course when attempts are being made to get rid of a tube it is absolutely necessary to have a really competent nurse—a nurse who can recognise danger and meet threatened choking by promptly inserting dilators and putting back the tube. It is impossible for the medical man to be in attendance always and it is on the nurses that he has to rely. Some children, as I have said, are all right as long as their attention is diverted and others are all right as long as they are wide awake, but when towards night the wound is nearly closed and they fall asleep for a minute or two they may wake up again in great fright and distress. Some such cases a skilful nurse can manage through the night by sitting up such patients in her arms in a chair, keeping them awake all night if need be, and putting in the dilators and giving the wound a stretch from time to time if necessary. If one night is got over without the necessity of putting back the tube the difficulty is usually at an end. Now and then cases are met with in which the patients have this "night-and-sleep" stridor lasting for three or four days, although they are quite free from any distress during the daytime and in which the timely insertion of the dilators in the night on two or three occasions has been all that was required. Of the 15 cases in which we had much difficulty with the tube in only one case did we find that it was necessary to give an anæsthetic and scrape away exuberant granulations which were growing through the edges of the wound into the trachea. In all the cases success was with care and patience attained eventually.

TABLE IV.—*Causes of Death.*

| Toxæmia. | Asphyxia. | Broncho-pneumonia. | Cardio-gastric crisis. | Hæmorrhagic cases. | Respiratory failure. | Acute tracheitis and bronchitis. | Marantic thrombosis. |
|---|---|---|---|---|---|---|---|
| 8 | 16 | 9 | 5 | 5 | 2 | 3 | 1 |

In Table IV. I have endeavoured to show the apparent causes of death. I shall now briefly refer to these 49 fatal cases. Eight deaths were due to diphtheritic "toxæmia." These were all cases of severe faucial disease and were of such a nature that a fatal issue was not influenced to any degree by the fact that the larynx was implicated and tracheotomy was necessary. 16 deaths are put under the head of "asphyxia." By this is meant that the membranous exudation extended into the bronchial tubes and that no relief to the dyspnœa resulted from the operation, so that death resulted from cardiac failure consequent on obstruction to the lower respiratory passages. Five deaths are put under the head of "hæmorrhagic diphtheria," which is always a fatal form of the disease. Only those cases are classed as hæmorrhagic which showed local bleeding from the nose or fauces, petechial hæmorrhages into the skin, and larger subcutaneous extravasations. No cases of tracheotomy are more distressing than these, as may be imagined from the constant oozing of blood, which gets into the trachea (even the trachea itself may bleed), and is both coughed all over the place as well as sucked into the air vesicles. Nine deaths resulted from the occurrence of broncho-pneumonia. In two cases this complication was already present at the time of the operation. It is probable that some of the cases are due directly to the diphtheria bacillus and not to secondary infection with streptococci or pneumococci. Two deaths resulted from late respiratory paralysis and the accumulation of mucus in the bronchial tubes. Three deaths, as before mentioned under the term "dryness," are classed as being due to acute tracheitis and bronchitis, as on post-mortem examination no other cause could be made out. One patient—a baby—died from the subsequent development of marantic thrombosis of the longitudinal sinus. Five deaths were due to the development of the "cardio-gastric crisis" described. These five cases and the five hæmorrhagic cases, like the eight due to "toxæmia," had more or less extensive faucial diphtheria. Out of the 49 deaths 13 occurred within 24 hours from the operation and 21 within 48 hours.

The figures already quoted show the remarkable effect of the specific serum in reducing the death-rate of cases of tracheotomy for diphtheria. This effect, in my opinion, is largely to be ascribed to the fact that the injection of the serum is followed very shortly by an arrest of any tendency of the disease to spread. Since the introduction of this remedy I do not remember seeing a single case in which the trachea or bronchi became affected if they were not already so at the time of the operation. In the days before the use of this remedial agent the further downward extension of the disease was a frequent cause of death—even the wound itself not uncommonly became covered with diphtheritic exudation—and this, too, I have never seen since serum was used. As I have said before, the most frequent causes of death in cases of tracheotomy are the existence of severe faucial disease and the presence of exudation in the trachea and bronchi. If these two conditions are absent nearly all cases of tracheotomy ought to recover with the use of serum.

