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A COMPARATIVE STUDY OF THE VARIOUS METHODS OF TERMINATING PREGNANCY AND LABOR.*

By SIMON MARX, M.D.,

Obstetric Surgeon, N. Y. Maternity Hospital; Gynecologist, Sydenham Hospital,

NEW YORK.

A résumé of the year's work done in the domain of obstetrics shows most conclusively that a finality has not by any means been reached in the subject here considered. Especially does this hold good when major operations are taken into consideration. This is proven beyond a shadow of a doubt by the variance of opinions offered by equally good men all over the world, and by the many and varied procedures devised for the self-same conditions by many operators working along similar lines. This can only be due to the fact that the art and practice are still, even at this late date, not an exact science. The tendency to radicalism is also only too evident, and this grows in proportion to the lack of skill and experience in practical midwifery, as shown by the many reports of major work done when patience and conservatism would have substituted simpler and safer means. Yet in the face of all these facts, conservatism on my part would savor too much of dogmatism, which intent I must disclaim.

If gynecology and obstetrics were combined in one specialty, as they ought to be, it would emphasize that many dystocias with which the obstetrician now has to deal are due to technically improper operations or to the faulty results of some others, performed by the gynecologist. If the specialties were absolutely combined, as they should be, I very much question whether the gynecologist would still insist on doing his many and varied vaginal or abdominal fixations, for he would more forcibly realize that the worst dystocias we come in contact with are those due to this class of work. So far is this true, indeed, that a distinct operation has been devised and performed in just such dystocias, which goes to show, at least, that we are working in a vicious circle when we lead a woman from one complicating factor to another. Yet we must admit that the ideal operation for the various malpositions of the uterus, one that will stand the test of child-bearing, has not as yet been found; and because of this we shall have to modify our methods to a considerable degree until lasting perfection is found, not alone from a symptomatic but also from a clinical standpoint. This holds good for all operative measures during the child-bearing period. I bear distinctly on all the vaginal and abdominal fixation operations upon the uterus, as well as on those deep and multiple myomectomies which are done to-day as supposedly conservative, but which lead to the direst results during childbirth, either seriously obstructing labor or ending in an almost certain uterine rupture. Far more scientific is it in a uterus studded with fibroids to do a deliberate hysterectomy. In the following lines the indications will not be specifically dwelt upon, but will be only so far brought into consideration as the limitations of the various measures will justify.

In dealing with the subject of abortion and premature labor we recognize three periods: abortion, up to the third month; premature labor, up to the seventh month, and labor at term. During the first trimester the operation of emptying the uterus differs little from a simple curetting, except in so far that we are to be careful to remove all of the product of conception and, as the cervix is dilated but instrumentally, it is seldom possible to introduce the finger for purposes of exploration. Hence it becomes necessary to do the whole maneuver by means of the curette, and for this purpose we recom-

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mend the use of the sharp curette. Between this period and that at term, namely, the second trimester, I believe, as do most observers, that, except in cases of great emergency, preliminary tamponade of the cervix and lower uterine cavity with sterile gauze should always anticipate the direct operative interference. This has for its object softening, retraction, and dilatation of the cervix. This is my method of choice, whether at the later period of pregnancy or at term, for the purpose of inducing premature labor in cases that do not warrant more radical measures. Very often I asssociate with the gauze packing the introduction up to the fundus of a large solid bougie (about No. 19). If within twenty-four hours the labor is well in progress, I simply allow nature to take a normal course, providing that there be no indication for more heroic methods. If, however, there be no material dilatation, and the cervix be effaced, my method of choice for many years has been the manual dilatation of the os by the power of the conated hand alone, when urgency exists to terminate the labor. This has seldom failed me, and I speak of an experience of several hundred cases. I have never been in position, nor has it ever become necessary, to resort to the mechanical dilating bags, of which so much has been written for many years. Where the hand has failed me as a dilating medium I was always dealing with a pathological condition of the cervix, and there also would I fail with the dilating bags and with all other mechanical media. This would also then call into requisition more radical means, as the bloody incisions of various kinds. To these I shall refer more at length, when dealing with the induction of labor at term. To introduce here all the methods at our command for interference at about the seventh month would involve a repetition of the methods in use at term.

