CLINICAL REMARKS

ON

INTESTINAL OBSTRUCTION: SOME CURIOUS CASES.

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DISEASES of the rectum are, of all surgical affections, among those which are most frequently neglected in their early stages, and so are allowed to assume a condition of considerable gravity before treatment is resorted to. This arises from various causes. Many persons, especially females, have great disinclination to have that part of the body made the subject of observation and examination, till compelled by their suffering to resort to a medical opinion; at least, that has often happened in my experience. Again, many imagine that all disorders of the intestinal tract arise from indigestion, biliousness, or habitual constipation, which they imagine can be removed by the use of familiar laxative medicines, and these they use with all diligence till they prove ineffectual; and if by pain and other discomfort they feel that there is something wrong at the lower end of the bowel, they assume that it is "a touch of the piles," which can be cured by some of the pills and ointments so frequently advertised. One can scarcely take up a newspaper, especially provincial, colonial, or American, without observing the numerous advertisements of remedies vaunted as cures for such ailments; and I believe that the extensive use of these arises from the disinclination, to which I have referred, to submit these complaints in the first instance to the regular practitioner.

But while this is so, not infrequently neglect of radical treatment can be traced to errors in diagnosis, sometimes, though not always, the fault of the medical attendant, who is apt to be thrown off his guard by erroneous descriptions of the symptoms given by the patient. One or two examples of this will follow.

The term "intestinal obstruction" in the present day is used rather vaguely. Under it are included cases presenting symptoms, or groups of symptoms, which are present when there is real occlusion of the intestinal tube, but which are sometimes present when there is no actual obstruction at all, but which depend on some functional deficiency, such as loss of the peristaltic action of the bowel, either with or without flatus; of that I have seen several instances. In a discussion which took place in the Medico-Chirurgical Society of Glasgow last winter on intestinal obstruction, numerous examples of spontaneous recovery were cited, and some of these in circumstances which precluded the idea of there having been even temporary local occlusion of the tube. I mention these to point out that such instances were not recoveries from actual intestinal obstruction, but from symptoms identical with those of that condition.

Taking the term in its strict etymological sense, the most constant and obvious symptom is inability to pass feces; but in the great majority of cases, symptoms of far graver import come on, long before that is of any importance. It is just in cases in which these serious symptoms, such as obstinate vomiting and failure of the vital powers, are early prominent, that spontaneous recoveries have been most frequent. It is also this fact that renders the question of operative interference so difficult to decide.

The foregoing observations, which are applicable to intestinal obstruction generally, are more or less illustrated in the following examples.

CASE I. *Symptoms of Obstruction: Peritonitis with Effusion: Abdominal Section: Recovery.*—Some years ago I was called to see a domestic servant, aged about 30, suffering acute symptoms of intestinal obstruction, which had come on rather suddenly after a heavy meal some twenty-four hours before. Pain in the abdomen; obstinate vomiting, stercoraceous; cold skin, flagging pulse; no flatus. I could not form any accurate diagnosis, but felt satisfied that there was no course open to me but abdominal section. The patient's father, being summoned from the country, agreed; the patient, who was quite conscious, acquiesced; and I did the operation. No obstruction could be found, but the peritoneal cavity was full of acrid greenish effusion, and the bowels partially glued together with recent lymph. I washed out the cavity with a stream of

tepid water. The patient made a rapid recovery, and is now the mother of a family.

CASE II. *Symptoms of Obstruction: Abdominal Section: No Discoverable Cause: Death.*—Shortly after that I was called to see a young lady, aged about 20, with symptoms somewhat the same, but not so rapid or acute. There was no flatus, but the vomiting was continuous and non-stercoraceous. I performed abdominal section. There was no obstruction; the intestines were quite flaccid, and contained very little fluid; and the peritoneum was quite healthy. She did not get better, and died next day.

