LECTURES

ON THE

MECHANISM AND MANAGEMENT

OF

NATURAL AND DIFFICULT LABOURS.

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LECTURE IV.

MANAGEMENT OF NATURAL LABOUR—*continued.*

Second stage — Obstetric duties of the practitioner — Vaginal examination of its objects—Support of the perinæum—Its intention and mode of accomplishment. Third stage—Removal of the placenta—Support of the uterus—The abdominal bandage—Its object and mode of application—Management of retained placenta without hæmorrhage.

GENTLEMEN,—In the preceding lecture, we were considering the duties you had to fulfil towards your patient when the os uteri was in the process of its dilatation, and when THE SECOND STAGE was about to commence. We had explained to you the general arrangements, both as to the bed, the apartment, and the diet required by your patient during this trying stage. From the moment of its commencement, she must receive your most sedulous attention: she cannot now be left to the nurse; you must sit beside her, attentively observing the progress of the labour, and be prepared to act the moment your assistance is required. You have now to witness a struggle of greater or less severity, in the effort of the uterus to force the head through the pelvic cavity. The bearing pains return with a regularity and strength that would seem sufficient to overcome any ordinary obstacle with rapidity, and yet the advance of the head is often slow, and its progress bears no proportion to the effort which seems to be employed. It is your duty to watch carefully the effect produced by the pains, and to sustain your patient through this severe trial with every encouragement. The proportion between the head and the pelvis must be accurately observed, the exact position of the head ascertained, and the progress which it makes through the pelvis carefully noted. More than one vaginal examination is therefore necessary; but you must bear in mind, that the passages are now experiencing unusual pressure; there may be, probably, some congestion and increase of temperature, and this might be much increased if the vagina were irritated by frequent examinations. In order to obviate any injurious effects, nature provides a resource in the increased discharge of slimy mucus which now flows abundantly from the vagina. But if examinations be repeated too often, and the passages become irritated, this discharge is diminished; it may be arrested, and the parts become hot and dry, or perhaps it may be succeeded by a thin serous discharge, that rather increases the irritation. This change, therefore, in the character of the discharge, serves as a useful indication that caution is required in this respect. It had not been lost sight of by the older practitioners, who supposed that the frequent introduction of the fingers into the vagina dried up the parts by absorbing the discharge.

The *first object*, then, of a vaginal examination in this stage, *is to determine the proportion between the head and the pelvis.* For this purpose the fingers should be passed carefully between both, in the interval of the pains, directing them, in the first instance, between the pubis and head, and moving them round on either side. The ear can be felt if there be sufficient space for the head to pass, but if the head be high up in the pelvis, the finger can only just touch it. If the ear cannot be reached readily, and there seems to be a want of proportion between the head and the pelvis, you have still another means of testing its degree, by examining the presenting part of the head. When it is only slightly compressed, the scalp is simply folded or puckered by the closing of the sutures; as the compression increases, these folds merge gradually into one, which ultimately forms a distinct tumour. This continues to enlarge, so that in cases of impaction of the head, it is sometimes of great magnitude. The manner in which this change takes place, and its degree, is generally a sufficient proof of the amount of the disproportion. If the tumour form very slowly, and never increase to any great size, you may infer that the head will pass safely through the pelvis; but if, on the contrary, it increase rapidly, and attain a great size, the indication must be unfavourable.

The *second object* of a vaginal examination is, to determine the exact position of the head. We have already pointed out to you the means of distinguishing the different positions from each other. We shall, therefore, at present only bring before your notice those positions which we are directed by some authors to alter as soon as they are found out, in order to prevent the head becoming impacted in the pelvis afterwards.

