

thrice daily. The meat should be perfectly *fresh*. 2. Beef juice, prepared as follows. Extract half a pound of *fresh* meat in half a pint of cold water plus half a teaspoonful of salt for from one and a half to two hours at 35° C. Express the liquid through a cloth. Or the juice may be expressed from the meat directly without the addition of water with more powerful pressure. The meat juice must be freshly prepared for use on each occasion. 3. Raw meat soup prepared as follows. Take half a pound of finely minced *fresh* meat and mix in a bowl with sufficient milk to produce a thick uniform paste. Immediately before serving add half a pint of milk at 60° C.; or the soup may be made in a similar fashion with stock of beef, or chicken, or veal in place of milk.

In the largest proportion of cases I have exhibited raw meat pure and simple, and the more experimental observations, to be referred to presently, were conducted on patients fed on raw meat. All the observations go to show that cooking of the meat modifies to a remarkable degree the absorption and retention of the nitrogen both in tuberculous and physiological subjects.

*Experimental observations.*—Observations to determine the value of raw meat alimentation have been recently conducted by Dr. J. J. Galbraith in the research laboratory attached to my clinique in the Royal Victoria Hospital for Consumption, Edinburgh. These observations were made in relation both to tuberculous and physiological persons. After the subjects of experiment had been brought as far as possible to a nitrogen equilibrium observations were made for three successive periods: (1) on cooked meat; (2) on raw meat; and (3) on cooked meat again, the diet remaining otherwise uniform and as simple as possible for the purposes of analysis. The results may be summarised as follows. 1. The exhibition of raw meat was followed by a marked increase of nitrogen retention, even with a diminished intake. 2. Intestinal metabolism was improved. 3. There was a rapid increase in hæmoglobin. 4. Digestive leucocytosis (lymphocytosis) was increased, sometimes to more than double that occurring in relation to cooked meat.

*Clinical observations.*—These, which extend over a long period, may be shortly summarised as follows. 1. General appearance. This quickly improves. The pallid, soft aspect is replaced by a look of health and vigour. 2. Muscularity. The soft flabby muscles fill up and become firmer. With increasing firmness of muscle the patient's sense of fatigue lessens and he becomes keen for effort. Myotatic irritability tends to lessen and finally to disappear. 3. Circulation. The pulse-rate is lessened and a corresponding improvement is effected in the blood pressure, these phenomena being presumably the expression of improved muscularity in the heart and improved tone in the muscular walls of the vessels. 4. Blood. There is a rapid increase in hæmoglobin. This is conspicuous even in patients who may have made fair progress on a cooked dietary when afterwards placed on raw meat. Within a few days the hæmoglobin runs up from 10 to 20 per cent. There is a remarkable increase in digestive leucocytosis. Negatively, I note that hæmoptysis does not follow the adoption of the method. I have frequently continued raw meat alimentation during the course of hæmoptysis. I emphasise the point because some physicians would exclude meat in case of hæmorrhage altogether. 5. Gastro-intestinal functions. These become simpler and more effective. Gastro-intestinal discomfort is notably reduced. Intestinal metabolism is simpler and more complete and the stools improve in character. Detailed observations in relation to gastric digestion by means of examination of stomach washings, recently undertaken by my resident physician, Dr. B. M. Cunningham, afford corroborative evidence under this head. 6. Temperature. The temperature is influenced favourably. This depends doubtless on a variety of causes. It frequently follows improvement in gastro-intestinal function. Sometimes with no other modification of treatment save that under discussion a highly irregular temperature gives place within a week or two to an almost uniform range about normal. 7. Weight. Here a distinction must be drawn between increased weight dependent on increase of fatty tissue and that associated with increased size and firmness of muscle. The former increase is of doubtful value to the patient. Sometimes it is positively harmful, the unfortunate individual moving about with increasing difficulty and considerable dyspnoea. On the other hand, increase of weight associated with increased size and firmness of muscle occurs on raw meat alimentation without much addition of fat.

