REMARKS

ON

INTESTINAL OBSTRUCTION: WITH SPECIAL
REFERENCE TO DIAGNOSIS.*

BY GEORGE H. B. MACLEOD, F.R.S.E.,

Regius Professor of Surgery in the University of Glasgow; Surgeon to and
Lecturer on Clinical Surgery at the Western Infirmary; etc.

II.

I WOULD now invite your attention to a consideration of the question, what opinion can be formed in any case regarding the seat of the obstruction. It must be conceded that frequently the elucidation of this point is impossible; but, in a certain number of cases, we are able to define the spot where the barrier exists. The higher up in the bowel the place of obstruction lies, the sooner will vomiting set in and become feculoid, and the more violent and persistent will it prove. In obstructions low down, the vomiting may come on very late and be only bilious. When there is free bleeding and early collapse, we may confidently predict that a high part of the small gut is involved.

Langier, as is well known, thought that the seat and character of the swelling, during the earlier stages of the ailment, were distinctive of the part obstructed. He said that, when the swelling was placed chiefly or exclusively in the centre of the abdomen, and the loins were free or depressed (causing a globular or prominent condition of the belly), the obstruction was to be looked for in the small bowel, and that the lower down in that portion of the gut the obstruction lay, the more would this globular shape appear; while, when the distension existed in the periphery of the abdomen, it was caused by obstruction in the great bowel. This observation of Langier has hardly been confirmed by subsequent investigators. When the colon is obstructed, the distension comes on more rapidly, and attains a greater size than when the small gut is involved. If the swelling early become general and marked, and be accompanied by little pain or sickness, then probably the obstruction is in the lower portion of the colon. There may be tympanites in the right groin, and no change in the left, when the obstruction lies above the cæcum. As the bowel is frequently much displaced from its normal position during the progress of a case of obstruction, we are not always well able to determine what the exact part is which may be involved in any tumour lying at the point of obstruction. The invaginated portion of the higher bowel may thus come to create a mass, which is felt only a short way from the anus.

It must, however, be confessed that great uncertainty attends the interpretation of the conditions above spoken of, and that it is only when they are combined that they afford really valuable aid in the diagnosis.

When the obstruction is supposed to lie low down, then great aid may be got from the use of a bougie or a stream of warm water in determining the point; but erroneous deductions may be thus made, if care be not taken. It is not always easy to pass a rectal bougie, and those who are called most frequently to undertake it will readily admit this. If, then, it do not pass easily, or if it cannot be introduced at all, or if it double on itself and so seem to penetrate higher than it really does, erroneous opinions are in either case formed. When the whole hand can be passed, as, under chloroform, it, with care, can be in many cases, then much more accurate data are secured. No such constant relationship exists, as Dr. Brinton supposed, between the amount of fluid which can be pumped into the bowel and the position of the obstruction. If the occlusion be not complete in cases of stricture, fluid may pass in considerable quantity, and it may also insinuate itself past other obstructions which have prevented feces being expelled. Still, it may be said that the free entrance of fluid in quantity may, in the vast majority of cases, be taken as proving the non-existence of a closure of the bowel low down.

As regards the *Prognosis* in cases of intestinal obstruction, the chief points for guidance are the acuteness of the attack, the assumed cause and its removability, the presence of inflammation or other complication, the completeness of the occlusion, and, lastly, the vigour of the patient. The early establishment of acute inflammation is perhaps the worst feature which can arise in a case. It usually points to an early fatal issue. If the obstruction be high up in the canal and not quickly relieved, death will usually take place within a week; but, if it be low

down, the patient may survive for weeks, and the longer he lives the better is the chance of his recovery. Invagination, twists, and internal hernias of the small gut are the most quickly fatal forms of obstruction, as a rule, but now and again the most astonishing recoveries occur in perfectly desperate cases, where all hope has been abandoned.

