On June 20th, 1903, by Dr. Gray, who was of opinion that she had a pelvic tumour which would prevent the passage of a child by the natural way. She was in fairly good health, and had no symptoms of haemorrhage or pressure from the pelvic tumour. The examination of the abdomen showed the top of the uterus well above the umbilicus. The uterine walls showed prominent nodules at the top and upper part, and parts of the fetus could be felt in utero. The pelvic examination showed a rounded mass in Douglas's pouch which was firmly wedged and extended to the pelvic wall, displacing the uterus forwards.

Operation.—On June 23rd chloroform was administered and the abdominal wall divided by a long median incision extending from above the umbilicus almost to the pubes. On exposing the uterus a large fibroid tumour was found on its anterior wall, which was pedunculated and bled somewhat freely on attempting to bring out the uterus. A thick band of omentum was adherent to the upper part of the uterus. The omentum was first divided between ligatures; the broad ligaments on each side were tied in two places and divided between the ligatures. The loose tissue on each side of the uterus was then separated with the finger, and the uterine arteries felt low down on each side. Macewen's needle threaded with thick silk was passed round the arteries, and on the right side this ligature was tied, but the left ligature was not tightened. The uterus was then drawn out at the abdominal cavity and packed round with flat sponges and towels. An incision was made in its anterior wall about 5 in. in depth, and the muscular wall torn through to the same extent. The membrane was then carefully opened and the finger passed in, to find the position of the placenta.

The opening in the membranes was then enlarged, and the child readily withdrawn. Respiration set in at once, and the cord was cut between two pressure forceps.

The liquor amnii was drained over the side to avoid soiling the peritoneum. The cord with the forceps was returned, and a flat sponge placed in the uterine cavity, while the margins in the opening of the uterus were pressed together. The uterus was then drawn forwards, and with some difficulty the fibroid tumour was drawn out of the pelvis. Both uterine arteries were now tied securely, and the uterus cut through low down, so as to make two flaps of uterine tissue. There was very little haemorrhage from this stump, which was brought together with buried catgut sutures and silk sutures through the peritoneum. The pelvis was then cleared of clots, etc., and a Keith's drainage tube inserted in the pelvis, with its upper end projecting from the lower part of the wound. The abdominal wall was brought together with silk-worm-gut sutures, the separate layers being united with buried catgut sutures. The operation lasted one hour, and at its termination the pulse was 80 and good in character.

After-history.—The patient made a good recovery, the only incident to be noted was a small collection of pus in the pelvis which necessitated the reintroduction of a drainage tube for some days.

The special point in the operation was the small amount of shock which the patient suffered, in fact, the pulse was better than after the termination of an ordinary labour. This was due chiefly to the small amount of haemorrhage which was easily controlled by the ligatures. The question of tightening the second ligatures on the uterine artery before extracting the child is one for future consideration.

A CASE OF VESICULAR MOLE OF UNUSUAL SIZE.

By THOMAS SLATER JONES, L.R.C.P.LOND., M.R.C.S.ENG

Mrs. C., aged 48 years, had had eight children. Five years ago she passed a similar mole, but much smaller. Two years ago she had a child at full term. This child is distinctly syphilitic. She had an attack of rheumatic fever about eighteen months ago. Menstruation had ceased for seven months. The patient told me that for a month she had a more or less bloody discharge, with uterine pains off and on.

On August 15th, 1903, when I saw her, she had strong labour pains, a copious, weak sanguinous discharge in which could be seen an occasional cyst of the hydatidiform mole. On external palpation the uterus was felt to be very much distended; it extended up to the ensiform cartilage. No fetus could be felt (as she was thin this would have been an easy matter to make out). The os was fairly dilated, and masses of the cysts, which felt soft and peculiar to the finger—not like the feel of placenta praevia at all—but with a sensation to the finger quite characteristic of the condition, presented.

After the patient had been put under chloroform, I introduced my hand into the uterus, and got the whole of the masses of cysts away without much difficulty. This was fortunate, as frequently in these cases there are considerable adhesions to the interior of the uterus, whose wall may be very much thinned in places. Haemorrhage, too, is often excessive, but by keeping one's hand well over the uterus and by injecting ergotine hypodermically, this anxious complication did not occur. Subsequently the patient made an uneventful recovery.