CASE III. *Symptoms of Obstruction: Apparent Failure of Enemata followed shortly by Relief, and Recovery.*—Some years ago I attended an old gentleman with symptoms of intestinal obstruction. Constipation had existed for some days, and now there was pain in the abdomen, flatus, and obstinate vomiting. I carefully examined the rectum to ascertain if there was any local occlusion, and I frequently washed it out with tepid water, using a long tube and a forcing pump. There was no evidence of any fecal impaction, the water returning as it was introduced. I could not find any indication of any precise situation of any abnormal condition of the intestinal tube, but, as the symptoms were becoming more grave, I proposed abdominal section as a last resort. The patient, who was very intelligent and quite conscious, agreed, but asked me to bring in consultation a physician with whom he was acquainted. I did so with great willingness, and we agreed that, if he should have the same opinion as I had, the operation should be done at his visit. I returned with my friend three or four hours after, when to my surprise I found my patient greatly relieved. He had had a copious evacuation in the interval, and the vomiting had ceased. He made a rapid and good recovery.

CASE IV. *Obstruction: Suspected Epithelioma: Removal of Impacted Feces: Rapid Recovery.*—A short time ago I had an urgent message to go to the country to see a lady, about 30 years of age, suffering from symptoms of obstruction. She had been troubled with constipation for some time, accompanied with much pain in the rectum. Latterly, the pain in attempting defecation was so great that, practically, she had passed nothing for some time but discoloured mucus and sometimes blood. For some days she had been troubled with vomiting whenever she took any nourishment, which was only a small quantity of milk, and now she was afraid to swallow anything. Her medical attendant, under the impression that it might be a case of chronic intestinal obstruction from some abnormal condition of the alimentary canal, had sent for a physician in consultation two days before. He, discovering that the symptoms arose from some obstruction in the rectum, endeavoured to make an examination, but the pain on introducing the finger was so great, that the patient would only allow a very partial exploration to be made, either *per rectum* or *per vaginam*. Enough was felt to lead to the opinion that the rectum was occluded by an epithelial growth, which extended far up the gut and bulged the recto-vaginal septum far into the vagina. He gave as his opinion that some surgical operation was urgently demanded—either excision of the rectal tumour, or the making of an artificial anus. Accordingly I was sent for, and went prepared for any operation I might find necessary. As the patient could not suffer a preliminary examination, it was arranged that I should put her under chloroform, make a thorough examination, and proceed as I might find matters required. But as the operation contemplated, whether the one or the other, was of a most formidable kind, I explained to the patient and to her husband and father the nature of the case as it was represented to me, and that in the one case the operation might be immediately fatal, and in the other could not be looked on as anything more than a palliative proceeding, giving relief from suffering for a time, but with the not improbable return of the disease at no very distant date. They quite understood my representation, and were at one in accepting the position.

The medical attendant had secured the assistance of two other fellow practitioners, so that I was prepared for any proceeding however formidable. The patient was placed on a table, and put under chloroform till she was completely unconscious. On introducing my finger into the rectum I found it occluded by a large mass of firm unyielding material, either adhering to or firmly grasped by the walls of the bowel. But it had not the feel of an epithelioma. It was smooth and globular. I could not tear it with my finger, and there was no channel through it for feces to pass through, and it did not bleed. I had no doubt it was a mass of hardened feces, and the smell from my finger nail made it certain. I now with my thumbs dilated the sphincter as far as it would stretch, and getting a horn spoon, tried to lever it out. It was too large and firmly fixed for that. The medical practitioner, who lived in the adjoining house, went for his obstetric bag, and I chose a long, narrow-bladed fenestrated forceps, which is used in some obstetrical manipulations connected with craniotomy. I passed a blade on each side, and, by putting on firm traction, removed a large globular mass of firm tough material as large as a full-sized orange. Another mass as large as a turkey's egg was impacted above that, and was removed in the same way. A third the size of a hen's egg was impacted still higher up, and that was also removed, and the passage was cleared. I now injected a basinful of soapy tepid water, which came away with a few bits of scybala. I need not say that next day the patient was practically well, and she has remained so ever since.

CASE V. *Obstruction due to Impacted Feces.*—Another case of nearly a similar nature occurred last winter. I was summoned late at night to see a man who had had symptoms of obstruction for some time, but only on the day I saw him had vomiting come on. The medical attendant believed that the rectum was obstructed by an epithelial growth, and called me to perform some operation for its relief. On examination I found that the rectum was blocked by an enormous mass of hardened feces. As the house was not suitable for operation and the symptoms were not dangerous, I gave a subcutaneous injection of morphia, and ordered the patient to be sent in the morning to my ward in the Western Infirmary, and next morning, before my clinical class, broke up and removed the mass, which was about the size of two closed fists.