The *Treatment* of a case of intestinal obstruction will, of course, depend on the cause. In any case, if inflammation arise, it must be subdued by opium, ice to the abdomen, or fomentations. Opium is, of course, the sheet anchor. To the adult it is best administered in pill, and to the child in Dover's powder. It must be used freely in any case in which the attack is violent. It may be combined with calomel. Belladonna is now comparatively little used; but formerly it was frequently employed both internally and externally, alone or with calomel. Atropia, too, which was recommended strongly by Dr. Fleming of Birmingham, is little heard of in our day. If leeches be used, they should be applied in such numbers as to produce a decided effect; but they are rarely employed, from the desire to husband the patient's strength. Counterirritation may possibly be beneficial in the later stages. Ice, by its power of calming irritation and spasms, is of much use. It may also possibly aid the passage of gas by causing intestinal contractions. Grissolle speaks with commendation of cold drinks and cold enemata in these cases.

In the great majority of cases, purgatives must be wholly avoided, and enemata alone used—a principle which is constantly and grossly overlooked in most of the cases one is called to see. When given early, in most instances, purgatives only augment the already exaggerated peristalsis; and, if administered late, they have an exhausted and paralysed bowel to deal with. How frequently, however, is it the case that the whole list of purgatives have been administered—each succeeding dose surpassing in strength that which preceded it; and if at length a favourable change do take place, and the obstruction cease, the most exhausting diarrhoea follows from the combined action of the drugs employed. When, however, a careful examination fails to show that any organic obstruction exists, and there is otherwise no objection to the practice, the exhibition of from ten to twenty grains of calomel in one dose—repeated, if necessitated by its rejection—often works miracles. Of this, I have seen a few remarkable instances, and two will be afterwards related. Galvanism has been tried in cases of obstruction, occasionally with good effects. It is when stercoraceous masses occasion it, that this mode of treatment is of most service. In 1825, Leroy d'Etiolles recommended the current to be passed from the mouth to the anus; but Duchenne proposed that one pole be inserted into the rectum and the other be moved over the surface of the abdomen, according to the place of suspected stoppage in each case. Personally, I have had no experience of its employment. Even in cases of obstruction by foreign bodies, the use of purgatives is reprehensible. It is now well known by utterers of false coins, who swallow their base counterfeits when detected, that a system the very reverse of purgation best rids them of their burden. They keep their bowels confined and distended by bulky and costive food, so as to envelope the coins and allow them to be slowly carried downwards.

If the bowels be much distended with air, they may be punctured with much advantage. By percussion, we easily make out the best spot for the insertion of the small trocar and cannula; and then, if gentle pressure be made on the abdomen, both air and fluid may be made to escape. As the distension goes down, the tube must be gently pushed on to prevent it escaping from the portion of gut it has entered. There is no fear of undue inflammation or extravasation, as adhesions soon form even when it is thought desirable to leave the cannula in place. Mr. Platt (see *Lancet*, January 11th, 1873), in a very curious case of obstruction, removed no less than forty ounces of fluid feces through a small tube, by using a probe as a piston. Doubtless, in many cases, the aspirator would be found very useful in unburdening the bowel, and so diminishing congestion and tension, and improving the chance of its resuming its function. In cases fitted for it, the small aperture made by the cannula might be enlarged by means of a tangle-tent, so as to serve the purpose of an artificial anus. It has been frequently found, after death, that a vast amount of the accumulation above the place of obstruction was sufficiently fluid to be removed in some such way as has been above hinted at.

In all cases of obstruction, a most restricted dietary must be observed; in fact, only enough given to support life. No solid or bulky food should be allowed; but small quantities of the most soluble and sustaining meat-essences, milk, egg and brandy flip, ice, etc. The stomach must not be loaded even with water. Nutritive enemata will help much.

No reference need be made to exploded methods of administering mercury, shot, etc., to act mechanically in cases of obstruction; and such medicaments as tobacco-injections, strong coffee, ergot, nuxvomica, etc., are now very seldom employed.

* Communicated to the Medico-Chirurgical Society of Glasgow.