The mass of cysts weighed 5 lb. 4 oz. The cysts presented somewhat the appearance of grapes; the largest measured about 1½ in. longitudinally, the smallest being smaller than a pin's head. They contained a gelatinous material slightly

Fig. 1.—Photograph of a very small portion of the mole.

tinged with red enclosed in a translucent, glistening, ovoid envelope. Each cyst was attached by an independent peduncle, which did not arise from a common stalk as in grapes, but apparently one from another.

Report from Clinical Research Association.

This section exhibits chorionic villi in various stages of mucoid degeneration. Masses of epithelium have resulted from proliferation of the syncytium covering the villi, and some of these are also degenerating. There is no definite growth like "deciduoma malignum."

SOME DECEPTIVE ABDOMINAL CONDITIONS AND THE QUESTION OF OPERATION.*

By A. H. TUBBY, M.S., F.R.C.S.,
Surgeon, Westminster and Evelina Hospitals.

WHEN I was honoured by being asked to read a paper before this Branch of the Association, it appeared to me that I could not enlist your interest better than by choosing this subject, because it is common ground to all of us, and the questions of operation and of no operation are constantly arising. The maze of symptoms in these abdominal cases is sometimes so tangled that we welcome any clue, however slight, to guide us in our difficulties. It must be admitted that the method of settling the diagnosis by making an exploratory operation in all doubtful cases is one which is certainly not feasible in private practice, and it cannot be justly said to be in the best interests of any patient if constantly employed. It is indeed strongly to be deprecated, because it savours merely of the art of surgery, and not of the science. He is a poor surgeon who finds himself compelled to cut the Gordian knot of his difficulties by acting on the formula: "Let us open the abdomen and look inside." The risks of a simple section are, it is true, small, but they are appreciable, and no patient

* Read at a meeting of the East Surrey District of the South-Eastern Branch of the British Medical Association.

should without the most careful investigation be advised to undergo what may still be considered a capital operation. In private practice we are called upon to give our reasons before we operate, and thanks to the large amount of medical literature found in the lay press, patients and their friends are becoming more and more insistent on hearing the reasons for an operation; they wish to hear the pros and cons, and not infrequently prefer to judge for themselves as to its advisability.

The subject that has been chosen is a large one, but I propose to deal with it under three headings:

- I. Abdominal conditions after injury.
- II. Perforative conditions.
- III. Suppurative conditions.

Giving illustrative cases, and the reasons why operation was or was not performed, and then to briefly discuss the value of the various leading symptoms.

I.—ABDOMINAL CONDITIONS AFTER INJURY.

I will first quote the following cases:

CASE I.

Patient Run Over: Collapse; Fracture of the Lower Ribs on the Left Side; No Operation.

G. M., aged 30, was admitted under my care into Westminster Hospital on February 18th, 1903, at 12.45 p.m. At 11.30 a.m. he was crossing the roadway, when he was knocked down and run over by a hansom cab. One wheel went over his abdomen, passing from the left side to the right, and obliquely across from the level of the umbilicus upwards and to the right. He was pale, and suffering from shock, and was sick in the surgery, but there was no haematemesis. When seen in the ward he lay in bed, with his knees drawn up, and said he felt easier in this position. His face was pale and his lips white. His pulse-rate was 72 per minute, regular, very easily compressible, and small. The respirations were 28 to the minute, and shallow. He complained of a stabbing pain on his left side when he breathed. The abdomen moved in respiration and was fairly soft all over, and there was a tender spot in the left lumbar region, and the muscles there were rigid.

My colleague, Mr. Arthur Evans, was sent for to see him with a view to operation, it being feared that he was bleeding internally, but it was decided, on the following grounds, to await events: (a) The absence of any blood in the vomit, thus excluding stomach injury; and the fact that the accident occurred at 11.30 a.m., some hours after he had taken breakfast, made it less likely that rupture had occurred either by direct violence or by a thrust from a fractured rib; (b) the absence of blood in the urine, and of effusion into the flanks negatived injury to the kidneys; and (c) careful and repeated percussion of the abdomen negatived the existence of haemorrhage from a rupture of the spleen or liver.

On these grounds we waited, and the case finally resolved itself into one of haemorrhage into the left pleural cavity, associated with fracture of the eleventh rib on the left side.

CASE II.

Traumatic Rupture of the Intestine.

