A Clinical Lecture ON COLIC.

DELIVERED AT THE LONDON SCHOOL OF CLINICAL MEDICINE,

BY

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THE word "colic" was originally meant to be descriptive of a sudden, acute, paroxysmal pain produced by some abnormal condition of the colon. A wider significance is now attached to the term, which has come popularly to connote pain of this description occurring anywhere throughout the body, when it is dependent upon either irregular active contraction or excessive passive dilatation of involuntary muscular fibre.

The varieties of it with which we are most familiar, and with which only we are concerned to-day, are those met with in the abdomen, where it is symptomatic of a large variety of disorders. The most homely example of colic is that due to muscular spasm of the intestinal walls resulting from the presence of irritating and unsuitable food. The pain arising from this cause comes on suddenly, but is often preceded by eructations, nausea, borborygmi, and a sense of abdominal discomfort. It is mostly referred to the neighbourhood of the umbilicus, whence it may radiate in various directions. It is gripping in character, and often so acute as to cause the sufferer to cry out, and to toss about in search of relief first in one and then in another position. It is controlled by pressure, and this is a point of primary diagnostic importance as differentiating it from the pain of peritonitis. It usually consists of a series of paroxysms which vary in duration and severity, and are frequently relieved by the escape of flatus or by an action of the bowels. The abdomen is nearly always distended, and in a thin person it is sometimes possible to note the passage of the peristaltic wave along the course of the intestine coincident with the paroxysm of pain. The gripping discomfort is similar to that produced by a dose of aperient medicine, and is due to the forcible contraction of the muscular coat of the bowel in its effort to dislodge an obstruction. The cause may be a simple condition of constipation, but more frequently there is in association the presence of indigestible and irritating food. When the pain is due to faecal impaction, a history of previous constipation will be forthcoming, with scanty and infrequent stools that are always dry, hard, and scybalous. If the abdominal walls are thin, the colon may be felt to be loaded with faecal masses. An anal examination will often reveal their presence in the rectum. It is very easy to mistake a simple intestinal colic for more serious disease, and the greatest danger arises from the possibility of an acute intestinal obstruction being responsible for the colicky pains. Under such circumstances purgatives are, as we know, the worst possible drugs to use, and yet, how often, under the belief that some unwholesome article of diet is responsible for the pain, are purgatives administered not once only, but repeatedly! The pain of perforation is of sudden onset like ordinary colic, but it is accompanied by a quickened pulse and is speedily followed by evidence of collapse.

Another striking variety of colic is that produced by gall stones impacted in the cystic or in the common duct. The patient is very often—though by no means always—a fat plethoric woman past middle life. The pain is sudden in onset, severe in character, and is referred to the right hypochondrium, whence it is reflected through to the back and up to the right shoulder; also sometimes obliquely towards the umbilicus, but rarely below that level. It may be so agonizing as to double the patient up or cause her to writhe on the floor or bed. It is often accompanied by rigors and vomiting, and induces rapidly a condition of collapse, with profuse clammy perspiration and a soft, small, rapid pulse. It may cease as suddenly as it began, or it may be continued with intermittent periods of comparative quiescence over several hours or even some days. If the obstruction has occurred in the common bile duct and is complete, bile pigment speedily appears in the urine

and the patient becomes jaundiced. When the stone is impacted in the cystic duct and does not, therefore, prevent the flow of bile through the hepatic and common ducts, there will be no jaundice. Cases of a milder degree of severity are met with in which it seems likely that the cause is not a calculus but an inspissated condition of the bile, which becomes so sticky and tenacious as to be unable to flow freely through the passages. When a stone becomes arrested in the ampulla of Vater, it may happen that the bile is forced up the duct of Wirsung—which also opens into this ampulla—into the pancreas, where it may set up an acute or even a haemorrhagic pancreatitis. This sequence of events is also possible without the presence of a stone to account for it, and here again it must be assumed that a viscid state of the bile is sufficient to cause the obstruction. The following cases are illustrative of such an occurrence:

A woman of stout build, and 56 years of age, was suffering from jaundice, which had lasted for two months. She had no acute pain and no vomiting, but she complained of constant nausea, with much tenderness and weight over the upper part of the abdomen. The urine was loaded with bile, contained indican, a trace of albumen, and copious urates. The motions were pale, but not entirely without bile. The liver was tender and smoothly enlarged to three fingerbreadths below the costal area. There was no special tenderness over the gall bladder region. The patient's age, the duration of her jaundice, and the fact of her having lost two stones in weight, all pointed to the likelihood of a malignant growth as the explanation of her symptoms; but against such an explanation were the facts that the hepatic enlargement was smooth, and that there was no evidence in any other organ of a primary lesion. Under careful dietary, rest in bed, and treatment by mild mercurials and ammonium chloride with taraxacum, the jaundice gradually disappeared, the liver diminished in size, and the patient made an uneventful recovery.