As further showing the influence of the serum treatment in staying the spread of the disease I may give the days since admission on which the operation was performed. In 119 cases it was performed on the day of admission, in 25 cases the day after, in six cases two days after, and in one case three days after. Before the days of antitoxin it was far more frequent to have to perform tracheotomy two, three, or four days after admission. It has been pointed out how much more likely is the serum to be beneficial the earlier it is given in cases of diphtheria, and so also, as might be expected, our figures show the same advantage of the early administration in cases of tracheotomy. Injection on the second day of disease gave 21 cases with two deaths, on the third day 47 cases with 16 deaths, and on the fourth and subsequent days 83 cases with 31 deaths. The late cases are usually severe faucial cases where the disease has spread to the larynx, whilst the earlier cases are those in which the larynx is first, or at any rate early, involved, the urgency of the symptoms causing early removal to the hospital. The proper dosage of the serum is not at all settled as yet. Fortunately there is no mistake possible in this respect except in the giving of too small a dose. Personally, I think that for an ordinary case, with little on the fauces and nothing in the trachea, one dose of 4000 units is sufficient. In a case with a moderate affection of the fauces I should repeat the dose next day. Where the fauces are extensively involved and where there is exudation in the trachea and bronchi larger doses are advisable—say, three doses of 8000 units at intervals of 12 hours. It must be understood that these doses are given as a result of my own experience only. Other medical men in these hospitals give different doses. Usually the difference is in giving larger doses. Although I firmly believe no harm to be ever done by large doses of from 40,000 to 80,000 units, yet just as firmly do I believe that the moderate doses recommended are equally efficacious.

For permission to make use of the notes of the cases referred to I am indebted to Dr. C. E. Matthews, the medical superintendent at the Fountain Fever Hospital.

Tooting, S.W.

FOUR CASES OF

# ABDOMINAL PAN-HYSTERECTOMY FOR FIBROID TUMOURS OF THE UTERUS.

BY ARTHUR H. N. LEWERS, M.D. LOND.,
OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

MY attention was directed to the operation of pan-hysterectomy for fibroids by reading Mr. Christopher Martin's paper, published in the Transactions of the Edinburgh Obstetrical Society for 1896, in which he gave an account of eight cases, in six of which the operation was performed for fibroid tumours of the uterus. The essential features of his method are as follows. The abdomen is opened by the usual incision and the tumour if possible brought out of the wound; the upper and middle thirds of each broad ligament are then tied successively from above down by double ligatures about an inch apart, and the ligament is divided between them. A transverse incision is then made across the anterior aspect of the tumour about an inch above the line of reflection of the peritoneum to the bladder. This incision only divides the peritoneum, so that it can be stripped down and forwards, thus enabling the operator to detach the bladder from the anterior aspect of the cervix. The anterior vaginal fornix

immediately in front of the cervix is then made to project into the wound by a long pair of Wells's pressure forceps bent on the flat passed up the vagina by an assistant. The vagina is opened into by cutting on the point of the forceps. The finger passed through the opening serves as a guide in similarly opening the posterior fornix. The uterus at this stage is thus only still attached by the lower third of the broad ligament on each side containing the uterine arteries. The next thing is to tie the uterine arteries on each side, taking special care to avoid the ureters. The uterus can now be separated from its remaining lateral attachments and is then loose and can be taken away. The ligatures on the upper part of each broad ligament are cut short, but the ligatures on the uterine arteries are left long and are drawn down into the vagina. A thick strip of iodoform gauze is then drawn down into the vagina from above, about an inch of it being left projecting into the peritoneum. The abdominal wound is then completely closed.