In volvulus and stricture, the chance of successful treatment is very small. By operation, the bowel may occasionally be reached above the place of closure. Internal hernias, even if recognised, are almost hopeless. For invagination low down, large enemata, or the old Hippocratic plan of distending the bowel (now easily accomplished under chloroform) with air, introduced by bellows or special instrument, from below, should be employed, if they can be carried out before the portions of bowel involved have become hopelessly fused together. Telfafer's absurd idea of generating gas in the colon by the introduction of chemicals capable of evolving it, need hardly be mentioned. The inversion of the patient cannot do good; but the careful insertion of a bougie (possibly armed with a sponge) might prove advantageous in certain cases of intussusception pressing down near the anus. The strength of the patient should be well supported, and time gained for the occurrence of those changes in the bowel by which a spontaneous cure may be secured.

Stercoraceous accumulations must be mechanically removed. A lithotomy-scoop or ordinary spoon may get at a good deal of the material; but a stream of warm water, made to play vigorously on the mass, or got more slowly to permeate and disintegrate it, by being allowed to come into contact with it through a long tube connected with a reservoir raised high above the bed, is a better plan. A calomel and jalap purge will complete the cure. The long tube of O'Beirne is a great aid in many of these cases. The water-current may be passed through it, and thus gain access to the bowel high up.

Colotomy and enterotomy, in cases of obstruction, have not hitherto yielded very promising results. In invagination, operation has been peculiarly unfortunate, though two recent cases, in which success was obtained, will probably lead to a further consideration of its merits. The difficulty of accurately diagnosing the condition of affairs, and the natural inclination to wait, in the hope of a favourable issue by the spontaneous elimination of the invaginated bowel, have hitherto opposed operation at a period when it might prove useful in intussusception. There is no doubt that, in a very considerable proportion of cases of invagination, a spontaneous re-establishment of the canal takes place; and also that, when gastrotomy (in itself most dangerous) was attempted, the condition of the bowel was found to be such that nothing could be done to relieve it.

In stricture of the lower portion of the bowel, colotomy should be performed; and that as early as the necessity is clearly present, and before the patient's strength is exhausted. More patients are lost by delay than die directly from the operation. The operation in the right loin (Amussat's operation) meets the requirements of some cases better than that in the left (Callisen's); while Nélaton's method of seeking for the cæcum, or at least the upper distended part of the bowel, in the right groin, has been much practised abroad, and with great success. Maisonneuve's suggestion, to excise a portion of hopelessly obstructed gut, and unite the upper and lower portion by sewing them together, has never as yet succeeded; but an artificial anus might be secured after the portion of occluded bowel was found by gastrotomy, and it was seen that the closure could not be otherwise rectified.

Adhesions, bands, twists, loops, etc., are so difficult to recognise clearly, or to find even after the abdomen is opened, that gastrotomy (which, after other treatment has failed, is the only resource) offers but a slender chance of success. Inflammation becomes so soon developed as to make the operation very hopeless.

An exploratory operation should always be promptly performed, if obstruction occur and resist treatment, in the case of a patient who had been subject to rupture, and that even though there be no local evidence pointing to the seat of the former hernia as the place at fault.

It is in chronic cases that operative measures afford the most reasonable chance of success. If, after large enemata, the use of concentrated food, and a calomel purge at the right moment, the symptoms do not yield and the patient's vital powers begin to give way, the surgical art should be appealed to. It may be added, with reference to the use of enemata, that they require care and skill for their proper administration: and should, when so much depends on their proper employment, be superintended by the medical man himself. If the fluid be not thrown up steadily and slowly, and in sufficient quantity, no good will be got; while if too much force be used, the bowel may be ruptured. The fluid should be retained as long as possible.

In conclusion, I propose to relate some cases illustrative of several of the sources of obstruction to which allusion has been made; and various preparations connected with which (many from my own collection, others from the Hunterian or Hospital Museum, and a few kindly lent me by professional friends), are on the table for inspection.