A man of 45 years of age, of gouty antecedents, and engaged in arduous sedentary work, had suffered repeatedly from minor abdominal attacks characterized by shivering, vomiting, paroxysmal pains referred to the upper part of the belly, highly coloured and concentrated urine containing bile and urates in excess, and on two occasions a temporary condition of icterus. After a period of unusually strenuous work he was suddenly attacked with pain such as he had experienced before, but of much greater severity, and followed within two days by jaundice, which deepened day by day until at the end of the week it was of the most acute description and accompanied by clay-coloured stools, urine loaded with bile, and tenderness to touch over the hypogastric and epigastric regions. The pain never achieved the intense degree that usually belongs to the passage of a calculus, and there had been no vomiting, but otherwise the symptoms pointed to the impaction of a stone, probably in the ampulla of Vater. His abdomen was opened and the gall bladder and bile ducts were found free from stones, but the pancreas was swollen and inflamed, though fortunately not haemorrhagic. The jaundice, in this case, was probably due to pressure of the enlarged head of the pancreas on the common bile duct, with which it is in close contact. The gall bladder was drained and the patient made a slow but satisfactory recovery. Some years later he developed a mild but persistent glycosuria, probably the result of secondary fibrotic changes in his pancreas. A point of diagnostic importance in this case was the rapid and extreme emaciation which accompanied the acute stage of the illness. Within a fortnight he lost 2½ st. in weight.

Comparable with biliary colic, and announced by the same sudden series of symptoms—rigors, pain and vomiting—we meet frequently, and most commonly in men, with another variety of colic in connexion with the kidney, the result of spasmodic contraction of the muscular fibres of the ureter when irritated by the passage of a stone or other foreign body. The pain is situated in one loin and flank and radiates downwards to the groin and testicle; sometimes also to the thigh of the corresponding side. It is quite as acute as in biliary cases and doubles the patient up; it may even be so severe as to induce collapse. The testicle of the side affected is retracted and often tender to touch. If the stone falls back into the pelvis of the kidney, or is passed on to the bladder, the pain ceases as suddenly as it began. While it lasts, micturition is frequent, the urine is scanty and often voided by a few drops at a time, and it may contain both blood and albumen. If a cystoscopic examination be made, the orifice of the ureter on the affected side may be observed to be swollen and irritable, the urine flowing slowly from it and being turbid or blood-stained. On manipulation the affected kidney is frequently tender to touch and may be enlarged. Renal colic is not always due to the presence of a calculus; it may also be produced by an excess of uric acid, blood clot, mucus, or fragments of new growth detached from the pelvis of the kidney. Pain not unlike that of calculus may be produced

by pyelitis, in which case the urine will generally be found to contain either pus or blood.

Another variety of colic is that dependent upon lead poisoning. The patient whose circumstances of life have exposed him to the influence of lead, after suffering during several weeks from headache, lassitude, nausea, and increasing pallor, becomes the victim of severe colicky pains of a twisting, knotty character, centring round the umbilicus. The bowels are always obstinately confined, the muscles of the abdominal wall are firm and contracted, and the local misery is relieved by steady pressure. The presence of a blue line on the gums, and the discovery of the metal in the urine, added on to a history of exposure to lead, and often confirmed by the occurrence of wrist-drop from paralysis of the extensors of the forearms, removes any doubts as to diagnosis when such arise.

Besides these classical examples of paroxysmal pain due to irregular contraction of non-muscular fibres which are met with in the abdomen, there are other important though less common varieties of colic encountered in that region to some of which I desire now to draw your attention.