8. Local lesions. All these in my experience tend to be influenced favourably, whether occurring in relation to lungs, larynx, glands, intestine, or elsewhere. The change which is evident in superficially disposed tuberculosis—e.g., in glands and skin—is sometimes most remarkable.

It has been my endeavour to compress into very brief summary a prolonged series of close observations. From frequent conversations with colleagues I am satisfied that the significance of raw meat alimentation has been insufficiently recognised. My purpose in making the present communication will have been attained if a method of treatment which my experience leads me to regard as invaluable receives a fairer and more complete trial. Such trial involves the strictly systematic use of raw meat in one or other form, not the occasional replacement of other dietary by raw meat. Cooked meat occupies a different platform. So do the various commercial beef powders and beef extracts. From the therapeutic standpoint I have found these of little value.

## VENTRAL FIXATION OF THE UTERUS BY A NEW METHOD.

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THE following operation was devised in order to avoid certain defects in the ordinary procedure of ventral fixation of the uterus. 12 patients have now been operated upon by this method and the results are so satisfactory that I think it right to publish a description of the operation. It was intended for the relief of patients suffering from severe forms of prolapse of the uterus, with cystocele and rectocele, with or without rupture of the perineum. Other patients with less severe forms of misplacement of the uterus have been treated in the same way, but as it was not for them that the operation was intended and as there are other satisfactory means of dealing with such cases I propose to report only those in which the prolapse was severe and had lasted a long time and for which the usual treatment with various forms of mechanical support had failed. For such patients three things can be done—namely, perineorrhaphy or colporrhaphy or ventral fixation of the uterus—but none of these operations, either singly or combined, can be sure to give permanent relief.

Rupture of the perineum is neither the only cause nor the usual cause of prolapse of the uterus. Many women have complete rupture of the perineum, even extending through the sphincter ani, and yet they work for years in that condition without suffering from prolapse of the uterus. On the other hand, many of the worst cases of procidentia uteri occur in young unmarried women in whom there is no tear whatever in the perineum. General laxity of all the pelvic and perineal connective tissue would appear to be the chief cause of prolapse of the uterus. It is not surprising therefore that *perineorrhaphy* frequently fails to cure the prolapse. For the same reason *colporrhaphy* also fails both when alone and when performed in combination with perineorrhaphy.

*Ventral fixation* of the uterus as usually performed often relieves the patient's but it cannot be relied on to do so and there are in the operation certain inherent defects to which I shall presently refer. In very severe cases a combination of all three operations may be performed—that is, of perineorrhaphy, colporrhaphy, and ventral fixation, but such a combination has two serious drawbacks. In the first place, it is a very severe operation to which to submit any patient, and it is particularly serious in the case of big, fat women. In the second place, it retains the inherent defects which belong to the operation of ventral fixation. I hope to show that by the employment of another method of ventral fixation perineorrhaphy and colporrhaphy may be dispensed with and that thus the severity of the treatment may be lessened, and also that the uterus may be securely suspended from the anterior abdominal wall with certainty that it will not again become prolapsed.

Ventral fixation of the uterus as usually performed has for its main object the formation of adhesions between the peritoneal surfaces of the uterus and of the anterior abdominal

wall. It therefore acts upon a wrong principle, for there is a natural tendency for all adhesions in the abdominal cavity to disappear, no matter from what cause they may arise. They are formed apparently for the same purpose as the callus around a fracture—namely, to keep adjacent injured surfaces immovable until repair has taken place, and just as the callus around a fracture is for the most part removed after the bone has become united, so peritoneal adhesions tend to disappear after repair has taken place. Whether this be a correct reason for the disappearance of peritoneal adhesions or not, it is yet a fact that in many cases of ventral fixation of the uterus all adhesions disappear in the course of time and the uterus is found lying free from the abdominal wall. In other cases the adhesions do not entirely disappear but they stretch, and in the progress of lengthening they become long, thin bands attached at one end to the abdominal wall and at the other end to the uterus. I have seen a case in which the operation of ventral fixation was being performed a second time, some years after the first operation, in which there was a band eight inches long and only a quarter of an inch broad. No operation which can produce such a dangerous band in the peritoneal cavity can be looked upon as quite satisfactory. Thus two objections to the usual method of ventral fixation of the uterus arise: first, the formation of dangerous bands in the peritoneal cavity; and secondly, the failure of the operation whether the adhesions disappear entirely or merely stretch; in either case the uterus again becomes prolapsed. There is also one immediate danger associated with the usual method—namely, hæmorrhage. In order to carry a suture through the substance of a tough organ like the uterus a large sharp needle must be used. There is commonly some oozing of blood from the needle track and it usually ceases with the tightening of the suture, but I know of one patient who died from hæmorrhage into the peritoneal cavity from the needle punctures made in the course of ventral fixation of the uterus.