One of these cases is when the head enters the brim in the left fronto-cotyloid position. It is assumed that this cannot pass safely, but will cause great delay and difficulty in the labour, therefore it is laid down that the correction must be made the moment the position is ascertained. We have already stated to you the experience of Naegele, confirmed by other observers, that nature, if left to herself, will correct this deviation, by rotating the head into the right occipito-cotyloid position. The probability is, therefore, that by meddling too soon you may prevent this, and prematurely force the head into a more unfavourable position than it had been in. The moment this position is detected is not, therefore, the time for interference; it is more advisable to wait and observe the course the head will pursue. It may correct itself; it may advance and be delivered in the third position without injury; it may be arrested. The last is the only condition which would justify your aid. The head may then be displaced from its situation, and pressed back in the interval of the pains, and a *very slight rotation* is generally sufficient to make it glide easily in its proper direction when the pains return. The very same observation applies to those instances where the head and hand, or even arm, descend together. This accident is often the result of the pelvis being too wide, and if so, both will be expelled without difficulty; but sometimes the arm comes down a little too much, and prevents the head advancing, or the head may be arrested by the hand descending with it. In either case, the hand or arm can be very easily pushed back when the pain ceases, and so maintained until the next pain advances the head, which generally passes down very rapidly as soon as the correction has been made. When the head is in the cavity of the pelvis, there is not the same danger of displacing it as when it is only entering the brim, and consequently, our previous observations on this accident do not apply to the present case. You should not, therefore, when these deviations occur, too hastily assume that the head cannot be delivered. It is more advisable to wait until they become causes of delay. The *third object* of a vaginal examination is, to note the progress which the head makes. In natural labour, where no difficulty presents itself, a very few examinations, at proper intervals, will be sufficient for the purpose, because its advance is generally quite obvious; but in difficult labours, where the head makes a very slow progress, and there are other causes of embarrassment present, more care is required; their consideration, however, is beside our immediate subject. Having ascertained the position of the head, and its relation to the pelvis, the next object of attention is its descent upon the perinæum. You must therefore *be prepared to give the perineum support* the moment it suffers any degree of distention. The mode of doing so, which I have been in the habit of adopting, is somewhat different from that directed by the more popular writers on midwifery. Ramsbotham and Rigby both employ the left hand to press against the perinæum, and the right is kept in reserve to make any necessary correction. Churchill and others adopt the same plan. Dr. Rigby admits that "it is awkward at first, because it requires the hand to be considerably twisted, and makes the wrist ache a good deal."*

The left hand is twisted, in order that fingers may be directed forwards toward the perinæum. Dr. Ramsbotham directs the palm of the left hand to be pressed against the perinæum with the fingers, I presume, the other way. He does not state so, but I draw the inference from his description; and if correct, it is liable to the objection which Dr. Rigby is fully aware of, and endeavours to avoid—that is, that the part of the hand which has the least acute sense of touch is applied to the margin of the perinæum, and you cannot so readily perceive its degree of distention as when the fingers lie close to it. The plan which I have found the most useful and convenient to adopt at this period of the labour, is the following:—To sit behind the patient as she lies upon her left side, the back of the chair being towards the head of the bed, and while the head of the child is passing through the pelvic cavity, to press moderately with the left hand over the hip of the patient. Counter-pressure in this way employed is generally grateful to her, and seems to give her some relief; it assists also in keeping the pelvis fixed when the head is passing the perinæum, the most important part of this process. Having

* Rigby, p. 112.