It is almost certain that much of the pain associated with neurotic dyspepsia is produced by spasm of the muscular walls of the stomach. In a typical case of this description the patient suffers from flatulence, heartburn, and pain some hours after a meal. The discomfort is rapidly relieved by an alkali. On examination the stomach is found dilated; there is temporary tenderness on deep pressure over the pylorus; and the condition is often mistaken for duodenal ulcer. Here is an example:

An active man of 48 years of age had suffered over many years from recurring attacks of digestive disturbance, the leading manifestations being heartburn, pain four or more hours after food relieved by another meal, epigastric fullness, constant eructations, constipation, disturbed sleep after 3 a.m., mental depression, and emaciation. His illnesses lasted over several weeks, always came as the result of overwork, and he invariably got well after rest, simple food, and antacid tonic remedies. There never had been haematemesis or melaena. Each attack was ushered in by colic in the upper abdomen, and the physical signs comprised a coated tongue, a moderately dilated stomach, tenderness on deep pressure over the pyloric region, a soft, rapid, and irritable pulse, and very active reflexes. Between times his health was quite satisfactory, except for occasional subjective discomforts which were of neurasthenic type. He saw many doctors, underwent much treatment, and had been strongly urged to have a gastro-enterostomy done as the only hope for relief. Time, patience, easier conditions of life, and careful management made this gentleman quite well, and for many years now he has not known that he is possessed of a stomach.

Sudden colic of an intense type is produced by the impaction in Wirsung's duct of a pancreatic calculus. The pain is centred in the epigastrium and radiates to between the shoulders and down into the deeper parts of the abdomen. It is accompanied by nausea, often by vomiting, and occasionally by syncope. The calculus may be passed into the duodenum and found in the stools. If retained, its presence leads to dilatation of the duct and may be the exciting cause of pancreatic fibrosis or supuration. Glycosuria is a common sequel and indicanuria is present in many cases. The faeces contain an excess of fatty matter and also sometimes undigested muscular fibres. Jaundice may occur as a secondary complication from induration of the head of the pancreas.

Another form of abdominal colic is associated with spasm of the appendix, causing a partial occlusion of its lumen and leading to violent and irregular action of its muscular coat. When the pain is localized in the right iliac fossa it is not likely to be misinterpreted, but it is often reflected to the epigastric area, and then it is apt to be mistaken for an ordinary gastralgia. It may be unimportant and of short duration if the muscular efforts of the appendix succeed in dislodging the mucus or other obstruction to which it is due, but it may also be the precursor of an acute appendicitis. There may be one attack only, but it is more commonly the case that the first is the forerunner of subsequent seizures. Under these circumstances the risk of inflammatory developments must never be lost sight of. On examination of such a case the wall muscles over the situation of the appendix are abnormally resistant when compared with those over the corresponding situation in the left iliac fossa, and on gentle deep pressure over McBurney's spot tenderness will be complained of. Many attacks may be experienced without the condition going further than that of colic, but there is

no security, under such circumstances, against serious developments, and a person with such an appendix can only be rendered safe by having it removed.

Closely allied to this appendicular variety of colic is another with which it may be associated and for which it may be mistaken, namely, that form of it which we find preceding the discharge of mucus in the alvine evacuations. It is of frequent occurrence in children and in adults of the neurasthenic type. In children the attack may be due to indigestible food, but in adults it is most commonly induced by some unusual worry or emotional disturbance. The patient experiences acute griping pains which are either distributed throughout the abdomen, or localized to one portion of it. In many instances careful palpation will enable us to ascertain a greater or less degree of localized hardening merging into neighbouring distension somewhere in the course of the large intestine. When this localization chances to be in the situation of the ileocaecal valve the resemblance to appendicitis is very great. If the stools be carefully examined they will be found to contain a quantity of tenacious mucus which may be of a slimy and gelatinous appearance or stringy and membranous. The condition is not accompanied by disturbance of temperature, or acceleration of pulse, but constipation is a marked feature of most cases. Treatment on ordinary principles quickly succeeds in relieving the discomforts of the attack, but recurrence is the rule rather than the exception.

