ther progress of the case there is very little to report, save that the flow of bile from the wound continued till September 3d, when the dressings were discontinued and zinc ointment was used in their place. The stitches were removed and the wound was completely healed on September 9th, when she began to take solid food, up to that time her diet having been restricted to milk and beef-tea. On the 14th she sat up for the first time, and on the 30th she went home quite restored to health, free from pain and all her former symptoms, and having gained at least fourteen pounds in weight.

Looking back upon this case, I do not think that a more accurate diagnosis was possible, for there was an entire absence of those symptoms which usually characterize cases of gall-stone. After the operation she told us that one of her neighbors had said to her one day that she thought the patient was jaundiced, but beyond this no history could be got at of any symptoms pointing clearly to the true nature of the case. The singular mobility of the tumor was also a most puzzling condition. Fortunately, our advanced practice in abdominal surgery makes our limited powers of diagnosis in such a case of less importance, and I thoroughly agree with Dr. Sims that we should not wait till the approach of almost fatal symptoms puts the diagnosis in unmistakable fashion, but that "we shall make an early exploratory incision, ascertain the true nature of the disease, and then carry out the surgical treatment that the necessities of the case may demand."

Since the original publication of this paper I have operated three times for gall-stone, and these have recovered completely.

Four Cases of Hepatotomy.[1]

I.—On August 15, 1880, I was asked by Dr. Thelwell Pike, of Malvern, to see a lady, Miss E. G——, aged thirty-seven, whose illness had the following history:

Between 1870 and 1872 she broke down in health, suffered from obscure symptoms of which she can now give no very clear account, but which were referred, by three practitioners whom she consulted, to the spine. In 1872 she consulted the late Mr. Carden, of Worcester, who diagnosed some hepatic mischief, but gave no decided opinion.

In 1873 she had a severe inflammatory attack, the symptoms of which were regarded by her medical attendants as being due to diaphragmatic pleuritis. That illness continued for three weeks.

[1] Reprinted from the Birmingham Medical Review, October, 1881.

Since then she has never been well, suffering from bilious attacks, swollen legs and feet, dyspepsia, inability to walk, and great mental depression. She asserts that the right leg has always been more swollen than the left.

In 1876 she and her friends noticed an alteration in her size, she had to have her dress let out, her breathing became interfered with, and an enlargement on the right side became apparent. This increased slowly till 1879, when it was evident that the whole of the right chest and abdomen were enormously increased in size, but it was not till February of this year that any attempt at diagnosis seems to have been made, and the opinion then seems to have been that the enlargement was due to malignant tumor. In July she came under Dr. Pike's care, and he diagnosed it as a case of hydatids of the liver, and this diagnosis was confirmed early in August by Sir William Jenner, who advised the use of the aspirator. Dr. Pike and Mr. Dawson, of Malvern, aspirated the tumor on August 11th, and withdrew a few teaspoonfuls of clear serum, enough to establish the correctness of the diagnosis of multiple hydatids, even though they could find no scolices in it.

When I saw her on the 15th, I found her in such a condition that it was evident death from suffocation and exhaustion was imminent if relief could not be given. She was propped up in bed to relieve her breathing, and was vomiting incessantly. She was extremely emaciated, had a hay-like odor of her breath, pinched features, and yellow skin, and all the symptoms of extreme exhaustion. The hepatic dulness extended from the third rib down to the umbilicus, crossing the middle line to the left all the way for about two inches, and much more at the lower margin. The whole of the right side was occupied by the tumor, no air was entering the right lung, the left was greatly interfered with, and the heart was pushed much over toward the left. Below the right ribs distinct fluctuation could be obtained over the tumor.

Acting upon the principle which I have already advocated in previous communications to the Society, of opening the abdomen in all cases of tumors where life was threatened, and of the malignity of which there was no certainty, I had no hesitation in proposing abdominal section in this case.

Dr. Pike at once concurred in my proposal, and it was readily accepted by the patient and her friends.