CASE VI. *Obstruction due to Impacted Masses of Calcined Magnesia.*—A third case, which occurred some years ago, I mention from the unusual nature of the obstructing mass. It was composed of hard masses, the size of walnuts, with facets caused by long mutual pressure. They were concretions of calcined magnesia, which the patient had long been in the habit of using as a laxative. I then recalled that, when I was a student in

the materia medica class, we were cautioned against allowing patients to use calcedined magnesia habitually.

It is not often that an opposite error of diagnosis occurs, but the following case is a good illustration:

CASE VII. *Diagnosis of Epithelioma: Revised Diagnosis of Intestinal Atony: Recovery.*—A middle-aged gentleman, of sedentary habits, had for many months suffered from some anomalous symptoms—indigestion, flatulence, occasional vomiting, and obstinate constipation, alternating with looseness, the stools being often simply discoloured mucus. His medical man had ordered some tonic remedies for dyspepsia; but, as he did not improve, he, without telling his regular attendant, consulted a surgeon with whom he was personally acquainted. The surgeon examined him *per rectum*, and told him that he had an epithelial growth far up; that it was out of reach of any operation for its removal; that there was no hope of his recovery; that his progress downwards would be gradual; but that at no distant date he must decide whether he would submit to undergo an operation for the formation of an artificial anus or await his end, which could not be very far off. His medical attendant was unable to acquiesce in this opinion, and, before accepting it, brought him to me. I made a most careful exploration of the rectum, but I could find no growth, stricture, or any kind of obstruction; indeed, the mucous membrane seemed to me more flaccid and folded than usual, and in one of the folds I felt a small piece of hardened faeces, which seemed adherent or retained in the fold. I came to the conclusion that the symptoms arose from atony of the intestinal tube from end to end, with possibly some softening, in parts, of the mucous lining, and specially of the lower end of the colon and rectum. I recommended that he should give up business for two or three months and go to Spa in Belgium, and gave him a letter to my friend Dr. Thomson, indicating my opinion and the treatment I thought would benefit him. The result proved more fortunate than I could have anticipated from the use of the chalybeate waters and the change of climate and diet. My patient came home practically well, and has continued so ever since: that is, for more than two years.

I may here state that many patients with atony and relaxation of the mucous tracts—especially the bladder—whom I have sent to Spa have been, if not absolutely cured, at least greatly improved by the use of the chalybeate waters and baths; but now that Brides-les-Bains, in the Alps of French Savoy, is connected by railway with Chambéry on the great railway to Turin, and is within two hours of Aix-les-Bains, I should be inclined to recommend it, even in preference to Spa. Its advantages are its height above the sea, its warm sunshine during the day, its cool refreshing nights, owing to the crisp air from the neighbourhood of the glaciers, and the great strength of its ferruginous spring at Salins, which contains a large amount of chloride of sodium. Also the presence in the same place of a natural hot saline laxative spring, the use of which in the morning counteracts the tendency to constipation which sometimes follows the use of chalybeate baths, which are usually taken in the afternoon.¹

POISONING BY SARDINES: A TOXIC PTOMAIN.

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On October 23rd, 1892, W. H., a military officer, aged 21 years, whilst apparently in good health, made his breakfast, at 10.30 A.M., off six hot sardines on toast, with coffee. A fresh tin of the fish was opened, and one of the female servants who prepared the breakfast ate one sardine without ill effect. The rest of the tin of sardines came into my possession six days later. W. H. said that the fish tasted nasty. At lunch the same day he complained of feeling unwell, took no meat, but ate some apple tart, and caviare, and drank brandy and soda water. After lunch he retired to the latrine, and vomited. He had supper at 7.30 P.M., and vomited again after retiring to bed. This vomit was reserved for my analysis. He passed a sleepless night. Next morning—the 24th—he was seen for the first time during his illness at 11.15 A.M., by Surgeon-Captain Weston. He was then in bed, wrapped up in rugs, and perspiring. The pulse was weak, the breathing natural; the abdominal walls tense, but the abdomen not enlarged, and there was slight pain in the stomach. He complained of stiffness and feeling of weight in the right leg; but on examination nothing was found to account for this, and the limb was natural in size. Shortly after, at 11.30 A.M., Surgeon-Lieutenant Thomson saw the patient in consultation. A mixture containing ether was prescribed, and one dose was taken. An hour later Surgeon-Captain Weston was hurriedly sent

for, and found the patient moribund. Indeed, he died almost immediately afterwards, and, though artificial respiration and other means of resuscitation were employed for an hour and a half, these were unavailing. It was then noticed that the right thigh and scrotum were cedematous.

