complained in no way of the bowel, except when constipated, when he also had a little pain at the upper part of the sacrum. There was no trace of recurrence anywhere, but a little recontraction had taken place since last seen in May. The bowel, however, still admitted the index finger well beyond the narrow spot, and above this all was healthy.

This case appears very encouraging, as showing, like many others recorded, in the first place, the possibility and desirability of an early diagnosis of cancer of the rectum; and in the next, the feasibility of its complete removal with safety to the patient in properly selected cases.

I have requested this patient to present himself occasionally at hospital for examination, and shall report further as to his condition, should there be any recurrence.

NOTE ON THE PRACTICAL APPLICATION OF SPONGE-GRAFTING.

By D. J. HAMILTON, M.B., F.R.C.S.E.,
Professor of Pathological Anatomy, Aberdeen.

As from time to time since I wrote my paper on "Sponge-Grafting" in the *Edinburgh Medical Journal*, cases have been recorded in the *BRITISH MEDICAL JOURNAL* and elsewhere, in which its application for the purpose originally intended has been successful or unsuccessful, I think it may not be uninteresting if I add a few words in addition to what I have already written on the subject in regard to its practical application.

The first experiments I made were by placing a thick slice of sponge in the wound, sufficient to at once fill up the gap caused by the loss of tissue. There are several objections to this procedure, the chief being that a mass of sponge three-quarters to one inch thick placed over a suppurating wound becomes soaked with pus, and prevents any free drain from taking place. The pus so accumulated is almost sure to putrefy, and so interferes with the process of organisation going on in the deep layers. The danger of contact of such a putrefactive mass with an open wound, although less in the case of one that is granulating, is probably not to be underestimated.

I have, accordingly, generally found that in such cases it is necessary to cut off the superficial parts of the sponge, leaving the thin layer, which had become infiltrated with organising tissue, adherent. All this inconvenience can be avoided by adjusting the sponge in successive thin layers over the wound. These layers are not more than an eighth of an inch thick, and must be cut in large slices with a perfectly regular surface. The only method I know by which this can be accomplished is by means of a freezing microtome. I happen to possess a large microtome suited for the purpose, which I employ for cutting sections of the entire brain. It holds an entire Turkey sponge; and, when the latter is frozen, the whole mass can be cut into perfectly regular slices, of any desired thinness. Such a layer can be laid with the greatest facility over the wound, so as to fit into all its irregularities. In a few days, the first layer becomes organised. A second can then be placed over this, and so on, a mass of tissue being thus, in course of time, built up. There is no bagging of pus by this method of applying the sponge, and the danger of putrefaction occurring is reduced to a minimum.

Another precaution that is necessary is, to see that, where the wound is granulating, the edge of the layer of sponge does not come into contact with the pellicle of young epidermis at the side. If so, the epidermis will undermine it, and cause displacement. There ought to be one interval of about an eighth to a quarter of an inch between the edge of the epidermis and that of the sponge.

Dr. Sanctuary, in the *JOURNAL* of December 16th, makes the remark that firm pressure is a *sine quid non* in obtaining adhesion. I agree with him so far that, when first applied, there ought to be firm and equable pressure all over the surface; but I question, after adhesion has once taken place, whether pressure exerts a salutary influence in promoting organisation. On the contrary, I should consider that the interstices of the sponge would fill up quicker if the vessels of the granulating part had free play. I should almost say that, in the treatment of a granulating wound of the lower extremity, it would be advantageous, when the sponge has once taken firm hold, to allow the limb to hang downwards, and probably to encourage the patient to take gentle exercise. By this latter means, the circulation through the granulation loops will be rendered active, and a certain amount of vascular turgescence is what is really required.

As regards Dr. Ferguson's observation (*BRITISH MEDICAL JOURNAL*, December 16th, 1882) that, in a case where he applied a

layer of sponge, a quarter of an inch thick, to a wound of the calf of the leg, and where, after organisation had taken place, the new tissue proved to be sensitive, I may say that this might quite well be accounted for by small branches of nerves being carried into the interstices of the sponge by the granulation-vessels.