Yet another form of colic, in which the pain is referred to the right side of the abdomen, and met with more frequently in women than in men, is that which is associated with a loose right kidney. The colic under these circumstances is dependent upon a kinking of the upper part of the ureter from a temporary dislocation of the kidney or from torsion of the renal vessels. It is often brought about by some unusual and awkward muscular movement, and is especially liable to occur in a person who wears tight and unwisely adjusted corsets. This variety of colic, first described by Dietl, is characterized by severe, sudden pain referred to the kidney region, nausea, vomiting, collapse, and sometimes haematuria. It is liable to become complicated in time with an intermittent hydronephrosis, in which case this sequence of symptoms will be accompanied by a tender swelling occupying the renal region. The diagnosis is made evident when this tumour suddenly disappears with the passage of a large quantity of water. Cases of this description may be of congenital origin. The following is an interesting example:

A young man of 18 had suffered for upwards of six years from recurrent attacks of haematuria, which always came on after undue exertion or exposure to cold. The attacks were associated, in every instance, with rigors, pyrexia, vomiting, and disturbance of digestion. They bore all the outward characteristics of paroxysmal haemoglobinuria, but this diagnosis was negated by the presence of abundant blood corpuscles in the blood-stained urine. When about 17 years of age he experienced a more than usually acute attack similar to those that had occurred previously, but this time accompanied by a feeling of pain and fullness in the left flank, which was immediately relieved by the passage of a considerable quantity of urine. When seen the day after this attack the kidney was enlarged and tender to touch, but he had no subjective symptoms of discomfort. An x-ray photograph confirmed the diagnosis of enlargement of his kidney, but negated the suspicion of a calculus as a possible explanation of the cause. After an interval of a year, another similar attack occurred, and an operation was decided upon. When the kidney was exposed the condition was ascertained to be extremely interesting: "a congenital condition, causing intermittent hydronephrosis, and the congenital cause an aberrant branch of the renal vein. The kidney was sacculated, but not at the moment much distended. The renal pelvis was greatly distended. The ureter was quite normal. The obstructing vein passed across the point of juncture of the ureter and renal pelvis."

Another cause of sudden acute colicky pain in the abdomen—and fortunately a rare one—is occlusion by embolism or thrombosis of the mesenteric vessels. Endocarditis or arterio-sclerosis are the conditions upon which infarction depends, while thrombosis may be sequential to cirrhosis of the liver, syphilis, or pyelophlebitis. In acute cases the onset is sudden and is manifested by colic, vomiting, collapse, abdominal distension, and loose, blood-stained stools. Death frequently occurs within two or three days. The diagnosis is always difficult, the condition being frequently mistaken for intestinal obstruction.

There is a variety of paroxysmal abdominal pain which seems to occur for the most part in patients of a gouty

type whose vessels have become atheromatous and who suffer from continuous high arterial pressure with, it may be, occasional anginal attacks. The cases I have seen of this description have all been in persons past middle life and mostly in men. The patient usually comes with a story of previous attacks, which he had been led to believe were due to gout in the stomach, and this suggestion is strengthened by the fact that there is often a record of classical gout in one or other great toe. The pain comes on suddenly in the upper part of the abdomen, and is accompanied by nausea, vertigo, sickness, an icteric tint of the skin, often a smooth enlargement of the liver, and invariably a high-tension pulse. The case has all the appearance clinically of gall-bladder colic, but there is never absolute jaundice, and the sickness is of moderate amount. The patient, instead of being doubled up and restless, is afraid to move lest he increase the pain, which yields rapidly to nitroglycerine and iodides. The attack is always succeeded by a copious evacuation of lithates in the urine, pale stools, and complete anorexia, all of which disappear rapidly under the influence of rest, a restricted diet, and simple alkalis. It seems not unlikely that these symptoms may be produced by arterial spasm, giving rise to a state of abdominal angina similar to the angina pectoris with which we are all familiar. Here is a strikingly illustrative case:

A man of 68 years of age was suddenly seized during the night with acute pain in his abdomen, associated with tightness in his chest and pain radiating down his left arm. For years he had suffered from attacks of angina pectoris of moderate severity, for the relief of which he always carried with him a supply of nitroglycerine tablets. The chest discomfort on this occasion made him take one tablet, followed in half an hour by a second. To his surprise, not only was the chest spasm relieved just as it had often before been cured by the same procedure, but the abdominal pain also entirely disappeared. About a year after this attack he experienced another precisely similar and found himself again quickly restored to comfort by nitroglycerine. He is a full-blooded man, who, in his earlier years, suffered repeatedly from articular gout. His vessels are atheromatous, his arterial tension is always plus, he has a systolic aortic murmur with a loudly accentuated second sound, his kidneys have undergone interstitial changes, and he has occasionally a slight glycosuria. The pain in his abdomen is a new experience, and is, he says, a repetition in another place of the attacks he has so frequently suffered from in his chest.