In the course of my practice, I have seen many cases of intestinal obstruction in which no definite or satisfactory opinion could be formed

as to the source of occlusion; and, as neither the patient recovered or no *post mortem* examination could be procured, the obscurity was never removed. I shall not occupy your time by recording cases in which pregnancy, or ovarian cystic tumours, or displacements of the uterus, or merely extreme costiveness, have given rise to symptoms of obstruction more or less complete. I have never known any foreign body which had been swallowed occlude the bowel, though several instances have occurred under my observation in which coins, false teeth, etc., have passed safely through the bowel after being swallowed.

Of *stercoraceous tumours*, I shall shortly record three. In all, entire obstruction was produced.

1. An old feeble man, who had long suffered from constipation, was brought into the Royal Infirmary apparently dying. The friends who brought him to the house left before the house-surgeon saw them, or any definite information concerning him was got. His bladder was much distended, and was relieved by catheter shortly after admission. When examined, it was found that he was almost pulseless and partially comatose. His pupils were contracted and his tongue dry and furred. His temperature was much depressed, and he desired to be left alone and not be interfered with. His abdomen was tender and very much distended, even after the bladder had been emptied; and marked dullness, on percussion, was made out up the left side and across the belly, on which he kept one of his hands pressed. Elsewhere, the belly was resonant. He was made warm and stimulated, and, after he had somewhat recovered from the state of collapse present on admission, he told us that his bowels had not been opened for a long time—he could not say how many days—that a doctor had told him he had “stoppage of the bowels”, and had sent him into the house to be treated for that. A careful examination made out a large elongated doughy mass in the line of the descending colon, which seemed to receive the impress of the fingers (he was much emaciated) when it was pressed upon, and the rectum was packed full with dry fæces, which hardly allowed any effect to be produced by the fingers passed by the anus. He had no hernia. Before admission, he had been vomiting, and his clothing was stained with a dark fluid which smelt of fæces. He had considerable hiccup. With much difficulty, the contents of the rectum were partially removed by the aid of a lithotomy scoop, and long perseverance with hot water enemata dislodged more of the same material, which was as black as tar, and could only be washed out in small morsels. The process of removal was a very slow one, and produced considerable irritation and exhaustion to both patient and surgeon. After a time, the deposit was found to be softer, and a long tube was introduced; and, as it passed far into the mass, it suddenly seemed to get into fluid matter, as a terrible explosion took place through and along the tube, covering the bed and floor, and causing such a smell as to send all the patients who could move away to the other end of the ward. This flow continued for some minutes, accompanied by much flatus and tar-like masses coming away by the side of the tube. Some of these lumps had to be extracted. At first, the effects on the patient's condition were most alarming. He almost died of exhaustion, and had to be freely stimulated. The tube was withdrawn after a time; but all night a certain escape went on, giving emission from first to last of an incredible amount of feculent matter. The abdomen soon fell and the hardness disappeared, and, though we had need to pay great attention to his support, he made a good recovery, only requiring a few doses of castor-oil and one enema afterwards to complete his cure. From what was afterwards learned, he appeared to have suffered from entire obstruction for fully three weeks; and we were told that “what should have come through him” had been ejected by the mouth for nearly two days and a night before admission.

2. In the case of a lady, on whom I afterwards operated with the late Sir J. Simpson and Professor Leishman, a mass hardly less in bulk than was found in the former patient had accumulated in the descending colon, sigmoid flexure, and rectum, in consequence of the pressure of a malignant tumour of the left ovary. She suffered so much pain on going to stool that she neglected to relieve her bowels for many days at a time, and a tumour along the course of the bowel slowly formed. At last, no motion could be got at all, and enemata, purgatives, etc., had no effect. Much sickness and irritability of stomach set in, but there was no stercoraceous vomiting. The abdomen was very irregularly distended by the feculent accumulation and the ovarian growth. She had some pain when pressure was made along the colon and no flatus passed, so that the upper bowel was much enlarged and tympanitic. The rectum had to be emptied by means of a table-spoon, and then a column of water was made to act on the mass, till it slowly gave way and was washed out. The quantity was very great, and polluted the whole house for several days with its fetor. The sickness remained for days after the channel of the bowel was restored.