LARGE CYST OF THE MESENTERY SIMULATING AN OVARIAN CYST: OPERATION: DEATH.

By CHARLES H. CARTER, B.A., M.D., B.S. (Lond.),
Physician to the Hospital for Women.

Cysts of the mesentery are exceedingly rare. At present only a few such instances have been recorded. Dr. R. Watts (*American Journal of Obstetrics*, 1879, xii, p. 333) describes one which was mistaken for an ovarian cyst, and operated upon: the patient died; also Péan (*Tumeurs de l'Abdomen*, pp. 1,111, 1,112, and 1,115) describes three such which were operated upon, one of the patients recovering. Mr. Spencer Wells speaks of what he considers to be one in a note on Mesenteric Cyst and Tumours in the *JOURNAL* of December 9th; and Mr. Knowsley Thornton, in the *JOURNAL* of December 23rd, describes another, which, at the time of operating, he considered of ovarian origin, and included in his list of ovariectomies. The following is an account of a cyst which sprang from the left side of the spine in the lumbar region where the mesentery is attached, and either rose between its folds, or from the subperitoneal tissue below it. Its fluid content was peculiar, and differed from that which has been found and described in the few recorded cases. It was about sixteen pints in quantity, a thin, clear, slightly opalescent fluid, alkaline, specific gravity 1009, giving, on boiling, no deposit, but on adding a few drops of nitric acid a very slight film, redissolved on adding more; no change at the line of junction on pouring some of the fluid on a layer of nitric acid; on adding a 10 per cent. solution of nitrate of silver a very copious white precipitate. The fluid, therefore, contained no albumen, but a large amount of chlorides. Dr. Murchison (*Clinical Lectures on Diseases of the Liver*, p. 61) says these are characters which apply to no other fluid in the body, whether healthy or morbid, but to the fluid from an hydatid cyst. The fluid was carefully examined under the microscope, but no hooklets or anything characteristic could be seen; unfortunately the part of the cyst wall removed was not at once examined to see if it presented the laminated appearance of an hydatid cyst wall. Fluid somewhat similar to this is also found in so-called cysts of the broad ligament.

The following is the history of the case. A. B., aged 44, married twenty-five years, and never pregnant, attended at the Out-patient Department of the Hospital for Women, May 18th, 1882, and was seen by Dr. Mansell Moullin, who found the abdomen distended by a tumour which presented all the characteristic marks of an unilocular ovarian cyst. The patient had noticed the abdomen enlarging for two years. She was admitted under my care June 22nd. With the exception of one brother having died of consumption, her family history presented no marked features. The only illnesses to which the patient referred were one which she called inflammation of the bowels twenty-five years ago, and a second six years ago, when she had "bilious fever" and a second attack of inflammation of the bowels. Her present illness began two years ago, when she noticed a lump in her abdomen, about as large as a good sized orange, about the level of the navel; it appeared to move from side to side with the movements of the body; it gradually enlarged, and as it did so it became less movable; it had grown more rapidly during the last six months. She had had no pain till recently, and that only "a bearing down;" no trouble or difficulty with micturition; the bowels were constipated. She was regular every four weeks, but scantily. On examination, the abdomen was distended, and especially on the left side, where there was dulness on percussion far back; on the right side there was resonance up to the line of the insertion of the rectus muscle. Fluctuation could be distinctly felt all over the front of the abdomen in every direction; in the middle line, dulness extended six inches above the umbilicus. The abdominal measurements were, at umbilical level 38 inches, 3 inches above umbilicus 36 inches, 3 inches below umbilicus 38 inches. The distance from the ensiform cartilage to the umbilicus was 9 inches, from the umbilicus to the pubes 8½ inches: from the umbilicus to the iliac crest, on each side, 10 inches. The vaginal examination showed that the cervix was drawn over to the left side, the fundus lying towards the right foramen ovale; the sound passed 2½ inches; the uterus was movable: nothing of the cyst could be felt by internal examination. The case was diagnosed as an unilocular ovarian cyst, and on July 13th she was operated upon. An