the left hand so employed, the right can be used to support the perinæum. A single fold of a fine napkin should be placed along the edge of the perinæum, and the right hand so applied that the fold of skin between the forefinger and thumb should correspond to this, the forefinger and thumb passing on either side of the vulva, and the palm of the hand, resting against a thicker fold of the napkin, applied to the posterior part of the perinæum. By this means you have full power to make any counter-pressure with the palm of the hand which may be necessary, and the fingers being quite close to the edge of the perinæum and vulva, you can easily trace the margin of the perinæum, and feel the head, if necessary. Thus one hand fulfils the office generally assigned to two, and enables you to grasp with the left hand the pelvis, to prevent the patient moving away too suddenly when severer pains come on. If, the head being expelled, this be no longer necessary, you can employ the same hand to support the uterus during its contraction in expelling the body of the child. Beside these advantages, it is certainly less fatiguing. The only inconvenience of this method is, that when the funis is coiled round the neck of the child, so as to make it necessary to remove it, or that the delivery of the shoulders should be assisted, the hands must be changed, that the left may support the perinæum and the right make the required correction. But this is a temporary disadvantage, and only arises occasionally. We shall suppose you, therefore, thus prepared to give the perinæum the required support, the only question is, when your assistance is needed. The young practitioner, fully impressed with the importance of preventing laceration, hardly ever commits the mistake of being too late in attending to this point. He very generally errs on the other side; he presses against the perinæum a great deal too soon, and causes unnecessary heat and irritation in consequence, which rather retards its distention. His mistake arises from supposing the perinæum in danger the moment the head touches it. We have explained to you that the head alternately touches and retreats from the perinæum, often for a long time before the perinæum suffers any dangerous distention. You must not, therefore, be too precipitate; it is better to wait until you feel the head protruding, with each pain, through the vulva, because at this time it is getting gradually upon the ischio-pubic ramus, against which it rests, while the anterior part of the head presses, with considerable force, against the perinæum. Caution is also necessary as to the manner in which the perinæum is supported. The object in view is to obviate the effects of too violent distention. The pains at this time are very unequal, sometimes weak and again very strong; you support the perinæum against the latter by moderate counter-pressure, to prevent accidents; but against the former no such precaution is necessary: you must not, therefore, press with every pain indifferently, but only when the uterus is acting with great force. Again: when the head is nearly protruded through the vulva, anxiety to save the perinæum may be the cause of its rupture. For instance, if you attempt to draw the perinæum back over the head, it will be stretched too suddenly over the bi-parietal measurement, the widest part of the head. If, on the other hand, you push the head too much forwards, pressing with the pains from the sacrum towards the pubis, the same effect will be produced in a different manner; you force the parietal portion of the head too rapidly through the vulva. At this point it is better to continue the same moderate counter-pressure, to make no attempt to hasten the delivery, and to allow the head to pass along the hollow of the hand, in the same manner as it moved along the curve of the sacrum. When the head is passing out of the vulva, you should then direct it forwards toward the pubis; and when it is delivered, examine carefully lest *the funis may be coiled round the neck.* If such be the case, and it is only a single coil, it will generally be sufficient to draw down a little more of the funis, and loosen it. A single coil seldom retards the delivery of the child, or arrests the fœtal circulation; but two, and even three, coils are sometimes met with, and the child is placed in great danger of strangulation. In these cases, as much of the funis as possible should be brought down, and the coils so loosened that one may be drawn over the head. There are cases where this cannot be done, and the only resource left is to tie and divide the funis, and extract the child as soon as possible, in order that respiration may be established. This operation is hazardous to the child's life, and can only be viewed as the lesser of two evils.

If the funis be not found about the neck, the perinæum must still be supported, until the next pain, usually a tardy one, expels the shoulders. The same caution must be exercised as before, lest the arm or hand should lacerate the perinæum as it is coming out of the vulva. This should be particularly attended to in second positions of the head.

Sometimes the shoulders are very wide, and require to be assisted, which may be done by placing the finger of the right hand within the axilla of the child's arm, on the pubic side, and guarding the perinæum carefully with the left hand. As soon as the shoulders and thorax of the child are delivered, it can respire, and is, so far, beyond danger; no haste should therefore be used in extracting the body and lower limbs; it is preferable to allow the uterus gradually to expel them, and while it is doing so, the left hand should be immediately applied over the fundus, in order to maintain a moderate pressure upon the uterus while it is descending towards the pelvis. This should never be neglected, because it insures a uniform contraction of the uterus, and often the expulsion of the placenta into the vagina. When the child is born, such is the anxiety to remove it as soon as possible from the mother, that the tying of the funis is the immediate occupation of the attendant, while the uterus is generally left to itself. The motives assigned by friends for this haste, is their fear lest some accident may happen to the child; it may get cold, &c. Just as often the real cause is a little natural desire to see and exhibit it; you should not, therefore, suffer yourself to be hurried by these solicitations, nor withdraw your hand from the uterus until you have secured it, either by a temporary bandage, applied in the manner we shall presently describe, or by the hand of the nurse, if she is sufficiently intelligent to understand your object. The latter plan is more convenient.