Sir Lauder Brunton has told us of cases in which he believes abdominal pain is due to a spasm of the vessels similar to that met with in ordinary migraine. If migraine can thus express itself in the abdomen, it is not unreasonable to suppose that angina may also declare itself in that situation, and many cases are on record which support such a theory.

Yet another curious form of abdominal colic is illustrated in the following case. I am unable to explain the etiology, but the sequence of events has been repeated on so many occasions in the experience of this lady that its most likely elucidation would again seem to be some form of arterial spasm probably connected in this instance with disturbance of the vasomotor centres.

A lady, 54 years of age, had suffered in earlier life from urticaria of considerable severity, sometimes of prolonged duration. She is neurotic, comes of a family with a long gouty history, and has led a life of unusual activity. Since her menopause, about eight years ago, she has had at least five or six attacks of typical angio-neurotic oedema, the part affected being mostly the face, and to a less extent the hands. The swelling comes suddenly, is accompanied by tingling and a sense of heat, and after a few hours subsides as speedily as it arrived. But the interesting point in connexion with our present inquiry is the fact that each recurrent attack of oedema is accompanied by gastro-intestinal disturbance of quite remarkable severity. She experiences acute colicky pain throughout the abdomen, which ends always in diarrhoea, and is accompanied by distressing feelings of nausea and collapse. The pain on two occasions was so severe as to require morphine hypodermically for its relief. She is most careful in her habits of life, and is unable to refer the gastric disturbance to any indiscretion in her diet. On the other hand, she attributes all her attacks to undue exposure to cold, happening under circumstances when, from one cause or other, she had been run down and poor in health.

The explanation of angio-neurotic oedema is obscure, but a case like this suggests some form of intestinal toxæmia as one of the causes, and the hypothesis is strengthened by the record of attacks, earlier in life, of ordinary urticaria.

In certain cases of diabetes the terminal event is ushered in by abdominal disturbance of which the first manifesta-

tion is acute griping pain. The colic is sometimes extremely severe, and seems to radiate from a point of greatest intensity situated deep in the abdomen between the umbilicus and the ensiform cartilage. It is rapidly followed by distension, pyrexia, nausea, and sometimes diarrhoea. The patient is restless and speedily falls into a condition of coma, which ends in death. The sweet smell of the breath may suggest the existence of acidosis, but unless the fact is appreciated that diabetic coma may be ushered in with acute abdominal manifestations, the true explanation of this variety of sudden colicky disturbance may be altogether missed. In every case of acute abdominal pain for which no adequate reason can be found the urine ought to be examined for sugar.

Other conditions which may be responsible for abdominal pain of the colic type and which must be carried in remembrance are: Aneurysm of the abdominal aorta; malignant disease of one of the abdominal organs or of the retro-peritoneal glands; hysteria; and the visceral crises of locomotor ataxia. The concomitant circumstances and symptoms by which the pain is accompanied in each of these varieties of disease will, if carefully considered, serve to direct the diagnosis in the right direction.

There are no doubt many other causes of acute paroxysmal pain in the abdomen, but those which have been cited are sufficient to prove that the subjective symptom of colic is of no inconsiderable importance, and one which serves as an indicator to many and various disorders altogether apart from those of inflammatory trouble, with which we are not now concerned, but of which, as we all know, it is a constant accompaniment.

I have not time to consider this symptom of colic in its relationship to pelvic disorders. In women disorders of the tubes, the ovaries, or the uterus may all give rise to colicky pain, but it is not so fully appreciated that the bladder may also be responsible for this symptom. We are familiar with the pains associated with the presence of a stone or the existence of a urethral caruncle in women; and we know that crises in connexion with the bladder may occur in locomotor ataxia. Also it is common knowledge that colicky pains and urgent micturition may be associated with a highly acid and irritating condition of the urine, or with the occurrence of infection by *B. coli*. But, in addition to these, there is yet another form of discomfort, which may not inaptly be described as bladder colic, encountered both in men and women, which is, though not serious to life, very trying for those who suffer from it. The condition is probably a neurosis, and happens in people of neuropathic tendencies. The patient, either when in a condition of unusual depression of general health or as the result of some form of emotional disturbance, is suddenly seized with pain in the urethra and a commanding desire to pass water. Urination is a matter of some difficulty, particularly the commencement of the act, but, though a sensation of scalding is produced as the water passes through the urethra, the acute suffering is at once relieved. There seems some difficulty in completely emptying the bladder, and the patient requires to return, once or oftener, to void with effort a few remaining drops. After micturition is completed there remains a sense of heat and burning, accompanied sometimes by acute tenderness over the orifice of the urethra. After a short interval—in many instances less than an hour—the pain returns and again produces the same urgency of evacuation. The paroxysmal attack is frequently finally alleviated by the excretion of a large quantity of pale colourless water. The urine presents no abnormality either chemically or microscopically, but the attack is accompanied by much nervous irritability and unrest. A case at present under observation is illustrative:

