VARIETIES OF INTESTINAL OBSTRUCTION DEPENDENT ON GALL-STONES,

WITH A SERIES OF CASES

BY

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By intestinal obstruction from gall-stones is usually understood the impaction of a large concretion in some part of the small intestine producing a mechanical block; but this is only one of the several varieties of obstruction of the intestines dependent on cholelithiasis. There are clearly four classes of obstruction depending essentially on gall-stones.

1st. Acute obstruction caused by local peritonitis in the region of the gall-bladder leading to paralysis of the bowel. Of this variety I have seen several examples, all of which recovered without operation.

2nd. Volvulus of the small intestine, dependent either on the violence of the colic caused by the attack of gall-stones, or on the contortions induced by the passage

of a large concretion through the small intestine. I append the notes of two cases of this kind, in both of which operation was performed, recovery following in each after simply untwisting the volvulus.

3rd. Mechanical obstruction due to the passage of a large concretion through the small intestine, of which I shall describe one case, and by permission mention another, both of which recovered after enterotomy.

4th. Obstruction coming on after the original cause has disappeared, and depending on adhesions left by local peritonitis due to gall-stone attacks, or on narrowing caused by the healing of a fistulous opening through which a large gall-stone has made its way into the intestinal tract.

Of this variety I do not propose to give detailed examples, as they are only remotely due to the cause in question, and may be more usefully discussed in a paper on intestinal obstruction from general causes.

CASE 1.—Early last year I received a telegram from Dr. H. asking me if I could receive a patient, Mrs. —, æt. 60, at a surgical home for immediate operation for acute intestinal obstruction, fæcal vomiting having been present for three days, and medical treatment having failed to relieve.

On arrival the patient was too exhausted and ill to bear operation, and morphia was administered to relieve her distress and combat the collapse due to the intense pain. Rectal feeding was at once begun in order to maintain the strength, and Ext. Bellad. was given every four hours in $\frac{1}{4}$ -grain doses. The patient forthwith began to improve, and a clear history of cholelithiasis was obtained, the present attack, the patient said, differing in no respect, except in severity, from those she had frequently had on former occasions. There was marked tenderness over the gall-bladder, particularly at a point one third of the distance in a straight line between the ninth costal cartilage and the umbilicus, together with some

swelling in the right hypochondrium, slight tympanitic distension of the abdomen generally, some jaundice, and the history of a sudden onset followed by two or three slight ague-like attacks. Flatus passed the same night, and continued to pass at intervals.

After two days the bowels were freely relieved after a large enema had been administered. No large gall-stone was discovered, but several small concretions which had evidently passed through the common duct. She returned home in the third week, and has remained well.

CASE 2.—Mrs. R—, æt. 56, was admitted on July 18th, 1893, into the Leeds Infirmary with symptoms of acute intestinal obstruction of three days, and fæcal vomiting of twenty-four hours' duration. The patient was jaundiced and was in very great pain, the pain having begun over the gall-bladder, radiating thence over the abdomen, and through to the right scapular region. She gave the history of having had numerous gall-stone attacks during the previous fifteen years, but she had never been so severely affected as on the present occasion.

A morphia injection, followed by $\frac{1}{4}$ -grain doses of Ext. Bellad. every four hours, and rectal feeding, soon gave relief to the urgent symptoms, and the bowels were moved on the third day, after which recovery was uninterrupted. On October 21st, 1893, the patient having completely recovered from the obstruction, but the spasmodic pain followed by jaundice having recurred, I opened the abdomen, and found numerous adhesions of the colon and duodenum to the gall-bladder and bile-ducts.

Cholecystotomy was performed, and six stones were removed, several others in the common duct being crushed between the finger and thumb.

The patient was discharged cured in a month, and has been well since.

These two will suffice as examples of the first class of obstruction.

CASE 3.—As this case is reported on p. 92 of my work on gall-stones, I will only mention it, and not describe it in detail.

Acute intestinal obstruction in a woman of sixty-eight operated on November 12th, 1890, by laparotomy, on the eighth day of the obstruction, a volvulus of the small intestine being discovered and untwisted. Bowels moved by enema on the sixteenth day after onset of obstruction and eighth day after operation, and a large gall-stone 3 inches in circumference and $1\frac{3}{8}$ inches long was passed, this being manifestly the cause of the obstruction, and secondarily of the volvulus.

The patient returned home on the twenty-sixth day, and remained quite well when heard of a year subsequently.

CASE 4.—On March 13th, 1894, I received a telegram from Dr. Lownds, of Doncaster, asking me to go prepared to operate on a case of acute intestinal obstruction. I found a Mrs. O—, aged 62, suffering from acute obstruction of six, and fæcal vomiting of two days' duration, the onset having started like a gall-stone attack with pain over the gall-bladder in the beginning, but subsequently in the umbilical region.