I therefore returned to Malvern the next day (August 16th), and performed the following operation: Dr. Pike gave ether, and I was assisted by Mr. Dawson and Mr. Raffles Harmar. I made an incision four inches long and about two inches to

the right of the middle line, beginning at the edge of the ribs, and inclining slightly inward toward the umbilicus. Having carefully secured all the bleeding points, I opened the peritoneum, and found that there was no adhesion of the liver to the wall, and that I had exposed healthy liver-tissue. Into this I passed a large-sized aspirator needle, and evacuated a few teaspoonfuls of clear serum, as had been done before. Removing the needle I passed my knife into its track, and made an opening large enough for my forefinger. I then found that the layer of liver-tissue was from half an inch to three-fourths thick. I then fixed a pair of Koeberle's catch-forceps on each of the margins of the wound in the liver, and asked my assistant (Mr. Raffles Harmar) gently to draw them up as I enlarged the incision. This I did to the extent of about three inches, and the moment I freed my finger, myriads of transparent globes of all sizes, from a pea to an orange, shot out, covered the table and floor, and were afterward picked off the floor all over the room. When the tension was relieved, I dug them out with a large silver gravy-spoon, an instrument suggested to me by Dr. Pike, and this process took much more time than the whole of the rest of the operation, and during its performance, Mr. Harmar most skilfully prevented any cysts entering the peritoneal cavity, by keeping the flaps of the liver close against the abdominal wound. Finally, I perceived that my gravy-spoon was causing some hemorrhage from the inside of the cavity, which had no kind of lining membrane, and I had to leave a considerable quantity of cysts in the cavity. In the cut surface of the liver, two bleeding points gave me some anxiety, but I closed them temporarily with Koeberle's forceps, and finally secured them in the stitches. These I applied by a common short needle and piece of silk in the continuous method, fastening the wound in the liver, through the whole thickness of the tissue to the wound in the abdominal wall, so as effectually to close the peritoneal cavity ; I then fastened in a wide glass drainage-tube eight inches long. The quantity of hydatid cysts evacuated, is estimated by Dr. Pike to be about two gallons, and I think the amount is not exaggerated.

The patient rallied well from the operation, and seemed to suffer nothing from shock. Her sickness ceased immediately after the operation and did not return, and her breathing became at once relieved, so that she could lie flat on her back, or on either side.

I saw her again with Dr. Pike on the 19th, when I found her without a bad symptom, eating well, entirely free from pain, and with the hepatic dulness contracted to almost normal limits. A

large number of cysts had come through the tube daily with the discharge, which was faintly tinged with bile. Dr. Pike washed out the cavity twice a day with weakly carbolized water.

I saw her again on September 2d, and found the wound healthy, that Dr. Pike had removed the stitches, and that the cavity held only about half a pint. Only one very small cyst had come away since my previous visit. I found also that she was gaining flesh rapidly, and eating well, her diet that day having included bacon, cheese, and porter.

The daily details of the case possess but little interest, beyond the fact that at the end of the first week a short (three-inch) wide glass tube replaced the long one, and in a fortnight more, a ⅜ rubber tube was inserted instead of the glass. Fragments of cysts continued to come away for about a month, and now (October 17th) there has been hardly any discharge at all for a fortnight, and nothing remains but a sinus.

Dr. Pike notes that one day during the syringing out of the cavity, she had a sharp, sudden pain passing round from right to left. This lasted some three or four hours, and after that about half a pint of bile was passed from the wound, and the pain gradually ceased.

The patient herself writes to me that she feels now quite well, and is able to walk about alone, not quite eight weeks after the operation. She is now (1882) in perfect health and has married.

II.—J. D——, aged fifty-six, was seen by me for the first time on February 5, 1881, in consultation with Dr. G. P. Hadley, of Lozells, under whose care, in conjunction with Dr. Heslop and Dr. B. Foster, he had been for some months. Dr. Hadley has favored me with the following notes : He saw J. D. for the first time in August, 1879, when he had an attack of severe illness which was regarded as due to the passage of a gallstone. In January, 1880, a large tumor was discovered occupying the whole of the epigastrium, right hypochondrium, and extending downward into the right iliac region. The tumor had an indistinct fluctuation. During 1880 the patient became greatly emaciated, passed generally clay-colored stools, and frequently had his urine deeply tinged with bile. In December, 1880, the cyst seemed to find an opening into the intestine, for the tumor became greatly diminished in size, and the patient passed large quantities of brick-red fluid from the rectum. After this discharge the cavity seemed to refill in a few days, and the process was repeated at intervals. In January, 1881, the process of emptying seemed to cease, and it was proposed to tap the cyst, but on account of the presence of intestines all over the front of the tumor it was

deemed more prudent to have an exploratory incision made, and I was asked by his attendants to undertake this. I had no hesitation in doing so, for I found the patient extremely emaciated, with a distinct icteric hue, and evidently sinking. There was a very large cystic tumor, apparently belonging to the liver, and on February 6th I performed the following operation, assisted by Mr. Wright Wilson and Dr. Williams, of Dyffrin, the ether being administered by Mr. Bennett, Dr. Hadley's assistant.