I had never seen this operation performed when I operated on my first case and followed the above description as closely as possible, but I had had the advantage of having performed a considerable number of abdominal hysterectomies for fibroids by the intra-peritoneal method, in which the management of the upper parts of the broad ligaments is essentially the same, and I have had a large experience of vaginal hysterectomy and of the supra-vaginal amputation of the cervix for cancer, so that the relations of the cervix to the bladder, ureters, and uterine arteries were practically familiar to me. The operation seems to me to be a very good one; it entirely does away with the stump which has often in the past been a source of trouble, whether fixed outside by the clamp or treated by the intra-peritoneal method, and it provides free drainage below. I have only performed pan-hysterectomy for fibroids in the four cases recorded in this paper and in all the patients made good recoveries. One of the objections to the operation is that it takes rather longer than hysterectomy with the intra-peritoneal treatment of the stump. The cut edges of the vaginal walls in my cases required several ligatures, which I found it convenient to pass with an ordinary Hagedorn's needle. Especially is this the case posteriorly. There is a good deal of loose tissue between the peritoneum of Douglas's pouch and the posterior vaginal wall in relation to it. In fact, in opening the posterior fornix from above I found it an advantage to pass a ligature in a curved Hagedorn's needle from the peritoneum through the posterior vaginal wall into the vagina, and then back again through the vaginal wall to the peritoneum and to tie it before opening the posterior fornix so as to avoid having a wide separation of the cut edges of the peritoneum and of the posterior vaginal wall respectively. In cases where there are fibroids so situated as to encroach largely on the cervix and greatly alter its relations it appears to me that there would be great danger of injuring the ureters. In cases, however, where the cervix is not much involved this may be avoided by anyone who is careful and familiar with the position of the ureters in relation to the cervix. No special instruments are necessary for this operation other than those used in any ordinary abdominal section, unless the long bent Wells's forceps be so considered, which is used as a guide in opening the anterior vaginal fornix. There is one point in Mr. Martin's paper which will probably not meet with universal approval. He prefers to remove the ovaries and tubes with the uterus whenever possible but appears to consider it a matter of minor importance whether this is done or not. Of course, this point is one which affects all varieties of hysterectomy equally and is in no way peculiar to the operation of pan-hysterectomy. For my own part I must say that I think it is a good thing if possible to leave one ovary, and I have made a practice of doing so whenever I could in all recent cases. In two of Mr. Martin's cases it is interesting to observe that removal of the appendages at a previous operation had failed to cure the patient. He says: "It is these failures that shake one's faith in the advisability of removing the appendages for myoma, and lead one to search for some more excellent way." Undoubtedly the uncertainty of the result as to the relief of the symptoms in removing the appendages for uterine fibroid is a serious drawback. A large proportion do extremely well, but there is a minority of the cases in which the patient has gone through all the mental and bodily wear and tear of a major operation only to find her symptoms much the same as before. Even where a completely satisfactory result has apparently been obtained there is still a chance that perhaps after a long interval the symptoms may all recur. I have myself seen a case of fibroid in which the uterine appendages were removed for menorrhagia in a single woman. All the symptoms disappeared and menstruation ceased absolutely for five years; then she married and the profuse floodings recommenced. The operation of removal of the appendages is moreover not entirely free from risk. Mr. Martin mentions, for instance, that he had performed the operation in 28 cases with three deaths.

As regards the treatment of fibroids generally it may be said that in some cases there are no symptoms and in these of course no treatment is required. In other cases the symptoms can be kept in check by prolonged medicinal and dietetic treatment, so long as the patient is content to employ it. When, however, the symptoms, and bleeding more especially, persist in spite of treatment the next step usually is to dilate the cervix and to ascertain whether any tumour is so situated as to be capable of being removed by the vagina. If even there is nothing that can be removed in this way, dilatation of the cervix followed by curetting and the application of tincture of iodine to the endometrium often improves matters for a time at least. Finally, if all the above measures fail, or if in the first instance the symptoms are due to mechanical causes owing to the great size of the tumour, there remains for consideration some form of major operation. Removal of the uterine appendages is open to the objections mentioned above, and is besides only suitable for cases where the tumour is of moderate size. More certainly effectual is removal of the uterus and tumours. The cervix may either be left and treated by the intra-peritoneal method, or the whole uterus, cervix as well as body, may be removed by abdominal pan-hysterectomy, the operation being conducted entirely from above as in the following cases.