The method which I have adopted of fixing the uterus to the anterior abdominal wall is free from the immediate danger of hæmorrhage and from the remote danger of long bands of adhesions and it secures the uterus in its new position in such a manner that it cannot possibly fall away. The method is as follows:—

1. Open the abdomen in the middle line from the pubes to the umbilicus.

2. Retract the left side of the wound and take hold of the left round ligament of the uterus, then draw on it until it is tense between the point held and the inguinal canal. Catch it with two clip forceps as near to the inguinal attachment as can conveniently be done and divide it between the clips. Ligature the distal end and remove that clip, dropping the stump. Retain the clip on the proximal divided end.

3. Repeat this on the right side.

4. By means of the two clips upon the proximal divided ends of the round ligaments draw the uterus up towards the abdominal wound. Some tension will thus be made upon the peritoneal attachments of the round ligaments and, as a rule, the peritoneum will stretch sufficiently to allow the uterus to come up into the wound, even, in some cases, as high up as the umbilicus, but it may be necessary to make a few cuts with the scissors in the edges of the peritoneal attachments, in which case care must be taken not to cut right up into what may be called the "axillæ" of the round ligaments lest any vessels be injured. They are troublesome when cut. Lift the uterus by its round ligaments as high up in the abdomen as it will reach without undue tension and with the eye mark the position. In some of the cases of complete procidentia the uterus was purposely left outside the vulva before the abdomen was opened and it came up without any difficulty when drawn upon by the round ligaments.

5. At the place to which the fundus of the uterus reaches catch hold of the skin and superficial fascia on the left side of the wound and draw on them, at the same time separating them from the abdominal aponeurosis by thrusting in the handle of a scalpel as far as the outer edge of the rectus abdominis muscle. Withdraw the handle of the scalpel and pass a pair of clip forceps into the track thus made as far as a point one and a half inches from the middle-line incision and then thrust the clip forceps through the aponeurosis, the rectus muscle, and the peritoneum into the peritoneal cavity; with the clip catch hold of the end of the left round ligament and draw it through the abdominal wall, keeping the clip attached.

6. Repeat this on the right side and then by dragging upon both round ligaments the anterior surface of the uterus will be seen to come up and to lie against the anterior abdominal wall.

7. Whilst an assistant keeps up traction upon both round ligaments and so retains the uterus in its new position sew up all the abdominal wound, except the superficial fascia and the skin, in layers with catgut. Let one or two of the sutures of the peritoneal layer be passed through the peritoneal coat of the uterus and thus occlude the passage between the abdominal wall and the uterus, through which it is conceivable that a loop of small intestine might find its way and so become obstructed if the passage were not closed. It is for that reason only and not for the purposes of suspension that the opposed surfaces of the uterus and the abdominal wall are sutured together.

8. Lay the left round ligament at right angles over the front of the aponeurosis and across the middle line as far as the point at which the right round ligament emerges. Ligature the left round ligament at that point and use the ends of the ligature to sew the ligament to the aponeurosis there. Cut off any redundant ligament.

9. Do the same with the right round ligament and the two ligaments will then lie side by side across the front of the aponeurosis. Additional security is made if a few sutures attach the edges of the round ligaments to one another and also to the aponeurosis, but care must be taken to see that too much of each ligament is not included in each suture lest the blood-supply beyond be diminished.