I made an incision about three inches in length over the tumor, in the axis of the right rectus muscle, and about three inches to the right of the middle line, beginning about two inches above the level of the umbilicus. The peritoneum was easily reached, but there I found intestines and omentum glued everywhere over the surface of the tumor, and I had to exercise much care in dissecting them off, so as to clear a part of the cyst about two square inches in area. There was, however, no adhesion between the parietal layer of peritoneum and the subjacent intestines. I then passed my small-sized trocar into the tumor, and evacuated seven and a half pints of dark, bilious-colored fluid. When the cavity was emptied completely, I enlarged the opening made by the trocar so as to admit two fingers, and came at once upon a loose mass, which I removed, and which proved to be a slough of liver-tissue weighing about one ounce. I then stitched the edges of the wound in the liver to those of the wound of the abdominal wall, and fixed in a glass drainage-tube. The cyst was clearly the liver itself, which had been distended into a shell, with apparently a pretty uniform thickness of about half an inch. The fluid removed was carefully examined by Dr. Saundby, the Pathologist to the Women's Hospital, and found to consist of nearly pure bile, mixed with pus.

The progress of the case must be given briefly, for there is very little to tell. No effort was made to conduct the treatment upon Mr. Lister's principles. The glass drainage-tube was left in for about a fortnight, and then a piece of rubber tube replaced it. The temperature and pulse curves were almost normal, the patient's appetite rapidly improved, and upon my last visit to him (March 30th) there was very little discharge from the drainage-tube, and he had gained fourteen pounds in weight in the seven weeks which had elapsed since the operation. (P.S.—He has gained forty-two pounds since the operation, September 16th.)

III.—L. B——, aged twenty-five, was placed under my care by Dr. Thompson, of Leamington, who had recognized the

presence of a large abdominal tumor, which caused the patient much distress. She had been married four years, but had never been pregnant. Her illness began with a sudden attack of pain at the seat of the swelling, in September, 1880, and since then the tumor had steadily grown till I saw her in February. The nature of the tumor was doubtful. It was in the position of the right kidney, was movable, but had an attachment above, which suggested an origin from the liver. No distinct fluctuation could be discovered in it.

On February 9th, assisted by Dr. Thompson and Mr. Raffles Harmar, I made an abdominal section, and found it to be a hydatid tumor of the liver, which had no adhesion to the abdominal wall. I opened the capsule, which consisted of a layer of liver-tissue, about a fourth of an inch in thickness, and scooped out the hydatids with a dessert-spoon. They were of various sizes, from a pea to a small orange, and amounted in all probably to a pint and a half or two pints. I was very careful to cleanse out the deep cavity in the liver very thoroughly, and Mr. Harmar very skilfully kept the edge of the hepatic wound up out of the abdomen, so that none of the parasites escaped into the peritoneum. The wound in the liver was stitched to the wound in the abdominal wall, and a glass drainage-tube was fastened in. The after-progress of the case was uninterrupted recovery, no effort being made to conduct its treatment on Mr. Lister's principles. The glass tube was replaced by a rubber tube at the end of a fortnight, and she returned home to Leamington on March 9th, just a month after the operation, and there she is rapidly recovering under the care of Dr. Thompson, the drainage-tube having been removed (April 23d), and the wound is now nearly healed. (P.S.—This patient is now in perfect health, September 16th.)