Dr. J. J. Buchanan reports the case of a young man, aged 18 years, who was struck on the abdomen at 5 o'clock one morning by an iron implement. When seen five hours afterwards he was unable to say where he had been struck. No ecchymosis, or sign of contusion, or area of tenderness was present. His general condition was good, and his pulse of good volume, regular, and 38 to the minute. The temperature was 98° F. There was no abdominal distension or excessive rigidity of the muscles, but the abdominal wall had not its normal soft condition. He had vomited after the accident, and once after admission to the hospital. Dr. Buchanan, on examining him, noted that peristalsis was almost absent, and on this symptom, taken with the slight rigidity and the fact that he had vomited twice, abdominal section was decided upon, and was performed at 11 a.m. (six hours after the accident). On opening the peritoneum, thickened and congested bowel presented itself and sero-purulent fluid escaped. On further examining the bowel a rupture of the small intestine about a third of an inch in length was discovered, with faecal matter exuding. This was sewn up, the peritoneal cavity was doused with saline solution, a drainage tube was put in, and the patient ultimately recovered.

In this case a casual observer might readily have underestimated its gravity. In the absence of ecchymosis, signs of contusion, and tenderness, his general aspect might well have been deemed to warrant delay. But a careful examination of the case showed nearly entire absence of peristalsis, with rigidity and vomiting, and these were sufficient signs, taken with the history of the accident, to make Dr. Buchanan feel that exploration was necessary; a proceeding amply justified.

CASE III.

Bruising and Sloughing of the Great Omentum: Death.

This case occurred when I was a dresser at Guy's Hospital in the year 1886, and I remember it well, because it impressed me, at the time with the subtlety of the symptoms in abdominal injuries. The outline of the

case is briefly as follows: It was that of a middle-aged man who was knocked down in the street by an omnibus, the front wheel passing over him obliquely from the pubes to the left lumbar region. He was much collapsed when brought to the hospital, but there were no distinct symptoms. After three or four days he apparently recovered, and it was thought that he might be discharged; but that experienced surgeon, the late Mr. Davies-Colley, preferred to watch the case, and on the eleventh day after the injury the patient was suddenly seized with acute symptoms of peritonitis, and he died in a few hours. On examination it was found that a portion of the great omentum was inflamed and sloughing.

This is one of those cases in which even the ablest surgeon might well be at fault, and, considering the severe nature of the injury, it is a remarkable fact that no more serious symptoms were present from the first. It is true that an abdominal section and very careful examination might have revealed thrombosis of some of the vessels in the great omentum, but, considering the patient was a very fat man, this is improbable.

CASE IV.

Traumatic Rupture of the Mesenteric Arteries: Haemorrhage: Death.

A very heavy man, aged 53 years, slipped and fell, and sustained a fracture of the bones of the leg and some symptoms of shock were noticed. There was no pain in any other part of the body. On the following day the patient seemed weak but was easy and cheerful. His temperature was 99.5° F. and the pulse was 99; the urine was scanty but contained no abnormal constituents. On the following day his condition had altered for the worse, and it continued to do so during the next four or five days, but no definite diagnosis could be made. There was some slight distension of the abdomen, but careful percussion revealed no localized dullness or undue resonance. He was extremely pallid and breathed irregularly; his temperature was sub-normal and his pulse was 160, and it was thought that he was dying from internal haemorrhage. On the seventh day after the accident he died, and on opening the abdomen a large quantity of blood was found, which came from the ruptured walls of several of the mesenteric arteries. The mesentery contained an enormous amount of fat, and there can be no doubt that, in the pull exerted upon this structure by the violent fall, it and its vessels were lacerated. In this case the latency of the symptoms may have been due to the slow haemorrhage and absorption of the liquid portions of blood in the early stages of the case by the peritoneum.

The criticism, which appears to be a fair one in this case is that repeated examinations of the blood as to its specific gravity would have shown that on account of the draining away of the fluid from the systemic vessels into the peritoneal cavity, the specific gravity of the blood was raised, and on this fact, taken with the scantiness of the urine and the rapid pulse, an abdominal exploration should have been made.

II. PERFORATIVE CONDITIONS.

A good example is furnished by a case of perforative gastric ulcer which I was asked to see by our friend Dr. Dalton.

CASE V.

Perforating Gastric Ulcer: Operation: Recovery: Recurrence of some of the Symptoms Eight Months Later: no Further Operation.