We may now discuss (1) The methods of terminating labor at term and (2) The methods of terminating pregnancy at or near its end, practically from the seventh month of pregnancy to full term. Under class one I accept the treatment of cases of prolonged labor from the surgical standpoint only. I shall review the methods in vogue and discuss them from the standpoint of personal experience only. No woman in labor must be subjected to any operative interference unless such measures are distinctly called for by indications that are vital.

In prolonged first stage we have to deal, as a rule, with the mechanical obstruction of the undilated os. Back of this there is always to be found a distinct cause for such a complication, most frequently either a malpositioned fetus or a degree of pelvic contraction. These must be recognized and overcome by appropriate measures. In order to overcome pure inability to cervical dilatation, sufficient to warrant the extraction of the child, we have three so-called bloodless methods: the dilating bags, the new Bossi dilator and the human hand. The bags seem to be favored by many as a very safe method. Their safety is conceded, but my objections to them are their unreliability as to textile integrity, the fact that they are not always on hand, and the very excellent reason that we have in the sentient human hand the safest, surest, readiest, and the most convenient dilating medium. I speak thus advisedly for in the many cases I have employed manual dilatation it has seldom failed me, and when I did fail with it a major operation was always distinctly called for. As to the Bossi dilator, I have employed it for nearly three years and I mention it only to condemn it in unmeasured terms. It is only fair to state that in the foreign journals the most glowing reports are being written as to its great utility as a life-saving device. It may be my inexperience that has given me the most awful results with the instrument, but as I used it *lege artis* I feel I cannot be considered fault-finding when I condemn it. Two of the largest peritoneal and subperitoneal ruptures I have ever seen followed its employment, with lethal termination in both cases, even though the operation took at least three-quarters of an hour in its performance.

As to direct operative interference in the second stage we have forceps, version, craniotomy and the major operations. Of greatest importance, and of the greatest assistance in furthering the success of operations of the minor type, we have at our command the Walcher position. From my experience with it in the past five years I can sincerely recommend it, but only as an adjuvant to other measures. As to forceps *versus* version, it may be stated as a maxim: Generally a head that is engaged or can be made to engage calls for forceps delivery; a head that is not engaged or cannot be made to engage is either malpositioned or presents in a contracted pelvis. Under these conditions, if the contraction be of a minor degree or the malposition cannot be corrected, a version is distinctly called for, if the child be alive and the uterus not tetanized. The child being dead or severely suffering, perforation must always be the method of choice. A version in the presence of a tetanized uterus, or in the presence of a contraction ring, is surely an invitation to grave lesions of the uterus; hence under these latter conditions the application of the true high forceps to the head above the brim is the clear indication. And

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here it is that the Walcher position of extreme extension has given the most marvelous results. A combination of the Walcher position and the impression method of Hoffmier, by which method the head is forcibly pushed into the cavity of the pelvis, is one of the most effective means of delivery, and no doubt has saved many cases from operation of the major type. Its application is very simple, for the forceps is applied, or the version is done, until all but the head has passed the contracted brim; then, by pressure over the pubes, the head is forced into the brim and instantly that this occurs the limbs of the patient are allowed to fall over the edge of the table so that they nearly reach, but do not touch, the floor. If the sacrum of the patient is originally carried well over the edge of the table we shall thus obtain the extreme extension position.

Operations of the major type during labor, as strictly elective measures, except in extreme pelvis contractions, are impracticable and almost impossible. The indications variously given for one or the other of these operations are almost too near hair-splitting to make one or the other scientifically a matter of election. No two men will agree under these conditions, for the great stumbling block to uniformity of method is, and will ever be, the varying adaptability and the size of the fetal head, and its relation to the pelvis through which it must pass. This is not a theoretical sunbeam, for numerous cases are on record, and I have personal knowledge of three cases, in which the baby quietly slipped into the world from below while preparations for Cesarian section, or even the operation itself, was going on from above. It never was, nor will it ever be, a question of pelvimetry alone, or of cephalometry alone, which in my hands has had the test of time and failed me, but purely and simply a mathematical proposition as to the correlation of head and pelvis. The abdominal Cesarian operation is steadily growing in its field of utility, and we cannot help in agreeing that its field is broadening as experience in midwifery and obstetric surgery is increasing. I feel that when both mother and child are in good condition, in an environment conducive to aseptic technic, the Cesarian operation will become one of more frequent choice.