10. Suture the skin and the operation will be completed.

The height to which the uterus is raised varies in each case and depends upon the extent to which it had been prolapsed prior to the operation. In some cases, in which a vaginal examination was made before the patients had left the operation table, it was just possible to reach the cervix uteri with the index finger, while in others the uterus did not require to be raised so high.

In severe cases where there had been a large cystocele and rectocele there was considerable laxity though no prolapse of the vaginal walls when examined at the conclusion of the operation. In others there were varying degrees of rupture of the perineum, but only in two cases, in each of which the rupture extended through the sphincter ani, was the perineum operated upon.

The advantages of this method appear to me to be as follows: 1. It is a simple operation in which there is a minimum amount of bleeding and shock. 2. It can be performed rapidly, a point of considerable importance in fat women. 3. There is no fear of hæmorrhage from needle punctures of the uterus. 4. Patients have very little pain during the first few days as compared with those upon whom the usual operation has been performed. They are able to be moved in bed more easily and can, without dragging pain, lie comfortably on either side. 5. There are no sutures to be removed. 6. There is no fear of the formation of long bands of adhesions. 7. The uterus is permanently held in excellent position.

Incidentally another advantage follows this method. In those cases in which there was a cystocele or a rectocele or both and in which, immediately after the operation, the walls of the vagina were redundant, it has been found that the cure of the prolapse of the uterus has been followed by reduction of the "slack" of the vagina, a fact of much interest as showing that their overgrowth had been due, at any rate in part, to congestion which was corrected as soon as the uterus was held high, the correction being followed by a return to the normal state. In support of this is the fact that of 13 women upon whom I know that the operation has been performed, four have become pregnant within a few months, showing that the lining membrane of the uterus, like the vaginal walls, has also returned to a normal condition. Two patients have, since the operation, gone safely through normal pregnancies and confinements and the uterus in each case is now exactly as it was left at the operation. Two other patients are far advanced in pregnancy.

All those patients whom I have been able to trace and to examine have with one exception expressed themselves as comfortable and free from their former symptoms, and in each case the uterus is in good position. The one exceptional case is that of a woman who returned home in a fortnight after her operation and at once resumed hard work in her house. In one case there is a ventral hernia which I

presume is due to some fault in the suturing of the abdominal wall, but even in this case the uterus remains high up in its new position.

*Table giving Particulars of 12 Cases where Ventral Fixation of the Uterus was Performed by a New Method.*

Number of case.	Age (years).	Operation.	Date.	Remarks.
1	40	Ventral fixation and perineorrhaphy.	9/5/02	Oct. 18th, 1905. Scar sound. Os uteri can just be reached. Uterus against abdominal wall.
2	48	Ventral fixation and perineorrhaphy.	24/6/02	Oct. 18th, 1905. Ventral hernia. Uterus in normal position.
3	30	Ventral fixation.	31/7/03	Oct. 18th, 1905. Scar sound. Os uteri can just be reached. Uterus against abdominal wall. Confinement six weeks previously.
4	41	"	26/11/03	Cannot be traced.
5	39	"	31/12/03	" "
6	28	"	19/2/04	Oct. 18th, 1905. Scar sound. Uterus in normal position.
7	50	"	19/2/04	Oct. 18th, 1905. Scar sound. Uterus against abdominal wall. Os uteri can just be reached.
8	49	"	25/3/04	Nov., 1905. Uterus again prolapsed.
9	33	"	4/4/04	Cannot be traced.
10	31	"	2/9/04	Oct. 18th, 1905. Scar sound. Os uteri can just be reached. Uterus against abdominal wall. Confinement ten weeks previously.
11	22	"	5/9/04	Oct. 18th, 1905. Scar sound. Uterus against abdominal wall.
12	22	"	30/9/04	Nov., 1905. Patient eight and a half months advanced in pregnancy.

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## Clinical Notes:

### MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

#### CASES OF RELAPSE IN MEASLES.

By R. GERALD LEACH, M.B., CH.B. EDIN.

THE following cases may prove of interest to some readers of THE LANCET. During a recent epidemic of measles I met with four cases of relapse within three weeks of the first attack—that is to say, the patients suffered from a complete second attack of the disease.