CASE 1.—The patient was a woman, aged 40 years, who had been married 22 years and had had one child, born at the seventh month, a year after marriage. She had not been pregnant since. She was admitted into the London Hospital under my care on Nov. 23rd, 1896. She was quite well till three years previously. She then began to suffer from excessive losses at the menstrual periods, for which she was under medical treatment for 18 months. Then she became regular for three months. At the end of this time the bleeding recommenced and had been more or less constant ever since. The patient considered an interval of six days without any loss of blood a long one. About two years ago she noticed that her abdomen was becoming larger, but she first noticed a definite swelling in the lower abdomen in January, 1896, since which time it had increased considerably. Since January, 1896, she had also suffered from pain referred to the epigastric region, the right iliac region, the hypogastric region, and round the sacrum. It had been of an intermittent and aching character. For the last two years she had been obliged to give up her work, though she had not been confined to bed. For the last nine months there had also been unusual frequency of micturition, both day and night. The catamenia appeared when she was between 12 and 13 years of age; she was regular every four weeks, without much pain, but up to the time of her marriage the periods were accompanied by distressing vomiting which was relieved by the flow. She said that she was unwell every four weeks during the whole of the seven months when she was pregnant. The family history was good and she had had no severe illnesses. On examination on Nov. 28th there was a good deal of fat in the abdominal wall and the umbilicus was well depressed. A hard, slightly irregular swelling was felt in the lower abdomen rising out of the pelvis and reaching to within two fingers' breadth of the umbilicus. The highest point of the tumour was to the right of the middle line. Nothing was heard over the tumour. The breasts were large, but otherwise they showed no change. On vaginal examination there was slight prolapse of the anterior vaginal wall; the vaginal portion of the cervix was quite small and a little soft. The swelling in the abdomen was evidently a fibroid tumour connected with the uterus; it was easily felt in the anterior fornix. Strong arterial pulsation was felt in both lateral fornices. The uterus was freely moveable. There was no evidence of anything wrong with the heart, the lungs, or the kidneys.

The operation was performed on Dec. 10th. In addition to the usual preparations for an abdominal operation the vagina

was douched with a 1 in 2000 perchloride of mercury lotion followed by a 1 in 40 carbolic lotion on the night before the operation, on the morning of operation, and also one hour before the operation. The A.C.E. mixture was given to start with, but the patient struggled so violently that chloroform was substituted for it and was continued throughout the operation. The abdomen was opened in the usual way, the incision extended from the umbilicus to within one and a half inches of the pubes. The hand was then inserted and the tumour was with some difficulty brought out of the wound. It was evidently the uterus enlarged by fibroids. Both Fallopian tubes were dilated, the right one especially, but the ovaries appeared normal. The broad ligaments were tied with stout silk from above downwards on each side in such a way as to allow of the removal of both sets of uterine appendages with the uterus. A transverse incision was then made through the peritoneum on the anterior surface of the uterus about an inch above the line of reflection from the bladder, and this peritoneal flap was stripped down with the bladder from the anterior surface of the cervix. A pair of stout Wells's forceps bent on the flat was then pushed up the vagina so as to make the vaginal wall prominent at the bottom of the wound, the peritoneal flap and bladder being to the front of this prominence, and the anterior surface of the cervix being behind it. The anterior fornix of the vagina was then opened by cutting on to the point of the forceps. The posterior fornix was then opened on the finger passed through the opening already made in the anterior fornix. The lateral attachments on each side were then tied in sections, the uterine arteries being secured in this set of ligatures; the ends of the silk were left long. The tumour, comprising the body of the uterus, the cervix, and the uterine appendages, was then removed by cutting between the last set of ligatures and the uterus. Several bleeding points in the cut vaginal walls required ligatures. All the ligatures, which had been left long with the exception of those securing the upper parts of the broad ligaments, were then drawn down into the vagina; a strip of iodoform gauze was also drawn from above into the vagina, about one inch of it being left projecting into the peritoneal cavity. The abdominal wound was then completely closed. Subsequent progress was quite satisfactory. The temperature only once reached 100° F. (on the evening of the second day) and at other times it was between 97° and 99°. The pulse only once was 100 (when the temperature was 100°), but as a rule in the 10 days after the operation it was between 80 and 94. The patient had, however, rather a tendency to diarrhœa for some time, which appeared to have been caused by irritability of the rectum set up by the nutrient enemata which were used for some days after the operation. The iodoform gauze was taken out of the vagina on Dec. 17th, and the stitches were removed from the abdominal wound, which was quite healed, at the same time. The abdomen was well strapped after taking out the stitches. On Jan. 4th, 1897, a Sims's speculum was cautiously passed so as to expose the top of the vagina; the ligatures which had been drawn into the vagina were found to be quite loose, and they came away readily. On Jan. 15th the patient left the hospital quite well.