She gave a history of having suffered from attacks of gall-stones for several years, some of which had been followed by jaundice, and from the mode of onset of the present seizure, and the slight jaundice following it, she was quite sure the attack was one of her old seizures at the commencement.

From the persistence of the fæcal vomiting, the presence of visible intestinal peristalsis, and the pinched and anxious countenance, with the absence of relief by ordinary medical means, operation was decided on.

Laparotomy was performed, and volvulus of the small intestine being found, the loop of gut, which was much congested, was untwisted and the abdomen closed. Flatus passed the same day, and the bowels were opened

the next. The wound healed by first intention, and recovery was uninterrupted.

These two cases are illustrative of the second class of obstruction.

CASE 5.—On September 13th, 1894, I received a telegram from Dr. Tempest Anderson and Dr. Raimés, of York, to go prepared to operate on a case of acute intestinal obstruction, but on arrival word was brought to the station that the patient was in a state of collapse, and might be dead on our arrival. Fortunately, however, we went, and as a result of a morphia injection administered by Dr. Raimés before our arrival the pulse had recovered itself, and she was a little better. The patient, a lady of fifty, gave a characteristic history of gall-stone attacks without jaundice for over ten years, but during the past year she had been much better until Saturday, September 8th, when she was seized with violent pain in the centre of the abdomen of a colicky nature, which was slightly relieved by opium; the pain, however, soon recurred, and was accompanied by vomiting, which became fæcal on Monday, the 10th. Despite morphia and other means the symptoms persisted, and on Wednesday, the 12th, chloroform was administered and abdominal massage with abdominal succussion was employed, but without material relief.

When I saw her at 10.30 on the evening of Thursday, the 13th, her pulse was rapid and intermittent, and she looked extremely ill, though she was temporarily relieved by the morphia which had been given a little time before our arrival. There was no distension of the large bowel, but visible coils of small intestine pointed to some obstruction in the lesser gut, and we all agreed that operation was our only course. At 1 a.m. on the 14th September the abdomen was opened by a $1\frac{1}{2}$ -inch incision below the umbilicus, and almost immediately a hard lump was felt inside a coil of small intestine at the bottom of Douglas's pouch. This loop was brought through the abdominal

incision and surrounded by gauze wrung out of carbolic lotion.

After emptying the gut by pressure, Dr. Anderson grasped the proximal and distal ends between his fingers and thumbs; the bowel was then incised and the stone extruded, the opening in the gut being closed by a continuous catgut suture for mucous membrane, and a continuous silk suture for the serous coat. The surface of the bowel which had been exposed was then bathed with boracic lotion and returned, and the abdominal incision closed in the usual way.

From beginning to end the operation occupied but twenty minutes, and the patient was put into bed in much better condition than she was in before the operation. The wound healed by first intention, and there was nothing to chronicle in the after progress, the patient being now quite well. The stone weighed $1\frac{1}{4}$ ounces when dry, and measured three inches in circumference in one direction, and $4\frac{1}{2}$ inches in circumference lengthwise.

CASE 6.—By the kind permission of my friend Dr. Everley Taylor I am permitted to mention a recent case of acute intestinal obstruction, in which he removed successfully by enterotomy a concretion from the ileum which it was completely blocking. I believe the gall-stone, of which I show the photograph, is the largest which has been successfully removed, if it be not the largest on record as having been found in the intestines.

These cases illustrate the third class of obstruction.

When I began to write this paper I thought intestinal obstruction from gall-stones to be not very uncommon, but in order to ascertain whether this was so or not, I addressed a letter to the registrars, or to members of the staff of a number of the largest metropolitan and provincial hospitals, asking how many cases of intestinal obstruction dependent on gall-stones had been admitted during the past year. The answers I received, and for which I sincerely thank my correspondents, represent about

80,000 in-patients treated during the year ; and out of this large number, my own cases excepted, only four instances of gall-stone obstruction were reported : two of these were at the London Hospital, one at Guy's, and one in the Manchester Royal Infirmary, which shows that this form of intestinal obstruction is far from frequent, and certainly less common than I had expected.

Having related the cases, which may perhaps be found to present points of interest, I propose to make a few remarks on the diagnosis of the several conditions, and then to discuss the question of treatment.

In the first class (cholelithic attack) the diagnosis will not as a rule be difficult, as the history of the occurrence of previous attacks of spasms, at times—though not of necessity—followed by jaundice ; the similarity to these of the commencement of the attack in question ; the severe and persistent pain, at first localised to the right side of the abdomen ; the absence of distension at the commencement, and then the occurrence of distension on the right side only, becoming general later ; the lateness of the onset of fæcal vomiting, and then only after continued retching ; the existence of collapse at an early stage owing to the severity of the pain, which is usually relieved by a morphia injection ; the usual absence of visible peristalsis ; and lastly, the onset of jaundice if the concretion have reached the common duct, afford so much guidance that error will not often occur, especially if the patient be a woman of middle or old age. But that difficulties may arise is shown by the cases which I have mentioned.