On October 28th, 1898, I saw Miss C. with Dr. Dalton. She had previously had dyspepsia, but had not at any time vomited blood. Late in the evening of October 27th she was seized with pain and cramp in the stomach. She took some hot tea, the pain immediately became worse, and she attempted to vomit. She was seen by Dr. Dalton that night and again early next day. He then found that the liver dullness had disappeared, and diagnosed gastric perforation. She was then seen in consultation with Dr. Newton Pitt, who was of the same opinion, and agreed in recommending immediate operation. I saw her at 9 p.m. on October 28th. Her pulse was 108, temperature 99°, respirations quick and feeble, mostly costal. She complained of pain over the upper segment of the left rectus. There was no marked abdominal distension; the facial aspect was somewhat typical. The operation was begun about 11 p.m., and a thickened patch was seen on the anterior wall of the stomach of the size of half-a-crown. It was situated 1½ in. below the cardiac orifice and 1 in. below the lesser curvature. The affected area was dull and opaque, and from a spot at the upper part of it gas bubbled out. The thickened area was so large that it was impossible to fold it inwards without encroaching too much on the lumen of the stomach, and so an omental graft was applied. She recovered.

The sequel of the case is striking. On September 20th, 1899, I was called to her again by Dr. Knapp, who was seeing Dr. Dalton's patients during his holiday. The day before she had been in town all day, and, coming home hungry, had eaten some sandwiches. About 1.30 a.m. she woke up suddenly in pain and vomited three times. She was found collapsed, with pain on the right side. When I saw her on September 20th the collapse had disappeared, the abdomen was not distended, the pulse was 81, temperature 99.2°. There was no tympanites and no vomiting, but there was still pain, and this time over the upper segment of the right rectus. The liver dullness was normal. I decided not to operate then, because the acute symptoms appeared to have passed away, the liver dullness was present, and I was aware that some of these cases of gastric ulcer occasionally have attacks which are

extremely like those of perforation except for signs showing the presence of free gas in the abdominal cavity.

CASE VI.

Perforating Ulcer of the Intestine.

This case is recorded by Dr. A. B. Johnson.³ A man, aged 27 years, was admitted to the Roosevelt Hospital with a history that four days before admission he was seized with colicky pains about the umbilicus, but there was no vomiting. His pains were not severe, and his bowels moved daily, and he remained at his work. At 1.30 a.m. on the day of his admission he was seized with severe abdominal pains, followed by a chill. On admission the abdomen was not distended; it was markedly tender, and was rigid throughout. Eight hours after admission the abdomen was opened, and a good deal of cloudy, bile-stained fluid, with flakes of coagulated lymph, escaped. The vermiform appendix was examined, but was found to be healthy, and ultimately upon the anterior surface of the descending portion of the duodenum a small perforation was found, forming the floor of an ulcer. The perforation was closed, and the patient recovered, and six weeks afterwards he was in the best of health.

This is a striking instance of what I have previously described in the *Lancet* of May, 1902, as an instance of that deceptive condition which is found in many abdominal cases, and is called the "latent condition" or "the quiescent period."

III.—SUPPURATIVE CONDITIONS.

In acute gastric ulcer the complication is more often perforation, whereas in the chronic form of ulcer it is not unusual to find suppuration occurring, which tracks about and gives rise to subdiaphragmatic abscess. Such a case is the following:

CASE VII.

Chronic Gastric Ulcer: Secondary Abscess.

In 1887, when clinical assistant to the late Dr. Moxon, a girl, aged about 20, came under care. She was anaemic, and looked extremely ill, and had an intermittent temperature. There had been no previous history of dyspepsia. Beyond the fact that there was some dullness of the base of the left lung, and some cough, no definite symptoms could be elicited, and various diagnoses, including that of phthisis, were made. She died eventually, and at the necropsy a chronic gastric ulcer of the posterior surface of the stomach was found, with pus lying between the stomach, spleen, and diaphragm.

This case occurred many years previously to the routine examination of the blood in obscure clinical states. But now the existence of leucocytosis and an excessive percentage of polymuclear cells would at once have led to an exploratory operation.

CASE VIII.

Double Pyosalpinx.

