

fore and at the time of operation. Plenty of the finest quality of sponges, cup and flat, are kept for this operation alone, and are used in no other, and I give their cleansing and preparation my own personal attention. Bleeding points are ligated with fine Japanese cable silk. The pedicle is always ligated and pocketed. The ventral wound I always close with silk-worm gut threaded upon two long veterinary needles, and pass the needles from within outward, always including the peritoneum. The idea of its use I received more than ten years ago from Geo. Granville Bantock, of London. It is very strong and smooth, and can easily be made aseptic; being somewhat stiff, it should be steeped for a few hours before being used in a solution of some kind, so that there may be no difficulty in tying it tightly. It is the ideal suture, not only in closing the ventral wound in laparotomies, but also in lacerations of the cervix and perineum.

For inducing anæsthesia, I use exclusively bichloride of methylene in a Junker's inhaler, and now with an experience in its use in over three hundred operations of various kinds, while I have not infrequently seen nausea, I have only seen vomiting five or six times.

When in doubt I always drain, and prefer Keith's glass tube to all others.

I use but little opium or morphia, for the reason that this drug, by locking up the secretions, limits the power of elimination, and thereby favors septicæmia. For over a year past in cases of laparotomy where pain and rise of temperature was present, I have used antikamnia in ten grain doses with the happiest effects.

After doing the Battey-Tait operation a large number of times, I wish here to add my testimony to that of others, that removal of the uterine appendages does not entail a loss of sexual feeling; excitability of the genital organs still remains, the voice is unaltered, and the womanly attributes are no less after the artificial than after the natural menopause.

614 Olive St.

THE TREATMENT OF OCCIPITO-POSTERIOR POSITIONS.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D.C., May, 1891.

BY A. W. WORCESTER, A.M., M.D.,

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The discovery of an occipito-posterior position is always a most unwelcome discovery. Even if all other conditions are favorable, this is unfavorable, and at best means a longer labor and an increase of all the dangers of exhaustion; while, on the other hand, in such cases, more often than in cases of occipito-anterior position, operative assistance is demanded, and yet can be given only with more difficulty.

In view of this greater probability that operative assistance will eventually be necessary, and in view also of the greater safety, to both mother and child, if such assistance be given early, I maintain, contrary though it be to generally accepted teaching, that, instead of being less ready, we should be more ready to assist the delivery in cases of occipito-posterior, than in cases of occipito-anterior, position.

I cannot, however, accept as very practicable the plan of rotating the fœtus from an anterior to a posterior position before labor begins. For, even if it is easy to do, it can be done only at the sacrifice of the mother's natural confidence that all is just as it should be with herself and unborn babe. Moreover, this rotation can be just as well performed after labor has begun, when the sufferer longs for every possible assistance.

In this paper I propose to consider the treatment only of such cases as are unlikely to progress favorably either if left to nature, or if assisted merely by flexing the head and favoring rotation manually. After briefly considering the six methods in common use, I hope to show that one of these methods, slightly modified, is pre-eminently advantageous.

1. Let us first consider podalic version. By this method delivery can be quickly effected. The only disadvantage is the danger of lacerating the parturient canal; or, if time sufficient for the stretching of the perineum be allowed, there is then the danger of suffocating the child. Probably in no other obstetric operation does the personal equation of the operator count for so much. And the skill which alone can insure safety to both mother and child can be gained only at the expense of many a perineum and many a fœtus.

2. By manual rotation of the occiput to the front, the original disadvantage of a posterior position can be eliminated. Where this can be done without anæsthesia, and at exactly the proper time, no safer method of treatment need be sought. But, if done too early, the head will generally rotate back into its original position before it becomes engaged; while, on the other hand, if artificial rotation is not attempted before the uterus has firmly grasped the fœtus, it becomes a very difficult task. Moreover, it is only in exceptional cases that manual rotation can be done without anæsthetizing the patient; and then there is an awkward interval before the uterine and abdominal muscles sufficiently recover from the anæsthesia to engage the head. During this interval the new position can be maintained only by holding with the hand. A more trying situation for both patient and accoucheur cannot be imagined.

Let us now consider the four methods of treating occipito-posterior positions by means of the forceps.