A lady, very stout, and for many years neurasthenic, has suffered since her menopause from recurrent attacks of this description. Recently the sudden illness of a member of her family caused her intense anxiety, and no sooner was the crisis of her daughter's illness over than she developed the attack from which she is now recovering. Suddenly during the night she was awakened with acute twisting pain in her urethra. On attempting to pass water she found it impossible except under the persuasive influence of a steam hip bath. The amount passed was small, and accompanied by a sensation of scalding, but the flow relieved the acuity of the pain. From 2 o'clock till 8 the attack continued, and she was disturbed to pass water during that period no fewer than nine times, the quantity on each occasion being inconsiderable, but the appearance normal. Gradually the annoyance subsided, and in two days she was restored to her usual comfort. This attack is

typical of many she has had, and was ultimately relieved, as many of its forerunners had been, by hot douches of boracic solution, and a mixture, frequently repeated, of urotropine, henbane, and valerian. In this patient's case the tenderness of the urethra is such a marked feature that in her present attack the local application of a strong solution of cocaine was required for her relief.

ENTEROSPASM AND COLIC FROM THE SURGICAL POINT OF VIEW.

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PAIN, vomiting, and collapse constitute the cardinal symptoms of most acute abdominal crises, and we have to rely upon other symptoms than these to differentiate one case from another.

This may be easy in such conditions as renal colic, appendicitis, twisted ovarian pedicle, and similar well-defined ailments; but it frequently happens that surgical aid is sought in less urgent affections, where the existence of one or more of the three important symptoms referred to produces a mimicry of serious abdominal trouble of ill-defined origin.

Every surgeon of experience occasionally meets with cases in which the severity of these symptoms is strongly suggestive of intestinal obstruction or some other important abdominal lesion; but on opening the abdomen nothing abnormal is found, the symptoms cease, and the patient soon recovers.

Some of these cases are of purely functional origin, those of an acute type being probably due to painful contraction of the small intestine—enterospasm—and those of a chronic type being associated with pain of the nature of "colic" in the large gut.

It is mainly these functional cases to which reference is now made, though it will be seen that it is not uncommon for a definite organic mischief to be the cause of some of the obscure cases of repeated colic.

It is not intended to suggest an explanation of the immediate cause of the interference with the physiological integrity of the muscular or nervous apparatus of the intestines which results in this painful spasm, but rather to discuss its clinical manifestations with a view to avoiding needless surgical intervention. To prevent confusion, the term "enterospasm" will be used to indicate acute cases apparently arising in connexion with the small gut, and the term "colic" will be used for chronic cases which appear to originate in the large intestine.

That enterospasm is capable of simulating an acute abdominal crisis is suggested by the fact that recovery follows operation when the pain and vomiting are sufficiently severe to necessitate a coeliotomy, which is performed in some of these cases because of the impossibility of being certain that the symptoms are merely due to a functional intestinal disturbance. Moreover, in some cases the intestines are actually to be seen markedly contracted at the time of opening the abdomen.

CASE I.—*Enterospasm resembling Acute Intestinal Obstruction.*

Male, aged 63. The patient was subject to constipation, for which he had taken aperient water, and for six months had complained of dull pain in the left flank. On May 5th he had acute pain in the left flank, lasting twenty-four hours. This recurred on June 5th, and again continued for twenty-four hours, accompanied by sickness, nausea, and absolute constipation. After a brief period of improvement in the pain and a slight action of the bowels after repeated enemata, the pain became much worse.