This case is quoted in the *Practitioner* for March, 1903, page 304, by Dr. Herbert French, and I give it verbatim, together with the remarks on it: F. A., aged 23, having been ill ten days with headache, feverishness, anorexia, and obscure abdominal pain, was sent to Guy's Hospital as suffering from typhoid fever, and admitted under the care of Dr. Hale White. Her temperature was 101.8° F., her pulse 95, and her respirations 16 per minute. At the same time that blood was taken for a Durham-Vidal test, a blood count was made, and 24,000 leucocytes per c.mm. were found. The differential count showed:

Polymorpho-nuclear cells	...	80.0 per cent.
Small lymphocytes	...	9.0 "
Transitional forms	...	1.5 "
Large lymphocytes	...	9.0 "
Coarsely granular eosinophile cells	...	0.5 "

The conclusion, therefore, was that the condition was not one of enterica, but rather of deep-seated suppuration. There were no pelvic symptoms, and the patient was unmarried, but there was considerable abdominal pain, and, following the lead given by the total and differential leucocyte counts, laparotomy was performed in the middle line. Double pyosalpinx was found, and the patient made a complete recovery after removal of the tubes.

CASE IX.

Remote Pelvic Cellulitis.

Mrs. C., aged 28, was seen by me in consultation with Dr. Mack, of Canonbury, with pain in the left loin, thickening about the left kidney. Four months previously she had been confined, and had a difficult confinement. Since then she had had an occasional rise of temperature to 100°, and no thickening or fullness could be felt in the pelvis, but there were some in the loin. She was admitted into Westminster Hospital, and the question arose as to the presence or absence of pus. The leucocyte count was 22,500, and it was decided to operate. After an extensive search to my disappointment no pus was found, so a drain was left in the wound. But one week afterwards there was a sudden and copious discharge of pus, and with this the leucocyte count fell to 15,625.

In no form of abdominal inflammation is there so much difficulty as in appendicitis, and, as a surgeon, one approaches the subject with awe, because experience has made me look upon the disease as absolutely protean in its possibilities. In an acute attack it is impossible to foretell what will be the outcome. For example, a patient commencing his illness in a quiet way and apparently doing perfectly well may suddenly develop acute

symptoms and die in a few hours. Or an attack may begin in a most violent manner and then subside and the disease run a perfectly controllable course. Or, again, and these are the distressing cases, an attack commences acutely, and then there is a rapid subsidence of symptoms and the patient appears to be fairly well; but a violent lighting up follows and nothing more can be done. Some cases are so acute from the first as to preclude all hope of successful treatment. An example of this recently came to my knowledge. A middle-aged man, hitherto perfectly well, woke up one night with acute pain and collapse, the pain being localized to the right iliac fossa. A physician was called in and gave a guarded opinion. But the acute distension and collapse with which the illness commenced persisted and a surgeon was sent for, who, twelve hours after the onset of illness, found the appendix gangrenous and general peritonitis setting in, for which nothing could be done. The subtlety of the disease is extraordinary, and it is recorded that septic peritonitis from appendicitis has run its course with a flaccid abdomen and scarcely any tenderness, and in one instance a man spent some hours applying massage to his own abdomen. In another case a patient drew attention to the absence of tenderness by slapping the abdominal wall.⁴

When a case of appendicitis commences with symptoms of intense collapse, which are comparable to those present in a case of deadly poisoning by a mineral, such as arsenic, it is quite certain that the proper thing to do is to operate immediately and to remove the appendix, which is undoubtedly the focus of septic infection. It is absolutely futile to wait for limiting adhesions, because the patient is dead before they have time to form, poisoned throughout by an ulcerated or gangrenous appendix. The difficulty, however, comes in more frequently when we have to decide the question of operation in a case, for example from the fourth to eighth day, where the general symptoms doubtfully point to pus being present, and we are not quite certain whether we are justified in a long search for pus or not. In these instances the leucocyte count, and more particularly the proportion of polymuclear cells, is decisive, and I may instance the case of male patient who was admitted under my care to Westminster Hospital in 1901 suffering from appendicitis. His temperature was 99.4°, his pulse 104, and he was in severe pain, with a large mass in the right iliac fossa. This was the fourth day of illness. The leucocyte count was 11,562 per c.mm., very little above the normal, and on this ground operation was deferred. This case subsided without suppuration and did well. But in patients in whom the general symptoms are severe, the local abdominal condition of appendicitis is persistent, and the leucocyte count is over 12,000 or 14,000, I should not hesitate to operate. The significance of a persistently high leucocyte count cannot be disregarded, although it should be taken in conjunction with the general symptoms. It is of such importance that in doubtful cases it is the determining factor as to operation or otherwise, and it may decide the question in the following class of case which has come under my notice. A patient with appendicular abscess has been operated upon. For a time he does well, and then his general symptoms return. We therefore suspect that there is a secondary abscess, probably deep-seated in the pelvis, or, what is still more formidable, a subdiaphragmatic abscess. If the patient is to be saved, pus must be found and evacuated. But, to justify a prolonged search, some data more certain than general symptoms are required, and these will probably be found in the examination of the blood. I can recall one such case in which, after I had opened an intra-abdominal abscess, the patient did well for a time. But afterwards the symptoms returned, and a secondary abscess formed deep in the pelvis, and burst into the peritoneum with a fatal result. If during the accession of the second attack of fever the blood had been carefully examined, I do not doubt that ample reason would have been shown for another and severe operation.