3. By applying the blades over the parietal

bones, the head can be delivered with the face under the pubic arch. This can be safely done where the head is fairly small in proportion to the size of the pelvis, and where the perineum is very lax. But inasmuch as it can be done only at considerable risk, and only by much stronger traction than would be necessary if the occiput were in anterior position, this method can be recommended only when previous manual rotation of the head is contraindicated. Practically, it is probable that in a large proportion of the cases where the head has been delivered by forceps with the face under the arch, the diagnosis of occipito-posterior position has been made post-partum.

4. With straight forceps, the head can be rotated while in the parturient canal.

5. By repeated applications of the forceps, as the head rotates during its assisted descent, the natural progress can be imitated. Not having employed either of these last two methods, I am not justified in criticising. The objections to each method are obvious, but there could certainly be no objection to practicing either upon the cadaver.

6. After manual rotation of the occiput from posterior to anterior position, the head can be delivered by means of the forceps, or can be drawn down into the pelvis in this acquired favorable position, and left for natural expulsion.

The only difficulties attending the employment of this method have been in conforming the traction to the axis of the parturient canal, and in maintaining the anterior position of the occiput while applying the forceps. The first difficulty, common to all high forceps operations, has been practically obviated by the use of axis traction instruments. And the second difficulty can be obviated by *applying the instruments under the guidance of the operator's hand inside the uterus.*

After the entire escape of the liquor amnii, and after the uterus has by its tonic contraction, or by its retraction, firmly grasped the fœtus, or still worse, after the head is impacted in the pelvis, it is, of course, as impossible to rotate the occiput into anterior position as it is to do podalic version. The trouble in such cases, however, is due, not to the impracticability of the method here advocated, but to the mismanagement of letting pass the only time when the child's life might have been saved.

Until the child's life has been thus defaulted, it is certainly easy, with one hand in the uterus of the fully anesthetized patient, for the operator to rotate the fœtal head into anterior position. He may, of course, need the aid of his other hand, or of his assistant's hands, on the outside. If now the forceps can be properly applied, the disadvantage of the original position will be overcome.

In the use of forceps at the brim of the pelvis, unless the operator is exactly sure of the position

of the fœtal head, of its complete flexion, and also of the location of the blades' impingement, it is a matter of luck if the delivery proves to be easy and safe. If there is difficulty in locking the instruments, or if, on traction, the handles separate, the operator of course will suspect that some mistake has been made in applying the blades. But the only way of being absolutely sure, and of rectifying any unfavorable condition, is by means of the whole hand inside the uterus. Now it is not practicable, after the forceps are applied, to introduce into the uterus the whole hand, but while the hand is inside the uterus, it is practicable, and safe, and easy to introduce and apply the forceps. The wrist and forearm of the operator, if rotated from his shoulder, allow each blade in turn to pass through the parturient canal alongside their sensitive flexor surfaces, thus beautifully guiding the blades into the uterus, where, in the palm of the operator's hand, each blade in turn can be applied to the elected area of the fœtal head. Having then locked the handles, and having placed the head in the most favorable position as regards the pelvic diameter, the operator can then easily withdraw his hand alongside the shanks of the forceps.

If, now, axis traction appliances are attached, thus guarding against the dangers of traction in any tangent to the pelvic axis, the fœtal head can be delivered, or, after having been drawn down into the pelvis, it can safely be left for natural expulsion. If by this method the child's life is not saved, the accoucheur may rest assured that the living child could not have been delivered *per vias naturales.*

In offering to the profession any new method, it is proper to give one's own experience therewith. I therefore add the reports of the four cases where I have employed the method advocated:

Case 1.—Mrs. B., primipara, 27 years old, had been in labor thirty-six hours when I was called by Dr. E. R. Cutler to help in her delivery, December 15, 1890. There was no engagement of the fœtal head. Under the mistaken diagnosis of an occipito-pubic position, the forceps was applied, and we each in turn vainly tried to effect delivery. After removing the forceps, with the whole hand in the uterus, the position was found to be occipito-posterior. Without removal of the hand, after rotating the occiput to the front, the instruments were reapplied, the hand was withdrawn, and then the child was easily delivered in good condition. The posterior vaginal wall suffered a slight oblique laceration.