When the uterus is thus prevented from again relaxing, you may attend to the funis. The delay is serviceable to the child, because time is allowed for the transition from the placental to the pulmonic circulation, by which the latter is completely established, before placental life altogether ceases. This is of great importance to the health of the child afterwards. When this is perfectly effected, the circulation in the funis often ceases; but if its pulsations be felt, the funis may be tied if the child cry strongly. The manner of doing so is by applying a strong ligature of housewife thread, bobbin, or narrow tape, about two inches from the umbilicus, and a second about an inch further. You must be careful to see the part of the funis you are dividing, lest the fingers or any part of the child should be in your way, and also in order to examine the cut surface of the umbilical portion. The blood should be squeezed out of the vessels, and the surface wiped with a napkin, for the purpose of detecting any oozing or hæmorrhage that might take place if the funis were not properly tied. The child may then be removed and the separation of the placenta attended to.

If the bandage had not been previously used, the hand may be again applied to the fundus uteri, which is generally found in a semi-contracted state. With a little attention, you will presently observe it become harder from contraction, although the patient scarcely complains of it. A very moderate pressure on the fundus at this time is often sufficient to expel the placenta completely out of the vagina; but if not, it can be drawn out by the funis quite easily, directing the funis forwards in the axis of the vagina. But if the uterus should not obey the stimulus at first, do not persevere; it is always more advisable to wait for some time than to use too much irritation. Neither should you attempt to remove the placenta by the funis alone. By great violence, it is true, the funis may be broken, or the uterus inverted. I do not attribute to you such awkwardness; but by pulling frequently at the funis to ascertain if the placenta be separated, you may excite an irregular contraction of the uterus. Passing the fingers into the vagina is often sufficient to excite the action of the uterus, and drawing the placenta by the funis may excite it still more. If the uterus contract, and the order of its action be not secured by the means already pointed out to you, the great probability is that, being nearly emptied of its contents, the lower fibres will contract first, and retain the placenta. Thus by pulling too much at the funis, the placenta may be retained. By a little caution, and by moderate pressure on the fundus of the uterus, you will generally secure its favourable separation. This being accomplished, the next and concluding object of your attention is to preserve the uterus in that state of contraction which is so necessary to prevent subsequent hæmorrhage. We have already explained to you the efficiency of the abdominal muscles when they are strong enough to contract firmly upon the retiring uterus. But when these muscles are rendered inert from the constant distention they are exposed to, they can give the uterus no support, and there is, consequently, a constant risk that the uterus may again relax and pour out blood if this want be not supplied by artificial means. Hence the use of the abdominal bandage. The mode of applying it demands your attention, because it may be made useful or mischievous according to the manner it is employed, and many of the objections raised against its use have been founded upon its improper application. Sometimes it is bound so tightly over the uterus, that the patient can hardly breathe, or it may be so applied that the least motion of the patient displaces it, and it becomes twisted round the loins like a rope. All these inconveniences, distressing to the patient and useless for the intended purpose, arise from a mistaken view