The *post-mortem* examination was made next day. During the interval between death and the necropsy, the weather was cool and damp, the temperature of the external air not exceeding 47° F. *Post-mortem* lividity and rigidity were both well marked. The features were so much bloated as to be unrecognisable. Bloody fluid exuded from the nostrils, mouth, and ears. The whole body was emphysematous, except the hands and feet, which appeared blanched by contrast. There were large bullæ on the buttocks. The pectoral muscles were dark, and these and the whole muscular system were emphysematous. The abdomen was tense from gaseous distension. The mucous membrane of the stomach and the rugæ of the intestines were emphysematous. Posteriorly the liver was cavernous and friable, and the organ generally was hyperæmic, as were also the kidneys and the bladder, which latter was distended with gas. The heart and larger blood vessels were empty of blood, and the endocardium was blood-stained. The large intestines were normal, and the lower two or three feet of them contained solid faecal matter. The stomach contained about 4 ounces of semifluid contents.

On October 29th, five days after the death, and four days after the necropsy, I received for analysis the opened tin of sardines, other articles of food, an almost clear watery fluid that had been vomited many hours before death, a portion of the contents of the stomach, the stomach itself, and 2½ ounces of the liver.

The sardines had no unusual appearance, and looked quite fresh; the tin itself was bright and uncorroded. Their odour was peculiar, but not offensive. Some of the fish were intensely toxic; of six white mice, which were fed on them, four died; also a rat; whilst two of the mice and a young cat, fed on two of the fish, were unaffected. One mouse, which had only a small piece of sardine, was extremely ill within an hour, and died in 3½ hours; the rat a young, white, tame animal, was very ill half an hour after eating a piece of a sardine. Two mice appeared to have immunity, for, when fed on portions of fish which had been fatal to other mice, they did not suffer. From four of the fish, weighing 2½ ounces, I extracted, by a modification of Stas's process,¹ an alkaloidal substance, which weighed only 1 milligramme ($\frac{1}{100}$ grain). About two-thirds of this, when injected beneath the skin of the back of a young white rat, caused its death within 4½ hours.

No characteristic pathogenic forms of bacteria were discovered in the sardines. A piece of one of the sardines, which when eaten had caused the death of two mice, was macerated, whilst swarming with ordinary bacteria, in sterilised (by heat) water and placed beneath incisions in the backs of two guinea-pigs, but the animals were unaffected.

These experiments point to poisoning by a toxic ptomaine, and not to the direct action of pathogenic bacteria on the animal organism.

Half an ounce of the stomach contents, containing ordinary forms of bacteria when similarly extracted for alkaloids, yielded 3 milligrammes ($\frac{3}{100}$ grain) of an alkaloidal extract. Of this, about half was injected into the back of a young white rat. The animal died in about twenty-six hours.

Two fluid ounces of the vomited fluid also yielded 3 milligrammes ($\frac{3}{100}$ grain) of alkaloidal ethereal extract. About half of this was injected into a young white rat. Next morning the animal was found dead. A similarly-prepared alkaloidal extract from 2 ounces of the liver had no effect when injected into a young white rat.

The symptoms exhibited by all the animals were similar—great feebleness, loss of muscular power, and retching. These experiments again appear to show that the stomach and ejecta of the deceased man contained a virulently poisonous ptomaine, similar in character to that contained in the sardines.

From the remainder of the three poisonous alkaloidal extracts, when mixed, a minute precipitate was obtained by precipitation with a solution of iodine. This precipitate was washed, dissolved in a solution of sulphurous acid, and on evaporation a portion left microscopic crystalline plates. Another portion of the sulphurous acid solution was evapo-

¹ Brides-les-Bains. See BRITISH MEDICAL JOURNAL, October, 1889, and also Glasgow Medical Journal, December, 1889.

² See Watts's Dict. of Chemistry, new ed., vol. i., p. 120.