In the instances I have quoted we are confronted with these difficulties: (1) The fact that many abdominal lesions are latent in their symptoms for a time, and then suddenly become acute; (2) that cases, commencing acutely, subside, and are apparently going on well, and then break out with increased virulence and end fatally, the favourable opportunity of the "latent" period not having been grasped; (3) that when the general symptoms of suppuration are present it is sometimes impossible to say with which organ it is connected, and we have no data on which to commence our exploration, which may be of a very severe character; and

(4) the fear that, if we do find the focus of suppuration, we may not, in evacuating it be able to limit and prevent its spread to the general peritoneal cavity. However, once it is clear to the surgeon that pus is present it is his duty, by a careful discrimination of symptoms, to attempt to localize it and to evacuate it.

The great safeguard and the guide in all these cases is a thorough and careful examination from day to day, and even from hour to hour, in an individual case, and I am disposed to say that one positive sign, such as altered relation of pulse-rate and temperature, rigidity, absence of peristalsis, persistent tenderness, or excessive leucocytosis, must outweigh the absence of all other unfavourable symptoms. There are certain symptoms which we cannot neglect, even in obscure cases. These I may briefly discuss under the following headings in their order of importance, and I place above all:

1. The ratio of the pulse and temperature. Then follow:
2. Leucocytosis.
3. Rigidity.
4. Vomiting.
5. Distension.
6. Diarrhoea and constipation.
7. Local tenderness.
8. Haematemesis and melaena.
9. Increasing abdominal dullness.
10. Effusion of blood beneath the abdominal walls.
11. Chest symptoms, such as dullness, signs of consolidation, etc.

1. *The Pulse and Temperature.*—These may rise together in due proportion, or there may be a slightly elevated temperature with an entirely disproportionate pulse-rate; or the temperature may be subnormal when taken on the surface, while the pulse may be greatly accelerated. But be it noted, if the temperature is taken in the rectum it is almost invariably above normal. The conditions of gravity are two: First, a normal temperature with a pulse-rate of 100 or over; and, secondly, a condition of still greater gravity, a subnormal temperature with a rising pulse. In all abdominal cases the pulse and temperature should be frequently taken, at least every three hours, although the disease appears to be quieting down. If the case is to have a successful issue, this inverse relationship of temperature and pulse should be observed at the earliest possible moment. If the abnormal ratio has been established for a day or longer the prospects of surgical interference are extremely unfavourable, because the altered ratio is significant of the absorption of septic products.

2. *Leucocytosis.*—I may venture to remind you that the number of leucocytes per c.mm. present in the blood is normally 5,000 to 7,000, the count rising to 12,000 at the height of digestion after a good meal. In purulent appendicitis the number of leucocytes varies from 14,000 to 58,000, the average being 17,000 to 20,000. In perforative appendicitis there is a very rapid rise in the number of leucocytes, and counts of over 20,000 indicate either pus, gangrene, or peritonitis; but, as showing that even this sign is not absolutely to be relied upon, the gravest kinds of appendicitis, attended with the acutest form of poisoning, do not show an increase of leucocytosis. Thus it is not advisable to divorce the leucocyte count from the clinical condition of the patient. Leucocytosis is absent in enteric fever but it is present in ovarian abscess and other forms of intra-abdominal suppuration. It is absent also in uncomplicated gastric ulcer, but if perforation occurs the number rises. It is important not only to ascertain the number of leucocytes but the ratio of polymorpho-nuclear cells. If these are increased from the normal rate of 65 per cent. to over 70-75 per cent. then pus formation is certainly present.