IV.—E. P——, aged twenty-one, and unmarried, was placed under my care by Dr. Wellesley Tomkins, of Leamington, in August last, for an abdominal tumor. This I recognized at once to be an enlargement of the liver, and unhesitatingly made a diagnosis of hydatid disease. Her illness began in April, 1880, with an attack of violent bilious sickness, followed by pain in her back and right side. The enlargement was noticed within six weeks, and had steadily increased. She suffered from repeated attacks of violent bilious vomiting. The hepatic dulness extended from the fourth rib down to an inch below the level of the umbilicus, and from the spine round to four inches across the middle line in front, and distinct fluctuation could be felt in the tumor below the ribs. I kept the case under observation from August till February, during which period she increased

two and a half inches in girth over the lower ribs, and fell off markedly in health. I had many consultations with professional friends over the case, more particularly did Dr. Heslop give me valuable assistance. The question, of course, lay between aspiration and hepatotomy, and this could be decided only by our being able to recognize which of the two varieties of hydatid disease my patient suffered from.

No indication of this could be obtained, and having a lively recollection of the disastrous effect of aspiration in a case already published by the Royal Medico-Chirurgical Society, and further, having a growing distrust in aspiration for abdominal surgery, and an increasing confidence in abdominal section, I determined upon the latter. I therefore proceeded similarly as was done in the other cases. It turned out to be a large monocystic hydatid. The thickness of liver-tissue through which I passed was nearly an inch, and I had a little trouble with hemorrhage, which was, however, completely controlled by pressure. I fixed in a wire drainage-tube, after having united the edges of the two wounds, and replaced it by a soft rubber tube at the end of a fortnight. This latter tube I finally removed on April 13th, and on the 19th the wound was almost healed, the patient was getting about, eating wall, and rapidly gaining strength. Possibly, in this case it might have been better to have tried aspiration first, and that may be the opinion of some. I do not agree with this, however, and I see no reason to regret my action. I am growing more and more satisfied that all such cases will be the best treated by abdominal section. (P.S.—This patient, also, is now in perfect health. I have operated upon six other cases of hydatids of the liver in exactly the same way, and all have done well, September 16, 1882.)

The Treatment of Pelvic Suppuration by Abdominal Section and Drainage.[1]

I have purposely used the words "pelvic suppuration" in the heading of this paper, in order to advocate a principle which I believe to be capable of a much wider application than it has already had at my hands. The cases, six in number, in which I have pursued this new method of treatment have all been, so far as I could discover, cases of suppuration occurring in pelvic hæmatoceles ; but the difficulties in these cases have been no greater than I think would occur in pelvic suppuration of almost

[1] Reprinted from Vol. LXIII. of the Medico-Chirurgical Transactions, published by the Royal Medical and Chirurgical Society of London.

any kind, and the success has been most exceptionally encouraging. My experience is, of course, limited to suppurations of the female pelvis, but I see no good reason why the same proceedings should not meet with equal success in some cases, at least, occurring in the male.

Like others who follow the surgical specialty in which my practice lies, I have had a wide field for the observation of the various conditions classed under the head of pelvic abscess, and, like others, I have until recently confined my treatment of it to openings made from the vagina or in the neighborhood of Poupart's ligament. Experience, however, has driven me to the conclusion of Dr. Emmet, that "I cannot regard the introduction of the trocar into the inflamed tissues of the pelvis as a procedure free from danger under all circumstances." It is perfectly true that in very many cases where an abscess undoubtedly exists in the cellular tissue of the female pelvis, the fluid can be reached and removed by the needle of the aspirator. But, according to my experience, the relief obtained in this way is, in a large number of cases, neither complete nor permanent, and, in nearly all, the convalescence has occupied a time not at all commensurate with the extent of the lesion. This is quite as true of abscesses which have been allowed to open themselves, or have been assisted to open in the groin. They often continue as fistulous openings for years.

In many cases, even when the abscess can be reached by vaginal puncture, the nature of its contents is such as to make its evacuation an impossibility ; and I have seen several where a puncture made at random through an indurated pelvic roof has missed the disease. In these cases the symptoms of the presence of pus were conclusive, but no indication of its seat could be obtained. Dr. Emmet speaks of such in these words: "I can recall a number of cases which have been under my observation, with thickened tissues, where no treatment had the slightest effect, and finally, they have passed into other hands."

The course of such abscesses is so thoroughly described by Dr. West that his words cannot be improved upon, and therefore I give them at length :

"When suppuration takes place, the matter makes its way outwardly through the vagina, or through the intestinal canal, in almost all cases in which the inflammation is limited to the parts contained within the broad ligament. In those cases, however, in which the pelvic cellular tissue is implicated, the matter not unfrequently makes its way round between the muscles and the external surface of the peritoneum, and the abscess