incision was made in the middle line, about four inches in length; and the abdominal walls, which were thin, were easily cut through. On opening the peritoneum, a thin walled cyst was seen covered in all directions with large veins; the hand, passed in, met with no adhesions in front or at the sides, but at the upper part something was recognised as holding the cyst. The cyst was tapped, and about sixteen pints of fluid, with the characters above described, flowed away; as it did so, the cyst was drawn out and was found to have no pelvic attachment and to be unconnected with the ovaries or the broad ligaments; the uterus and the ovaries were found in a natural condition. The cyst was firmly attached to the side of the spine and the left lumbar region; the spleen and the kidney on the left side were recognised as distinct from it, and on drawing up the cyst, its attachment was seen to be closely surrounded by coils of small intestine, which were firmly adherent to it. Seeing it would be impossible to free the cyst from its insertion, an attempt was made to enucleate it by stripping off its peritoneal covering; but this procedure was abandoned, as so many vessels were torn through and the hæmorrhage was free. It was then decided to fasten the cyst to the abdominal wall, cutting away as much as was possible; the circumference of the cyst was tied by six ligatures, and then the cyst was stitched to the abdominal walls by silkworm gut sutures, and a drainage-tube of India-rubber put into the cavity of the cyst; the peritoneum was sponged out and the abdominal wound closed and dressed with antiseptic gauze. The operation was performed under the carbolic spray.

The patient did well for the first twenty-four hours, and then the temperature rose on the evening of the second day to 101.2° and the pulse to 104. On the morning of the third day the dressings were found stained with blood, and there was seen to be a slight oozing from the cyst wall. The pulse and temperature kept up, and the patient began to show signs of septicæmia (with some internal hæmorrhage, this continued), and she rapidly sank and died on the sixth day after the operation.

At the *post mortem* examination, the part of the cyst left was empty and much contracted; the abdominal walls, at its attachment, drawn inwards and inverted; it was firmly attached to the side of the spine and the left lumbar region by a broad attachment, and its insertion was closely surrounded by coils of small intestine, which were intimately adherent to it. On the left side of the cyst the peritoneal coat had been stripped off by an extravasation of blood from a large opened vein, forming a sac about three inches by four, full of semicoagulated blood, and, without doubt, one of the large veins covering the cyst had been pierced by the needle carrying the suture, which fastened the cyst to the abdominal wall; and as the blood flowed, more and more of the vessels were ruptured, and the peritoneal coat torn back. There was also found some slight peritonitis. The uterus and ovaries were quite natural; all the other organs were healthy, but very bloodless.

CASE OF RUPTURE OF FEMALE BLADDER ASSOCIATED WITH ABORTION.

By T. LAWRIE GENTLES, L.F.P.S.G., Derby.

ON October 13th, I was requested, at 3 A.M., to visit a woman in a neighbouring street, who was said by the messenger (her husband) "to have had a mishap".

On reaching the house, I found a well made woman of 36 lying on her left side, in bed, vomiting large quantities of a dark brown pungent-smelling liquid. The pillows were drenched with the fluid; so also was the carpet in front of the bed; and on the walls opposite to the patient were stains of a similar nature. There was also half a pint of vomit in the chamber-vessel. The woman was in a state of collapse; a cold clammy perspiration stood on her face; her hands and feet were like ice; and her pulse was imperceptible. There was no one in the house except the husband and two little children, the latter occupying the same bed as the patient; while, to add still more to the ghastliness of the scene, the younger of the children (a babe of nine months) was vainly endeavouring to reach its dying mother's breast in order to obtain its usual nourishment.

I made a rapid examination by the vagina, but found a closed os uteri, and no marked traces of hæmorrhage. I observed, however, that the abdomen was greatly distended. I tried to administer some ammonia, but the patient was unable to swallow; she gave one agonising look of dread, moved her lips as if to speak, and then died, the death taking place within a quarter of an hour after my arrival at the house.