of the use it is meant to fulfil. The waist is to be compressed into shape, and therefore the patient is bound up so tightly that she can seldom tolerate the pain of the bandage; it is soon loosened, and perhaps altogether discarded. A bandage properly applied may be made to effect two objects; one, to support the pelvis by compressing it as much as possible; another, to support the uterus by *moderate* and *equable* pressure over the whole abdomen. The articulations of the pelvis have undergone a great degree of tension during the passage of the head, and a dull pain sometimes remains, which is much relieved by counter pressure. The uniform pressure of the intestines is necessary to prevent relaxation of the uterus. The mode of applying the bandage for these purposes is, to commence by drawing it evenly over the pelvis, its lower edge being about one inch below the trochanter when so placed; this margin should be drawn as tightly as the patient will bear, and pinned securely below the right trochanter. The bandage should be again drawn and pinned in a similar manner across the ilia, so that the pelvis may be embraced by this portion of the bandage, about three inches in width, as tightly as possible. Having accomplished this, the remainder of the bandage should be drawn and pinned with moderate tightness, but equally from the pelvis to the diaphragm, so that the whole of the abdomen be included within it, and not permitted to project over the bandage in the unsightly manner which may sometimes be observed.

When the bandage is properly applied, the patient always experiences comfort from it, a sufficient evidence of its utility. There is a great variety in the material employed for bandages. Sometimes a piece of calico or a napkin is used; and, again, you will find them more complicated in their mechanism than the most fashionable corset—both are equally inefficient. Calico and diaper are too unyielding, and if pinned tightly, will hurt the patient; nor can they be employed unless they are so loose as to be useless. *The obstetric corsets*, if we might so call them, for drawing in the waist, are liable to all the objections which have been urged against bandages. It is necessary that a bandage should be elastic, that while it supports the abdomen it may yield readily to its action; it should be sufficiently thick or firm not to wrinkle easily, should be soft in its texture, and at the same time strong enough to bear being tightly drawn. A double fold of flannel would answer the purpose, and has the advantage of being easily pinned; but if you remember the intention the bandage is to fulfil, your own judgment will best direct you to the kind of material which will suit your object. From what we have stated you will perceive that a bandage may be made useful or injurious, according to the manner in which it is applied. You should not, therefore, entrust this simple but important part of your duties to another. It is sometimes a practice to commit to the nurse its application: it would be imprudent for you to do so in the first instance, or so long as there is any risk of hæmorrhage, from relaxation of the uterus; it will be sufficient time to leave its management to her when your patient is secured from danger. If ordinary discretion be used, it may be applied without offending the feelings of the most sensitive person, and therefore no motive of false delicacy should prevent the practitioner fulfilling this essential duty. When the bandage is applied, the folded sheet &c. that had been placed under your patient during labour should be removed, and replaced by others dry and warm, in order that she may be induced to sleep, and that she may not afterwards be disturbed. It is the more necessary to attend to this, because it too frequently has happened that hæmorrhage has been induced by imprudence on the part of the nurse, who, when the attendant has left his patient, immediately sets about making her "dry and comfortable," and in doing so, causes so much excitement in the process of dressing her, and changing the bed-clothes, that hæmorrhage is the result. The patient, after her delivery, always experiences a nervous shock, often very slight, but still sufficiently obvious. Although happy in her relief from suffering, and in the birth of her offspring, she still feels depressed, and this period, beyond all others, is that in which perfect repose is absolutely necessary. Too much caution cannot, therefore, be exercised to prevent her being disturbed. Having secured to your patient perfect quietness and freedom from interruption, your immediate duties are completed, but still caution is necessary, and although you should retire from the apartment, it would not be advisable to leave the house for at least an hour after her delivery, or until she falls into a sound sleep.