*Additional note on the specimen.*—Both Fallopian tubes were completely closed at their outer ends and the tubes were moderately dilated to the size of the little finger. The left tube contained brownish watery fluid. There were numerous adhesions about the dilated tubes, one especially between the left tube and the sigmoid flexure. On cutting open the uterus it was seen that most of the mass of the "tumour" lay in the posterior wall. The right ovary showed a recent menstrual corpus luteum.

CASE 2.—The patient, a single woman, aged 47 years, was admitted under my care into the London Hospital on August 4th, 1897, complaining more especially of an almost continuous red vaginal discharge during the five months preceding her admission. She had been suffering from excessive losses at the menstrual periods for five years previously to admission to hospital, having been worse in this respect during the last three years of the time. Sometimes the loss had continued for a month and then, after an interval of only a week, it had recommenced. For the five months preceding admission to hospital the loss of blood had been almost continuous. She kept a school till three years ago, but was then obliged to give it up owing to ill-health. She also complained of pain in the lower part of the back and down the legs and was conscious of a swelling in the lower part of the abdomen. As regards her previous health, she had been delicate all her life, and had had small-pox, scarlet fever, "congestion of the lungs," erysipelas, and whooping-cough. The catamenia appeared when she was between 14 and 15 years of age, but she had never been regular, there had been intervals sometimes of three and sometimes of five weeks between her periods. When she was 18 years old she had a brownish discharge which lasted continuously for four months. Years ago she said she used to have a good deal of pain at the periods. The family history presented nothing of importance except that her father died from consumption. On August 9th she was decidedly anæmic. Owing to the difficulty found on attempting an examination in the ordinary way she was anæsthetised. On examining the abdomen then nothing abnormal could be felt in the lower abdomen. On vaginal examination there was some blood seen about the external parts, the uterus was found to be strongly retroverted, but it could be easily pushed up into the normal position and it then formed an obvious projection in the lower abdomen reaching half way between the umbilicus and the pubes. The uterus was freely moveable. The sound passed four inches. There was no evidence of any disease elsewhere.

The operation was performed on August 20th. The method adopted was identical with that described in the preceding case. There were, however, no adhesions. The patient did very well after the operation; the temperature only once rose to 100° F.—on the evening of the day after the operation. The stitches were taken out on August 30th and the abdomen was well strapped. The iodoform gauze was not taken out of the vagina till Sept. 9th, nearly three weeks after the operation. Several of the ligatures hanging in the vagina came away, at the same time, but some were not ready to come away and were left. The patient went out of the hospital on Sept. 19th quite well. I have seen her at intervals since. All the ligatures came away without assistance, and her condition has been quite satisfactory.

CASE 3.—The patient, a single woman, aged 51 years, was admitted into the London Hospital under my care on August 5th, 1897, complaining of bearing-down pain in the lower abdomen and of a "dreadful" bearing-down pain on passing urine. She dated her illness from a year before admission to hospital, when she was knocked down by a cart and thrown violently on her "stomach." She also complained of great weakness, languor, pain on stooping, and of losing flesh. The catamenia appeared at 14 years of age, and she had been "regular" about every three weeks, the periods lasting four or five days. There had been no intermenstrual loss. During the previous year the loss at the periods had been rather less if anything than before, though they had recurred at the usual times. She had had one child 25 years before. On August 9th a hard, irregular swelling was felt in the lower abdomen, rising out of the pelvis and reaching nearly to the umbilicus. It was somewhat moveable from side to side and also could be displaced upwards to some extent. On vaginal examination it was seen that the perineum had been to some extent torn, and this led to the inquiry which resulted in her admission that she had had a child 25 years previously. There was slight prolapse of the posterior vaginal wall. The external os uteri was slightly patulous admitting the tip of the finger about a quarter of an inch. The sound passed nearly four inches. The whole mass was freely moveable. As she was anæmic it was thought well to put her on a course of iron for some time, and to endeavour to improve her general condition as much as possible.