3. In a case I saw with Dr. Messer of Helensburgh, a feeble gentleman, who had lived much abroad and was suffering from malignant disease of the bowel, had, a year before his fatal attack, suffered from complete obstruction for many days; and finally passed, with horrible pain, two very hard black and large masses (he had been taking iron at the time), after which his bowels acted freely and largely.

I have only once known obstruction arise apparently from *gall-stones*; and the case is related, because it differs in an essential point from those recorded of occlusion from such a cause. Usually, it is one large gall-stone which has ulcerated its way out of the gall-bladder into the intestine; but here it seemed to be due to the rolling up of many common gall-stones into a ball.

4. A farmer's wife, aged 63, came to Glasgow from Perthshire to visit a son. She had suffered for years from "attacks of gall-stones", and had only recently recovered from a prolonged and severe seizure—to aid her recovery from which had been one object of her coming south. During the first week she was in town, she had one scanty motion; but for eight days before I was asked to see her, she had had no movement of her bowels. When I visited her, she had some pain down the right side of her abdomen and across the umbilicus. Pressure augmented this pain. There was some fullness of the belly. She was drowsy, and had some hiccup. She had rejected her food for the first time the night before I saw her, and, as she had continued to do this, her friends became alarmed and sought my aid. She supposed that she was about to suffer an attack of her old enemy, and had taken opium freely to relieve the pain. She had also taken large doses of various purgatives without medical advice. I could find nothing in the abdomen worthy of note, except the pain on pressure, the distension, and slight tympanites. A large enema passed easily and removed very little material from the bowel, though its use gave her a feeling of relief. Some flatus was occasionally passed. In the evening, the drowsiness having disappeared and the pain and restlessness being considerable, a large poultice was put over the belly, morphia administered subcutaneously, and milk and ice in small quantities allowed. Beef-tea was twice thrown into the bowel during the night. Next day, there was little change. The pain was less, but the distension was greater and she was very sick and restless. Fifteen grains of calomel were given and retained, and at night (no motion having occurred) ten grains more were administered. Her pulse remained good and her temperature nearly normal. She had rejected milk several times, but had no abiding retching. The urine was freely secreted and was natural. Enemata of beef-tea were repeatedly employed, and she had slept at intervals. About four in the morning, suddenly, "as if something had broken inside", which startled her greatly, a free motion took place in bed, followed rapidly by three others. The fæces passed were very foetid, and in the cloth containing the second motion a hard dark mass, said to have been as large as two walnuts, was passed, which was separated and thrown into water. This mass was broken up when I saw it in the morning, and from it sixteen ordinary gall-stones were taken. I had no means of accurately estimating the size of the mass before it was disintegrated; but its dimensions must have been about that stated from the description given me. Several other biliary calculi were got in subsequent motions, but no mass such as that spoken of. The patient made a good, though a slow, recovery.

5. All the unequivocal cases of *invagination* I have seen have been in children. One of the preparations on the table was taken from the body of a girl, aged 12, who was admitted into the Royal Infirmary in 1869, after six weeks' entire occlusion of the gut. The mass you see (measuring 6½" in length) projected from the anus, and was in a sloughing condition. It was removed. Her ailment had been apparently caused by a fall from a height—at least the protrusion appeared immediately after such an accident. On admission into hospital, she was much exhausted and emaciated by pain, sleeplessness, and want of food. Her expression was most agonising, and her pulse very rapid and thready. She had purgatives administered by the mouth and by injection very many times before coming into the house; and everything had been done to torture her and make her condition more hopeless. Constipation had been complete from the first, and retching almost constant. The vomited matter was stercoraceous on admission. The abdomen was distended and painful, and a firm broad band could be felt extending across the lower part of her belly. This was dull on percussion. The large mass which projected from the anus was hard and solid to the touch, and firmly fixed. A bougie passed through it for a considerable way, and it was semi-gangrenous. By careful nursing, and throwing as much nutrient fluid as possible up what appeared to be the channel of the bowel, her condition amended, and for two days her life was preserved, but she finally sank from sheer exhaustion. The movements of her bowels had been at times very evident through her attenuated abdominal parietes. After death, the greater portion of the

small gut was found to have entered the colon and to have been repeatedly invaginated—one part within the other. The combined mass had passed beyond the anus, so that the vermiform appendix and caput coli lay just within the sphincters. There was evidence of general inflammatory action in the abdominal cavity, and the invaginated bowel was intensely congested and at some spots gangrenous.