3. *Rigidity*, which is almost always associated with some tenderness, is a symptom to be carefully watched, particularly if it be persistent. Even in the absence of other abdominal signs, such as vomiting and severe pain, rigidity, with some tenderness, as in Case vi of perforating duodenal ulcer, was sufficient ground for operation, although the patient was apparently well and had remained at his work for four days. The operation was, as I have said, abundantly justified.

4. *Vomiting* is a very variable sign; most acute abdominal conditions commence with it. It often ceases after the administration of sedatives, or if the stomach has been emptied of its contents by the initial sickness, and it is frequently absent in the latent period. But if it recurs, in spite of careful feeding and after the administration of sedatives, it is not to be under-estimated.

5. *Distension.*—This is often absent in the early stages, even in so serious an illness as a perforating gastric ulcer. But in the later stages of abdominal disease the fatal significance is

only too well known. Distension which persists for longer than twenty-four to thirty-six hours, and is unrelieved by treatment, such as a turpentine enema, is of grave moment. Before any marked degree of distension has taken place it is possible to ascertain the existence of normal liver dullness. But, when distension is well marked, the coils of intestine may override the edge of the liver, and so mask it.

6. *Constipation and Diarrhoea.*—The former may be due either to obstruction or to the administration of sedatives, but diarrhoea, occurring in the course of acute appendicitis, is generally significant of septic absorption from a non-evacuated abscess.

7. *Local tenderness* is always of value as a guiding point to the site of the lesion. Its persistence at the upper part of the rectus may determine the site of incision in a suspected case of perforation in gastric ulcer, and localized tenderness at McBurney's spot is one of the determining signs of the presence of appendicitis.

8. *Haematemesis and Melaena.*—The persistence of these after an injury, or in association with a suspected gastric or duodenal ulcer, may be such as to determine the question of operation or otherwise.

9. *Increasing Abdominal Dullness.*—The presence or absence of this is an important factor in those doubtful cases of injury where it may be that a solid viscus has been ruptured, and blood is being poured out into the peritoneal cavity, or the dullness may be due to effusion of pus or fluid, or to matted intestine with adhesion, as in appendicitis.

10. *Effusion of Blood Beneath the Abdominal Walls.*—This in itself is not a symptom to be relied upon, and should only be taken into consideration with other symptoms, such as shock, collapse, and haematemesis, as indicating the possible extent of laceration of the parts beneath.

11. *Chest Symptoms.*—In a patient who begins an illness with symptoms referable to the abdomen and remains ill although the symptoms in that region have apparently subsided, a careful examination of his chest, and the detection of either a pleuritic rub or the presence of fluid in either of the pleural cavities, may serve as an indication that mischief is going on in the abdominal cavity, and that an exploratory operation is called for. The association of pleurisy and perigastric abscess is well known, and so, too, is the existence of subdiaphragmatic abscess secondary to appendicitis, and the presence of fluid at the right base. The point lies in the persistence of chest symptoms preceded by a history of abdominal trouble.

REFERENCES.

- ¹ *Annals of Surgery*, vol. xxxii, p. 673. ² *Ibid.*, March, 1902. ³ *Ibid.*, vol. xxx, p. 634. ⁴ Treves, Perityphilitis.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

DRUG RASH COMPLICATING ENTERIC FEVER AND SIMULATING SCARLET FEVER.

T. G., male, 17 years of age, consulted me on September 27th, 1903, about an extensive erythematous rash very closely resembling scarlatinal erythema. The rash covered his face, body, arms, and legs. He gave a history of not feeling very well for a week or so, backache interfering with his work in the stable; the rash had been out two days. He now had a sore throat, and felt very weak. His pulse was 100, his temperature 103.2° F. The pharynx was inflamed, the tonsils enlarged and angry, and the tongue furred with enlarged papillae and red edges. He had vomited once or twice, and felt sick. Here was a clinical picture resembling scarlatina. The throat symptoms did not seem severe enough, or pulse quick enough, however, and the tongue not quite typical. I told him that but for his temperature I should say it was a drug rash. He then told me that he had taken several Doan's pills for the backache, and previous to them some opening medicine, which had worked freely. He said his bowels were loose, but it was due to a scidlitz powder. He had no abdominal pain or tenderness. Thinking he had caught a chill, and ascribing the rash to the pills, I ordered him to bed and gave him a saline mixture.

On September 28th his temperature was 104° and pulse between 110 and 115. He had not vomited, his bowels had not acted, there was no abdominal pain or tenderness.

On September 29th the temperature was 103.5°, the pulse as on the previous day; one motion described as light in