It sometimes happens that the placenta is retained after delivery, without any hæmorrhage taking place, and although we shall have again to direct your attention to these retentions, when accompanied by flooding, a few words may not be out of place here, in reference to these very frequent retentions, where no hæmorrhage arises. The causes generally assigned for retained placenta are, either *inertia* of the uterus, *hour-glass contraction*, or *adhesion;* but one quite as frequent, if not more so, is *suspended action* of the uterus. The former causes are generally attended by hæmorrhage, but with the latter it is very seldom the case. The placenta is retained merely because the uterus is deprived of the necessary irritation to cause its efficient contraction. In such instances, the first contractions of the uterus not being supported, the organ becomes, as it were, accustomed to the presence of the placenta, and it remains imperfectly contracted about it, without any further effort at expulsion. In this way the placenta may remain two—four—six hours in the uterus without being expelled. If the rule which we have laid down be observed, and a steady but moderate pressure be maintained upon the fundus of the uterus during its contraction, this will seldom happen; but if the placenta be not separated then, it is better to wait for some time, —from half an hour to an hour,—and again to excite the uterus to contraction. For this purpose the fundus should be brought, as nearly as possible, towards the centre of the pelvis, and grasped firmly with both hands; as soon as it becomes hard, strong pressure upon it is generally sufficient to cause the expulsion of the placenta; if it should not, do not use any violence; rather let the nurse, under your direction, maintain the fundus in the same position, while you pass the fingers, and, if necessary, the hand, into the vagina, in order to stimulate the uterus to contraction. For this purpose the funis should be held firmly in the left hand, and the fingers of the right hand passed along it within the vagina. Sometimes this alone excites contraction; but if not, all the fingers, in a conical form, may be introduced within it as far as the os uteri; in doing so you will often find a large portion of the placenta lying at the upper part of the vagina. You may even feel the insertion of the funis, but do not attempt to withdraw it, pass the hand still toward the os uteri, and by irritating it, the portion of the placenta that lies within the cervix is often detached, so that the whole placenta may be removed. If this be not sufficient, withdrawing the hand along the vagina for a short distance will excite contraction; but if both means fail, the fingers must be introduced in the same manner within the os uteri, to dilate it, when the upper part of the placenta may be grasped, and the whole removed. The assistant should press firmly on the fundus uteri while the hand is being withdrawn. In many instances the placenta is found in the upper part of the vagina alone, and can be very easily removed; but no attempt of this kind should be made until the hand has passed above it, so as to have it completely within its grasp. When efforts are made to draw the placenta away by the lower portion, there is always a risk that it may be broken in the attempt, especially if it be caught by the cervix uteri. In one instance which came under our notice, a small portion of the placenta was adherent to the neck of the uterus, and the remainder being dragged away in this manner, gave rise to a hæmorrhage which terminated fatally.

Another cause of retention of the placenta, without hæmorrhage, is, irregular contraction of the uterus. This is excited, as we have stated, by drawing the funis frequently, for the purpose of ascertaining whether it is separated. Sometimes, also, it is produced by frictions over the anterior wall of the uterus, or rather, over the corresponding portion of the abdomen. By this manipulation the uterus is often pushed over to the iliac fossa, where it remains in a semi-contracted state; or the anterior portion of the uterus is contracted, while the posterior, where the placenta is commonly attached, is relaxed. To remove this irregularity it is necessary, not only to grasp the fundus firmly, as before mentioned, but to pass the fingers over the posterior wall, as low as the abdominal parietes will admit, when, if the irritation excite the relaxed portion, the order of uterine contraction is instantly restored, and the placenta will be immediately expelled. In these cases of retention it is seldom necessary to wait longer than an hour to have it removed, and if the uterus be carefully attended to during its contraction, and firm pressure afterwards used, if necessary, you will very seldom have any occasion to wait so long, or to pass the hand into the uterus to withdraw the placenta.

With these observations we shall conclude the management of natural labour, and consider the further treatment of the parturient woman after her delivery in a future part of the course, when we enter upon the subject of lactation. In our next lecture we shall proceed to discuss the first deviation from natural labour —that in which the labour becomes difficult.

PSYCHOLOGICAL MEDICINE. — Professor Otto has lately written on the "Action of different Medicines on the Mental Faculties." He says that ammonia, opium, musk, castor, wine, æther, and the preparations of gold, enliven the imaginative powers, and render the mind more fertile and creative; while the empyreumatic oils, iodine, arsenic, belladonna, and conium, are apt to induce a tendency to melancholy.