was felt that the same result might be obtained by drainage of the stomach and duodenal contents through the medium of a duodenal tube. The tube was swallowed with great difficulty between two attacks of vomiting, and, after lavage, by means of a nasal tube. It was now possible to aspirate fluid every half-hour with a Record syringe. Three pints were withdrawn in twelve hours. The character of the fluid completely changed; at first it was black, afterwards it became orange-coloured, with a foul, but not a faecal, smell. The toxicity of this fluid was made evident by the fact that if aspiration was delayed on any occasion the condition of the patient became rapidly worse.

The mechanical difficulties encountered were dealt with in the manner indicated, but, in addition, it was necessary to cope with progressive failure of strength from toxæmia and loss of fluids.

Biochemical Considerations.

Every few hours a pint (12 pints in all) of 10 per cent. glucose solution in distilled water was administered intravenously. During and at the end of each transfusion insulin was given hypodermically (1 unit to 3 grams of glucose). Fluids were given continuously by the drop method into each axilla; water, peptonized milk, and panopepton were introduced through the jejunostomy tube. It was interesting to note that, immediately after a transfusion, duodenal regurgitation increased, necessitating aspiration on each occasion.

At one stage the urine became alkaline, dehydration was marked, and slight tetanic spasms (cramps) occurred in the arms, suggesting the condition of alkalosis so commonly observed in the presence of high obstruction. Improvement followed the administration of colloidal calcium and the substitution of hypertonic (3 per cent.) saline solution for distilled water when administering the glucose.

Towards the end of the illness a dilemma arose in connexion with treatment. Duodenal contents in the presence of high obstruction are notoriously toxic. Their retention is fatal. On the other hand, if they are abundant and freely drained the patient cannot survive their loss for any prolonged period. After forty-eight hours of frequent aspiration through the duodenal tube the patient became dehydrated and stuporose, and threatened with a physiological death.

Wilkie of Edinburgh was confronted with a similar dilemma in somewhat similar circumstances. High obstruction followed appendicectomy; the jejunostomy opening was made too low. A second jejunostomy was performed at a higher level. After a period of free drainage rapid emaciation followed and death appeared imminent. The upper and lower jejunostomy tubes were connected outside the abdomen so that the duodenal contents could be delivered into the lower intestines. An immediate improvement in the condition of the patient followed, with ultimate recovery.¹

Wilkie's method was adopted in the present case in a modified form. The duodenal contents, immediately on their withdrawal, were injected through the jejunostomy tube with an aspirating syringe. Coincidentally with this procedure the caecum commenced to drain. It was noticed that the peptonized milk, panopepton, and other materials given via the jejunostomy opening passed through the caecal tube unaltered.

Termination.

With the caecum draining and the duodenal contents saved the general condition of the patient improved. On the morning of the fifth day he announced that he felt better and was going to recover. The Record syringe failed to find any fluid in the stomach and duodenum, and some bile appeared for the first time in the caecal drain. The bile was green, and not intermixed with the other faecal material. (This has been noticed in other patients suffering from pancreatic disease.)

For six hours the patient made rapid strides towards recovery; there was no further regurgitation into the duodenum; his appearance was transformed. He was given a hypodermic of omnopon to promote rest, and all who were watching him felt that at last recovery was assured.

On the evening of the sixth day the signs of high obstruction again appeared; restlessness and delirium quickly followed. Aspiration of the duodenal contents and intravenous medication gave no response. He died twelve hours later.

Towards the end of the illness respirations became fast without any pulmonary complication; air hunger was followed by the appearance of acetone and diacetic acid in the urine. Alkalosis had now given place to acidosis. Alkali solutions, rigidly avoided at first, were freely administered in combination with glucose, but without effect in the end.

A post-mortem examination was refused, but the loop of bowel was examined, and proved to be the site of perforative diverticulitis.

The following points in the case are noteworthy.

1. The ease of diagnosis.
2. The good fortune in finding the perforation in a loop of bowel easily extruded.
3. The free drainage of the caecum after some days, with complete emptying of the lower coils of intestine in the presence of persistent high obstruction.
4. The efficacy of the retained duodenal tube as a means of high drainage.
5. The extreme toxicity of the obstructed duodenal contents.
6. The signs of hepatic and pancreatic insufficiency in the presence of continued obstruction.
7. A condition believed to be alkalosis changing to acidosis.
8. The dramatic relief from obstruction followed by a fatal relapse.

In conclusion, I wish to acknowledge my great indebtedness for the untiring help of Dr. Magennis and Dr. Gilbert Wilson in the management of the case. Dr. T. T. O'Farrell kindly examined and made sections of the specimen removed after death.

REFERENCE.

- ¹ *Brit. Journ. of Surg.*, 1924, xi, 568.

THE EARLY DIAGNOSIS AND TREATMENT OF CANCER.*

BY

MALCOLM DONALDSON, F.R.C.S.,
PHYSICIAN ACCOUCHEUR, WITH CHARGE OF OUT-PATIENTS,
ST. BARTHOLOMEW'S HOSPITAL.

In his opening remarks Mr. Donaldson suggested that the problem of cancer might be considered under four headings: etiology, early diagnosis, treatment, and education of the public, and, having described briefly some of the views held on the etiology of cancer and indicated lines on which further investigation is proceeding, he continued as follows.

My object now is to discuss the second, third, and fourth parts of the problem, and it is as well to begin by trying to picture the situation as it exists to-day. To do this, I will try and describe what happens to thousands of people each year.

First, there are the average men and women, going about their daily life, occasionally thinking of the question of cancer. One day they experience some perplexing

* Abstract of an address delivered at the Royal Institute of Public Health on November 20th, 1929.