In the second class of cases (volvulus) a positive diagnosis is probably, for the most part, out of the question except after the abdomen is opened, as volvulus of the small intestine is an extremely rare event, and we know that, as in the third case, a large gall-stone may quietly ulcerate its way into the gut without any preliminary warning, the symptoms only arising when the concretion is passing through the small bowel ; but in

both cases related, in addition to the signs of acute obstruction, there was a well-marked localised swelling near the umbilicus, becoming hard at intervals when the paroxysms came on, pointing to the site of the obstruction; and in the fourth case there was not only the previous history of cholelithiasis, but the characteristic onset of a gall-stone attack followed by acute symptoms.

The third class of cases (impaction in small intestine) has given rise to much discussion on previous occasions, and I would only here point out that although in the fifth case related I was able to make a probable diagnosis from the history of previous gall-stone attacks extending over several years, yet in many cases there is absolutely no previous history to guide one, and it is quite impossible to say whether or not the attack is one dependent on the cause in question, or on a volvulus or band or internal hernia which, if left, must almost inevitably lead to death, and that speedily. The age and sex, together with the history of chronic dyspepsia and pain in the hepatic region, are, however, well worth bearing in mind, as well as the early and persistent vomiting and visible peristalsis limited to the small intestines.

In the fourth class the symptoms are usually subacute or chronic, and have often been preceded by long-continued constipation or partial obstruction; coils of intestine will usually be visible; and where the site is in the hepatic flexure of the colon, as in a case I have lately seen, the vermicular action starting in the small intestine, and extending to the cæcum and ascending colon, stopping in the region of the gall-bladder, pointed to the stricture which was the cause of the trouble.

Treatment.—The first class of cases will, as a rule, yield to medical treatment, and it can seldom be necessary or even advisable to resort to operation during the seizure, though, as in the second case, a subsequent operation may be required.

In the second class (volvulus), it would seem to me that operation holds out the only hope of success, as the

obstruction being mechanical, nothing short of remedying the cause can be expected to be of use.

The third class of cases (impaction in small gut) has given rise to much discussion, as it is an undoubted fact that large concretions have safely passed through the alimentary canal after obstruction of several days' duration, but when it is borne in mind that there are no symptoms peculiar to this form of obstruction, and that the course pursued by an obstruction by a band or by an internal hernia may be exactly the same as in gall-stone obstruction, the surgeon who waits beyond the period when an operation may be undertaken with every hope of success, is incurring a very serious responsibility.

In my own case related above, medical means as well as manipulation under an anæsthetic had been fully tried, and her condition after five days' obstruction with three days of fæcal vomiting was such that further delay would, in my mind, as well as in the opinion of the able physician and surgeon with whom I was associated in the case, have been very unwise.

With regard to the method of treatment after the abdomen is opened and the cause found : if the gall-stone can be crushed or needled through the intestinal coats, such may be done, but I should prefer to incise the gut and perform enterorrhaphy, as it can be done very quickly and with very little damage to the bowel.

Should the patient be too ill to bear a search being made for the obstruction, enterotomy or short circuiting might be performed in order to give temporary relief, the cause of the obstruction being afterwards removed, if it were not effected naturally. As to when operation should be performed, that is part of a general question which each surgeon will have to answer for himself in every individual case, as no definite rule can possibly be formulated which will apply to all cases. The surgeon will, as a rule, not be called in before decided symptoms of intestinal obstruction have manifested themselves, and until medical means have been fully tried ; in such cases it would seem to me

to be idle waste of time to delay surgical intervention until the patient is so exhausted that operation is only undertaken as a "dernier ressort" when the patient is almost moribund. If, however, the case be seen at an earlier stage, morphia will have to be given to relieve the pain, and I have usually recommended Ext. Belladonnæ in $\frac{1}{4}$ -grain doses every four hours, the stopping of all food by the mouth, and the administration of one large siphon enema or more given slowly with the buttocks elevated. If relief does not speedily follow, and the diagnosis is not clear, chloroform anæsthesia may assist in two ways: in the first place it enables a thorough examination of the abdomen, and at times a diagnosis of the cause to be made; and secondly, the manipulation, if made methodically, may reduce a hernia or volvulus, or may possibly help onwards an obstruction.

This failing, and the symptoms persisting, I should operate, and at this comparatively early stage I feel sure with every prospect of success.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. vii, p. 52.)