My first impression was that the woman had died of internal hæmorrhage; the only things which seemed to militate against this being the redness of the lips and the copious vomiting. This idea of hæmorrhage seemed also confirmed by what the husband said at the bedside—viz., that "his wife had had a good many clots come from her, and that her linen was very much stained".

I refused, of course, to give any certificate, and communicated with the coroner. In collecting evidence for the inquest, the following facts were clearly brought out; first, that the woman was a drinker; secondly, that she had had a drinking bout for some days; and thirdly, that she had occasional difficulty in passing urine. In regard to the two first points, the husband's evidence was most conclusive, and showed clearly that when the poor woman had one of her drinking fits on, she would not only consume large quantities of beer (her favourite drink), but also all the spirituous liquors she could lay her hands on. In regard to the third point, the husband also made clear the fact that his wife had often suffered from retention of urine, but, "so far, had always got over it." At the inquest, further details of evidence brought to light the fact that the woman had complained of pain in her belly for two or three days previous to death. She had, however, been "up and downstairs" until 1 P.M. of the day preceding her death; but when her husband came home at 6 P.M., he found her in great pain, and was told by his wife that "she had been losing blood." A good many clots were in the chamber vessel, and these he threw away into the ash-pit. The pain getting no better, and finding that his wife was "altering for the worse," he came for a medical man as already stated.

The coroner having ordered a *post mortem* examination, I made one the same afternoon, and in this I was assisted by my brother and son.

There were no external signs of violence, except a slight abrasion on the forehead, another on the lower lip, and a small bruise on the inner side of the right thigh, none of which were of recent date. On cutting through the abdominal walls, the great depth of fat and its extreme "wateriness" arrested our attention, the knife going through the tissue with a distinct "swish". Suspecting an accumulation of fluid in the abdominal cavity, a small incision was made at first. No sooner was this done, than a reddish-brown liquid began to well up. Some of this was drawn off, and the opening enlarged, when nearly six pints of fluid were removed. The stomach and intestines having been carefully examined, were then taken out, in order to facilitate further search for the lesion. The first thing which we noticed was a pint of blood lying in the pelvic basin; and, on making more minute search, a rent was discovered in the posterior wall of the bladder—a rent large enough to admit four fingers. Here, then, was the cause of death. There were some fresh adhesions on each side of the bladder and the pelvic walls; there were also similar adhesions between the bladder and uterus. All these adhesions, however, were extremely soft, and broke with the slightest pressure. The walls of the bladder itself also seemed much thinner than usual. No flakes of lymph could be discovered in the fluid removed from the abdominal cavity, and neither did the peritoneum exhibit any great degree of vascularity. It may, however, be, I think, safely affirmed that a large portion of the fluid found was effused from an irritated peritoneum—the other portion of the fluid being, of course, urine from the ruptured bladder.

On opening the uterus, signs of recent delivery presented themselves; on observing which, I asked my son to tell the husband to rake up "the clots" from the ash-pit. The husband did so, and one of the "clots" was found to be a foetus, three inches in length.

Now come the questions: When did the rupture of the bladder occur? and, Had uterine action anything to do with it? Supposing that "the pains in the belly", of which the woman complained for two or three days before death, were the commencement of the abortion, it is reasonable to infer that, when true expulsive efforts on the part of the uterus began, these efforts would be aided by the action of the abdominal muscles; and, supposing still further, that the bladder was at that time distended to its fullest capacity, it is perfectly possible that the pressure of the abdominal muscles would be the "last straw" necessary to produce the fatal lesion. I am, therefore, inclined to think that the rupture took place in the afternoon of the 12th. I ought to have stated that, although, when the husband came home at 6 P.M. on that day, he found his wife in bed, she, nevertheless, "kept getting out of bed, trying to pass urine, but could not." There can be but little doubt, that the alcoholic condition of the patient would rob her of her sense of attending to the calls of nature; and it is melancholy to think that, if she had only been seen earlier, a simple catheterism might have saved her.

As a piece of concurrent evidence of the habits of the patient, it