The first case, a girl, aged 10 years, had a typical attack of measles with all the usual symptoms and a well-developed rash. Recovery took place without any complications ensuing. Two weeks afterwards she was brought to me with a history of three days' continuous fever and she then presented all the usual premonitory symptoms of measles, such as pyrexia, catarrh of the upper respiratory passages, redness of the eyes, photophobia, &c. There was a well-marked rash present in the throat. Next day a typical measly rash appeared all over the body and the disease then ran a normal course to recovery.

The second patient, who was an infant, aged 11 months, had an ordinary attack of measles. Two days after the disappearance of the eruption the child's temperature began to rise again and in two days more the eruption reappeared, this time more abundantly than in the first attack. In this case broncho-pneumonia ensued but ultimately complete recovery took place.

The third patient was an infant, aged 16 months, living in the same house as the previous case. The child's second attack took place eight days after the first eruption had

faded, and was complicated by severe diarrhoea. This patient also recovered, but convalescence was very prolonged.

The fourth patient was a child three years old. The first attack was very mild with few constitutional symptoms, though the rash was typical and abundant. The temperature, however, in this case did not come down to normal after the disappearance of the eruption and on the eleventh day a new rash appeared which at first was discrete but later became so abundant that the whole surface of the body was covered. This eruption remained out for seven days before beginning to fade. On the twenty-second day from the commencement of her illness the patient developed a mild broncho-pneumonia. She ultimately recovered.

In the text-books at my disposal I cannot find any description of similar cases, though in a dictionary of medicine some three or four cases are mentioned, in one of which there occurred two relapses within a month. Possibly, however, these cases are not as rare as I imagine and I should be glad to know if any of the readers of THE LANCET have met with any. At any rate, the occurrence of four cases in an epidemic (262 cases) seemed to me sufficient excuse to place them on record.

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#### A CASE OF OPERATION FOR EMPYEMA, INCLUDING RIB RESECTION, UNDER LOCAL ANÆSTHESIA.

By R. G. MACDONALD LADELL, M.B., CH.B. VICT.

THE dangers attending the administration of a general anæsthetic in cases of empyema are well known and probably there are a great many surgeons who make use of local injections. At the same time, the fact that it was considered worth while to report a case of tracheotomy under local anæsthesia in one of the medical journals a few weeks ago leads me to think that the possibilities of this form of anæsthesia are not as yet fully recognised by the profession.

The patient whose case is now described was a boy, aged ten years, suffering from empyema on the left side consecutive to pneumonia. For this condition an operation was performed on Dec. 1st, 1905. The anæsthetic solution I employed contained eucaine and adrenalin in the same proportion as in "soloid" eucaine and hemisine, but having the ingredients in hand I made it up from them. In the course of the operation I used about six drachms of this solution. Part of it, however, was wasted as it escaped from the open wound. I first injected the skin along the line of incision, after placing a drop of pure carbolic acid on the skin to render the preliminary puncture painless. I then made the usual incision right down to the rib, at which stage the patient remarked that his side felt "funny." Before proceeding further I injected some more solution into the intercostal muscles above and below the rib, passing the needle parallel to the rib. No further injections were required and the operation was completed in the usual way. When freeing the rib from the periosteum, and again when the rib was being cut through, the boy complained of being "hurt." As he did not cry or attempt to move it was evident that the pain was not acute and probably it was no more than is experienced when a tooth is broken off by forceps. The only time he appeared really to suffer was when I passed my finger into the opening in the pleura and that, of course, was only momentary. There was no shock, neither was there much pain during the night following the operation. One and a half pints of pus were evacuated at the time and the boy is now making a good recovery.

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#### NOTE ON THE THERAPEUTIC EFFECTS OF UNGUENTUM HYDRARGYRI IN A CASE OF TUBERCULOSIS.

By J. T. C. NASH, M.D. EDIN.

THE patient in the present case was a thin woman, 45 years of age, who suffered from pulmonary tuberculosis with advanced lesions in both lungs; she was also subject to rectal hæmorrhages and obstinate constipation. On examination she was found to have a retroverted incarcerated uterus.