On June 7th I opened the abdomen in the mid-line. The small intestine was empty and contracted, and was greatly congested. No lesion was found. The bowels acted after a turpentine enema on June 9th, and the patient made a rapid recovery. During convalescence sodium sulphate brought away large scybalous masses.

CASE II.—*Enterospasm resembling Acute Appendicitis.*

Male, aged 32. On January 14th he was suddenly seized with pain in the right loin and subsequently in the right iliac fossa. The pain was described as "agonizing," and his doctor gave him a hypodermic injection of morphine. When I saw him, about three hours after the attack commenced, he appeared to

be in great pain, and was said to have vomited "about twenty times." The abdominal muscles were very tense especially on the right side, and there was tenderness near McBurney's point. The urine was normal, tongue clean, and temperature normal.

The sickness continued for twelve hours, but the following day the pain was much less after a turpentine enema had brought away a constipated action, though McBurney's point was a little tender. Further actions of the bowels followed after enemata, and the patient was practically well twenty-four hours after the beginning of the attack.

CASE III.—*Enterospasm resembling Perforated Gastric Ulcer.*

Female, aged 25. This patient was subject to vomiting, and was said to have had gastro-enterostomy performed four years previously for gastric ulcer.

On July 11th she was suddenly seized with violent abdominal pain and vomiting, persisting for twenty-four hours. The bowels had acted several times before I saw her on July 12th. The face was flushed and the patient complained of severe pain, chiefly on the left side of the abdomen. The pulse was rapid, and she appeared unable to bear the slightest pressure in the left epigastric region. The abdomen was not so rigid as is usual with a perforated ulcer, and suspicion was aroused by the fact that she had previously had appendicectomy and nephropexy performed, in addition to gastro-enterostomy. She was regarded as a "neurotic," but fearing lest there might be some perforative peritonitis an exploratory operation was performed. Nothing abnormal was found, and she speedily recovered.

The narration of these cases is sufficient to show how difficult it is to be certain that the symptoms are merely due to functional disorder, and though the patient referred to in Case III was so markedly neurotic that it was more than likely that we had to deal with a case of enterospasm, it had to be borne in mind that "neurotics" may suffer from organic trouble as much as ordinary individuals.

The seat of the greatest intensity of the pain generally appears to be referred to the neighbourhood of the umbilicus, there is often a history of irregular action of the bowels, and the abdomen is frequently retracted. In this last respect the condition resembles the early stage of most acute abdominal lesions, and when associated with considerable superficial tenderness it is extremely difficult to exclude some forms of peritonitis. Nevertheless, in many of these cases the general condition of the patient does not suggest a serious mischief, and it is not uncommon to find that the diaphragm acts freely, so that a deep breath may be drawn without adding to the patient's suffering.

In doubtful cases of severe intestinal trouble a gradually increasing distension in association with pain and vomiting may be regarded as a clear indication for operation; but it is not often desirable to wait for this as a means of diagnosis, and it is far wiser to run the risk of operating unnecessarily in a case of enterospasm than to neglect to interfere in an obscure case of acute intestinal obstruction or other morbid abdominal condition which may be amenable to surgical procedures.

Just as enterospasm, by its sudden onset, tends chiefly to resemble organic mischief in the small gut, so colic originating in the large intestine, by its chronicity, is more apt to simulate disease of the lower bowel.

"Colic," as applied in this sense, is much more common than enterospasm, but it must be remembered that the pain associated with such conditions as gall stones, chronic appendicitis, or movable kidney may be mistaken for the functional trouble now under consideration. Some form of intestinal adhesion may be the cause of intestinal pain, and I have occasionally been consulted with a view to operation for supposed appendicitis in cases of colicky pain due to mucous colitis. These and other causes (including "lead colic") of abdominal pain must be considered as possible factors in the production of colic; but, putting such cases aside, we have to deal with "colic" as a functional manifestation independent of organic mischief.

Most of these patients seek the advice of the surgeon because they are supposed to have a commencing obstruction from a growth in the large intestine. The recurrent paroxysmal pain, constipation, meteorism, occasional vomiting, and even loss of flesh in these cases form a collection of symptoms which may be difficult to distinguish from the early signs of stenosis due to an intestinal neoplasm.

A few typical examples may be recorded:

CASE IV.—*Colic resembling Intestinal Growth.*

Male, aged 55. For ten months the patient had suffered from indigestion, and had severe abdominal pain, which appeared to