The operation was performed on Sept. 30th. The procedure adopted was essentially the same as that in Cases 1 and 2 and need not, therefore, be described further. So much care was taken to keep close to the cervix in order to avoid the ureters that on one side a thin section of the cervix was left in separating it towards the end of the operation from its lateral attachments. In this case the left ovary was purposely not removed. There were adhesions on the right side between the uterine appendages and intestine for four or five inches and also with the omentum, which caused some difficulty at first in getting at the right broad ligament. The patient did well in essential points after the operation. A stitch-hole abscess, however, occurred at the upper part of the wound about the eighth day and caused the time to be longer than usual before the whole of the abdominal wound could be described as healed. There was also slight fever, no doubt due to the same cause, for the first eight days; the highest temperature reached was 100·8° F. on the fifth day. The stitches were removed on Oct. 9th and the wound was strapped. On the 23rd the gauze was removed from the

vagina, and several ligatures came away at the same time. Two, however, were not ready to come away, and were left to separate naturally. The patient got up on the 24th and went out of the hospital on Nov. 5th.

CASE 4.—A single woman, aged 41 years, was admitted into the London Hospital under my care on August 11th, 1897, complaining of a feeling of "weakness" in the lower abdomen for the last six months and of a swelling which she had noticed there for four months. She also said that she had been getting thinner lately and had had at times increased frequency of micturition during the last six months. Her general health previously to the last six months had been good. With regard to her menstrual history the catamenia appeared at the age of 14 years, and she had been regular every three weeks or a month. The period generally lasted for four or five days and was painless. At the last two periods she had had slight pain and the loss had been more profuse; the last period, for instance, lasted 10 days. On August 12th the patient was pale but not markedly anæmic. On examining the abdomen a hard irregular tumour was felt occupying the right lower abdomen and reaching to the level of the umbilicus; it was moveable. Another hard moveable swelling, much smaller than that on the right side, was felt in the left iliac region (subsequently this proved to be a fibroid attached to the uterus). On vaginal examination the whole region in front of the cervix was found to be occupied by a hard swelling, evidently the uterus enlarged by fibroids. The mass was fairly moveable. The sound passed five inches.

The operation was performed on Oct. 28th. The patient was anæsthetised with the A.C.E. mixture and pan-hysterectomy was performed in the same way as described in the preceding cases. There were no adhesions. On Nov. 1st she was very well except for a slight cough which caused some pain in the abdomen. The abdominal sutures were all removed on the 6th and the wound was found healed by first intention. The abdomen was strapped. (I went out of town a few days after the operation before the stitches were removed and did not see her again for two or three weeks.) After the removal of the stitches the patient had an attack of coughing and two days later she vomited three times. On removing the dressings it was found that the abdominal wound had burst open and that the intestine was protruding through the wound. The intestine was returned within the abdominal cavity and a flat sponge was laid over it while three silkworm-gut sutures were passed through the abdominal wall; the sponge was then removed and the abdominal wound was re-closed. All this was done with careful attention to asepsis. The patient was fortunately none the worse for the accident. The new abdominal stitches were removed on the 25th and the wound was found to be healed. The vaginal gauze was removed on Dec. 3rd, but the vaginal ligatures not till the 9th. The highest temperature in the week succeeding the operation was 101° F. on one occasion, the evening of Oct. 29th. The patient left the hospital quite well on Dec. 11th, 1897.

Harley-street, W.

# A CASE OF HÆMORRHAGIC INFARCTION OF THE SMALL INTESTINE DUE TO THROMBOSIS OF THE SUPERIOR MESENTERIC VEIN;

## NECROPSY; REMARKS.

BY HAMILTON A. BALLANCE, M.S. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE NORFOLK AND NORWICH HOSPITAL.