Case 2.—Mrs. R., primipara, 25 years old, had been in labor twenty-one hours when I was called in consultation by Dr. A. Greenwood, December 27, 1890. Her condition necessitated artificial delivery. Her pelvis was contracted; the distance between the crests of the ilia being $10\frac{1}{2}$

inches, between the anterior superior spines of the ilia $7\frac{1}{2}$ inches, between the trochanters $12\frac{1}{2}$, and the external conjugate diameter being $6\frac{1}{4}$ inches. Under full anaesthesia the dilatation of the os uteri was completed normally. The occiput was rotated from left-posterior to left-anterior position, and, without removal of the hand, the forceps was applied. Traction-rods were attached. After tremendous pulling, a male infant weighing 8 lbs. was delivered. His right eyelid was torn. With some difficulty he was resuscitated, but he died the next day, evidently from injuries received during delivery. The mother's vagina suffered several slight lacerations.

Case 3.—Mrs. H., quartipara, 29 years old, after several hours of ineffectual second-stage labor, was etherized, Dr. H. A. Wood assisting, March 24, 1891. The position of the foetus was occipito-right-posterior. With the whole hand inside the uterus, the position was changed to occipito-anterior, and forceps applied before withdrawing the hand. A male child weighing 10 lbs. was then easily delivered. The mother's vagina and perineum suffered no damage.

Case 4.—Mrs. C., primipara, 22 years old, had been in labor twenty-four hours, and the pains had almost ceased, when, with Dr. H. A. Wood's assistance, she was etherized. The foetal head had descended to the inferior straits in left posterior position. In spite of good flexion, there had been no sign of natural rotation. The head was thereupon pushed back above the pelvic brim, rotated to anterior position, and forceps applied to it before removing my hand. Extraction was then easy. The female child weighed 7 lbs. and was uninjured, although one blade of the forceps was applied to the right eyebrow. The mother was also uninjured.

THE MANAGEMENT OF THE OMENTUM IN ABDOMINAL OPERATIONS.

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It is hoped that it will not be considered impertinent to offer a few suggestions upon this subject, apparently so simple, before a body composed so largely of abdominal surgeons, or surgeons who are familiar with abdominal operations, as is this section. The fact has been impressed upon my mind not only by my own experience, but by observation of the work of others, and a search of a considerable portion of the literature of abdominal surgery, that the subject in question has not received the attention which it deserves, and that it is by no means a matter of insignificance. This statement will be the more readily accepted if one remembers that

the essential portion of the omentum (the greater omentum alone is referred to in this paper) consists of peritoneum, and that its function, by virtue of the abundance of fat which forms one of its constituent elements, is of importance, inasmuch as it protects to a greater or less extent, the viscera which lie under it from sudden changes of temperature. Such a covering is therefore of great value in those localities in which climatic changes are not only sudden but severe, and in which one requires all the resources of art as well as nature to preserve the physical equilibrium.

It is therefore desirable in all cases in which the abdominal cavity is exposed that one observe the following propositions with reference to the omentum:

1. It should be preserved as nearly intact as the conditions of each individual case will allow.
2. Great care should be exercised to avoid wounding it in making the abdominal incision, or bruising or lacerating it at subsequent stages of an operation.
3. Badly injured portions should be resected with all due precautions, also such portions as cannot be so replaced as to occupy their original position and perform their normal function.
4. Before closing the abdominal wound it should be carefully and evenly replaced as the natural covering of the intestine.

In the large class of cases in which the lesions demanding surgical interference are located entirely, or to a great extent, in the pelvis, the omentum is very frequently a source of no particular trouble during an operation. If the incision is a short one with its lower limit near the symphysis pubis, and the omentum is not voluminous or adherent it may not be seen at all, and we are conscious of its presence only as it becomes entangled about the fingers when they are passed downward into the pelvis. The operation may be completed and the incision closed without a thought or an intimation of the presence of an omentum.

If an abdominal sponge is used to absorb the leakage from divided vessels and protect the intestines it must not be forgotten that as the sponge presses the latter upward it presses the omentum upward also, and when the sponge is withdrawn the omentum may still remain displaced, or gathered into a lump, or otherwise abnormally disposed so that it can no longer perform its proper function. In all the secondary abdominal sections which I have seen, including one of my own, I have never seen the omentum in its normal position. In my case neglect to properly replace this structure furnished opportunity for adhesion of the intestine to the parietal peritoneum, and so near was it to the incision that it barely escaped injury from the knife. In those cases in which the omentum is normal in