6. This preparation was taken from a little patient I saw with Dr. Patrick of Dalmarnock Road, and to him I am indebted for the notes I give of the case. The child was aged four years, and had suffered more or less from colic since birth, though it became plump and healthy looking. When lying on its mother's knee, it suddenly started as if in pain and began to strain. Blood was passed in small quantities the first day, and shreds of mucous membrane on the second. I saw the child on the third day, and at once detected the peculiar nipple-like tumour in the rectum. Very little hardness or dullness could be discovered in the abdomen. The child moaned a good deal, and was pale and evidently in distress. It took food greedily, but generally quickly rejected it. The temperature was high and the pulse rapid. No treatment was of any avail, and it died within seventy-two hours of the outset of its complaint. The ileum, as you see, lay within the colon, carrying the valve with it, and a portion had sloughed off and been thrown out within the short time mentioned. The invaginated part was so congested as to look, when it was removed from the body, like a mass of dark blood. It was ascertained that a servant had violently tossed the child in play a day or two before the seizure.

7. For this very admirable specimen of invagination I am indebted to Dr. Hugh Miller. The patient was a male, six months old. He suffered from irritable bowels almost from birth, and required much care as regards feeding. His ailment set in suddenly with pain in the belly, thirst, vomiting, and slight diarrhoea. Pure blood appeared next day, and rapidly exhausted him. Enemata of various kinds were used. No tumour was felt in the belly, but there was some general fullness. The child vomited blood before its death on the evening of the second day. White granular deposits, but no ulcers, were present on the greater part of the lining membrane of the bowel; and the ileum was found (as is here seen) to have passed through the valve and protruded several inches into the colon, but not so low down as the rectum. The free bleeding here and the place of invagination are worthy of remark.

8. In the case of this poor little infant (seven months old), from whose body this preparation was taken by Dr. Samuel Moore (who kindly allows me to show it), the cause appears to have been wilful starvation and neglect. Three invaginations were found, probably established after death. They are easily undone, and there are no signs of congestion or inflammation. The whole body was bloodless, and the weight was but 7¼ lbs.

[To be concluded.]

A CASE OF DISSEMINATED INSULAR SCLEROSIS.*

By EDWARD T. WILSON, M.B. Oxon, F.R.C.P.,
Physician to the Cheltenham General Hospital.

THE following case is still under treatment. I am, however, induced to bring forward some details concerning it. 1. Because it is a rare form of disease; 2. Because the disease has only recently been described and distinguished; 3. Because the course of the disease is usually so prolonged that many years will probably elapse before its issue.

We owe to Professor Charcot of the Salpêtrière all that is known of this very singular affection, to which he has given the name of "sclérose en plaques". The only notices of it in English, as far as I am aware, are some papers in the *Lancet*, by Dr. Moxon, and some in *Guy's Hospital Reports* for 1875, to which, and to Professor Charcot's admirable volumes (*Leçons sur les Maladies du Système Nerveux*; Paris, 1875), I would refer all those who wish to know more of its pathology and usual course.

A. S., aged 8, was admitted as an in-patient of the Cheltenham General Hospital on April 19th, 1875. Her history, so far as it could be gleaned from the mother, was as follows.

Both parents are healthy, as are also all their near relations, with the exception of an aunt on the father's side, who is decidedly nervous and hysterical. The child was healthy at birth and remained so up to four months of age, when she had whooping-cough very severely. This lasted seven months, and during the attack she had one fit of convulsions, followed by internal strabismus of the left eye. The convulsions

* Read before the Gloucestershire Branch.