ON July 2nd, 1898, I saw in consultation with Mr. Gallard of Norwich a married man, aged 68 years, a butcher by trade, who gave the following history. He had always enjoyed good health except that some 18 years previously he had suffered from an attack of jaundice which lasted for three weeks, in the course of which he was said to have passed a gall-stone. In his earlier life he had also been troubled with gravel but from this for the last few years he had been quite free. There was no history of either typhoid fever or rheumatic fever. It had been his custom to feed heartily, though not to drink to excess, and the bowels were always fairly regular. An umbilical hernia had developed during the last six years. For three or four days before the onset of his present illness vague and irregular pains were experienced in the abdomen, more on the left than on the right side, but not sufficient to prevent him being up and about at his usual occupation. On June 30th he went out driving in the afternoon and during the drive the pain came on rather severely; it was not localised in any particular part of the abdomen but was generally diffused. When he arrived home the pain was treated with hot fomentations to the abdomen and these were continued throughout the night. He took two rhubarb pills that evening. The abdominal pain caused him to pass a sleepless night. On July 1st, although feeling very ill, he drove out on business for about an hour before his breakfast. After breakfast sickness commenced and continued at frequent intervals up to the time when I saw him. The vomit was small in quantity, but there was much retching, and he brought up a great deal of wind. There was a slight action of the bowels in the morning. In the afternoon he took to his bed. On the 2nd an enema was given in the morning, but this was returned merely stained though accompanied by some flatus. A little blood was passed after the injection had been voided.

When I first saw the patient on the afternoon of July 2nd he presented the appearance of a sallow-complexioned very stout man weighing 17 st. and his aspect was one of intense weariness as if he had had no sleep for some days. Nothing had been passed by the bowel since the small quantity of blood subsequently to the administration of the enema in the morning. The tongue was dry, with a yellowish-brown fur down the centre. He was lying half propped up in bed and every few minutes would start up suddenly into the sitting posture and bring up some wind and a little foul-smelling brownish fluid, complaining at the same time of increase of abdominal pain which he would endeavour to ease by rubbing the abdomen with the hands. The pulse was small, extremely irregular in force and rhythm, with a rate of 120, not all the heart beats being felt at the wrist. There was no cardiac murmur. The temperature was 98° F., but the surface of the body felt cold. He was so ill that answers to questions were with difficulty obtained from him, most of the history being given by the friends. Great restlessness was present and he frequently groaned with the pain. There was slight œdema of both legs. The abdomen was full but not greatly distended. An inch or more of fat existed on its walls and an umbilical hernia was seen, two and a half inches in diameter, the contents of which were almost entirely reducible. Nothing definite could be detected in the abdomen; some general tenderness to pressure was present and, as I thought, rather more over the cæcum than elsewhere. When the attacks of pain came on intestinal coils could be seen distended in the hernia. He was at once conveyed to the Norfolk and Norwich Hospital, as it was thought that possibly an operation might be necessary in consequence of the signs of obstruction present, though the diagnosis was by no means clear. Some opium was administered per rectum before starting for the hospital.

On admission the retching and sickness stopped, but the restlessness continued and a three-pint soap-and-water enema came back only stained with fæcal matter but with a little blood in it. The urine was acid; its specific gravity was 1028; there was no albumin or sugar. At 8 P.M. the patient had a more acute attack of abdominal pain, throwing himself about the bed while it lasted. It was relieved somewhat by morphia suppositories. He slept for two or three hours during the night. On the 3rd, wind continued to be brought up at frequent intervals, but the patient was only slightly sick once or twice in the morning and once in the afternoon. No flatus passed during the day. The temperature since admission had been subnormal, ranging between the normal line and 96·6°. The pulse had been failing to-day. The abdominal distension had slightly increased. In spite of stimulants, digitalin, &c., he gradually became weaker and died at 10 P.M., the restlessness ceasing for an hour or two before death. After admission to the hospital, although the vomiting moderated the general condition was so grave and the pulse was so feeble and irregular that all idea of an operation was abandoned.

A necropsy was made on July 4th (14 hours after death). The whole body was loaded with fat, a thickness of one and