In the minds of the enthusiasts, we had, or thought we had, in symphysiotomy an operation of the greatest value, but like many others it has fallen by the wayside, and deservedly so. Aside from its very narrow limitations it is far from being a life-saving measure for either child or mother. Beside the immediate mortality rate for both, of from twelve to eighteen per cent., the post-operative temperatures of the step-ladder type indicate that the high morbidity rate is enough to condemn it. But in the new Gigli operation of pubotomy we have a means of widening the pelvis by the subcutaneous method, that is safe and affords a very material increase in the pelvic measurements, much greater than that of the symphysis operation. Its sphere is consequently much broader and its safety and simplicity are to be recommended. The cases for its application are those down to the pelvis of extreme contraction, *i. e.*, those with true conjugate of 6 cm. or over. With a pelvis smaller than this it must ever become a matter of necesssity for the abdominal Cesarian operation. If one is not an advocate of pubotomy, the Cesarian section stands as the only choice, as between it, version and forceps. And this I think very safe teaching: that where forceps fails and version cannot be done and is contra-indicated for one reason or other, Cesarian section, with its limitations, will always stand the test of time and experience.

Now coming to the second chapter of our subject: the methods of terminating pregnancy at or near its end. Generally our indications are twofold: (*a*) For bony or soft part obstruction; (*b*) All other indications arising from unanticipated emergencies of the late pregnancy, as, for instance, placenta previa and eclampsia.

The most difficult problem presented to the accoucheur is when and when not to induce labor prematurely in cases of a contracted pelvis. Obstruction from soft structures, when immovably fixed, practicaly speaking warrants the Cesarian operation or the possible removal of the obstruction in anticipation of the labor. Bony obstruction or deformity of the absolute variety again calls for the abdominal method. But at what time to induce labor in the lesser contractions is a problem of considerable perplexity. The indications cannot be regulated by centimeters or millimeters, or even by the crude method of estimating the size of the fetal head by any form of cephalometry. The element that confronts us squarely is the relation between the fetal head and the maternal pelvis. In these cases I terminate the pregnancy at that time when, by suprapubic pressure, I know that the head is just capable of being made to engage. This is the safest time to interfere, unless the patient decides herself in favor of an operation of a major type.

And under these conditions how is labor best induced? My own experience has proven to my satisfaction that the preliminary tamponade of the cervix and lower uterine zone with gauze, plus the introduction of a large sized bougie, will either

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terminate labor in a short time or, if this fails, the cervix in twenty-four hours will be found to have disappeared and the os will be sufficiently dilated to justify a further manual dilatation, a deliberate version and an immediate extraction. The use of the dilating bags I have always ignored, and the various forms of vaginal incisions were limited to the grave emergency conditions which confronted me during the late pregnant state.

Of the greatest interest to us is the form of operating to be recommended in cases of emergency sufficiently grave to call for active interference. Thus, for instance, just how are we to act when confronted with a condition such as placenta previa or eclampsia? We are never justified in doing a Cesarian section for a placenta previa pure and simple. While occasionally I could imagine *that* operation warranted in an eclampsia in the presence of an illy prepared uterus, truly this must be a very exceptional condition. In the ordinary complications of pregnancy the simple methods of the induction of labor can be utilized and for me the firm gauze tampon, with or without the bougie, whether followed or not by manual interference, really has filled the bill on almost every occasion. But what I wish to call attention to more specifically are the bad and malignant cases. Here, where we have no time for preliminary work in order to save maternal soft parts, we can empty the uterus only by the so-called bloody methods. My mode of operating depends then upon whether or not the cervix has, or has not, disappeared.

With the cervix withdrawn into the lower uterine zone we have practically three methods that have been recommended: the various dilating bags, the dilating force of the human hand, and the Dührssen's operation of incision. For reasons given above I have had no use for the rubber bags. As to the cutting or Dührssen's operation, I have performed it at one time or another and limit its use to pathologic changes in the lower zone as from old lacerations or those badly operated upon. But these conditions are rarities and it is for this reason that I have performed the operation but seldom, but sufficiently frequently to remember it as a measure of much value within its limitations. However, I have seldom failed to dilate all these cases with the hand, whether by the single hand dilatation or by the use of both hands simultaneously; it is a measure I have used for many years with the very best results and everything being equal, I prefer its use in these cases. It is in the presence of a complete cervix, hard and unyielding, in a woman whose very life is threatened, that we have the most difficult problem in midwifery to confront. Under these conditions the only way to conserve life, not alone that of the mother but that of the child as well, is by quick and conservative operating. Where the fetus is not viable, the performance of craniotomy, after the os is open, makes the complication less formidable by lessening the bulk of the child which has to pass through the artificially dilated cervix. You are reminded that we are dealing not with simple cases, but with desperate ones, where the life of the mother is in grave and immediate danger: eclampsia, toxemia, accidental hemorrhage and placenta previa. Two methods are at our command, of course not including Cesarian section, which might and might not come within the sphere of operation for such emergencies:

(1) Employment of the Bossi dilator, which has received everlasting praise from abroad in spite of the lesions incurred in its use.

(2) Vaginal hysterotomy or vaginal Cesarian section, which I have used, and which appeals to me as a method of considerable value.

As to the much lauded Bossi instrument, my results with it have been bad, very bad, and I feel that it would be little short of criminal if I persisted in its employment. In the last twenty years I have seen lesions following what I considered bad operating, but the lesions I have seen after the use of the Bossi dilator, and *in my own hands*, were such as to make me blush. In two cases, both of eclampsia, where the indication was urgent, the dilatation was done slowly and carefully, but the result as to the integrity of the parts, well, enough has been said! My only salvation, to my own mind, was that the patients would have died anyhow, for both were practically moribund when I began the operation.

Much more conservative, and of greater value as my experience has taught, is the so-called vaginal operation of Cesarian section or the vaginal hysterotomy. While from a personal belief this operation has a material drawback when one looks to the future of these cases, it is an operation of inestimable value in these grave cases where rapid emptying of the uterus, in spite of an intact and rigid cervix, is our only means of saving life. As hinted before, its only objection is weakening of the uterine wall and the possibility of a rupture at that point in the event of a future pregnancy. But we deal at these crises, not with future conditions, but with the gravity of the present complication, as witness a desperate accidental hemorrhage or a severe and malignant toxemia of pregnancy, where nothing short of rapid and heroic operating can possibly save the woman's life. Vaginal hysterotomy can be

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safely and rapidly done; it requires but little training, and it can be performed practically without entering the peritoneum. The pericervical vaginal tissue is incised and the vagina is split anteriorly towards the urethra. The bladder is pushed out of the way without opening the anterior peritoneal sac. The lower uterine zone is exposed in front and behind. An incision is now made into the uterine body anteriorly up to the reflection of the bladder; the membranes are ruptured and the fetus is delivered. If not enough room is present, the operator may or may not incise the posterior uterine wall, again without opening the peritoneum. The placenta is removed manually, and the incisions are closed in the same manner as after a Cesarian section from above. A small drain is placed in the vesical space, and if there be any tendency to uterine relaxation the utero-vaginal tract is tamponed with gauze. The hemorrhage during the operation is, as a rule, trifling, and can be readily controlled by clamps or temporary sutures.

In conclusion I beg to submit the following:

(1) The tendency to dissociate gynecology and obstetrics as specialties is a mistake of modern times in over-specializing. By correction of this mistake there will be less operating done from the gynecological standpoint pure and simple. It will bring both branches in close contact, which will be of value in teaching the gynecological operator that certain of his fads that yield him ideal results, from the gynecologist's standpoint, will be viewed differently by him when he next cares for the same patient as her obstetrician. I refer to the various fixation operations.

(2) I wish to call attention to the blind faith of many men in the absolute accuracy of the pelvimeter. This is to be deplored. For purposes of comparison, to discover irregularities, it is ideal. As an instrument of precision for measuring a pelvis, however, its use we must decry. We can never measure a pelvis; we can at best estimate its diameters. We pin our faith, not to "m.m." or "c.m.," in judging of the size of a pelvis, but gauge the pelvic basin by its receptivity to the particular head which must pass through it. Along these lines we study the case, not as a mathematical problem in mensuration to be settled by inches or fractions thereof. While I feel that pelvimetry is useful for teaching didactically in the lecture room, at the bedside I often have thought that many a woman would be better off if her attendant never had known what a pelvimeter was. I am no iconoclast, yet I know this certainly savors of heresy. Be that as it may, these are my own sentiments and my own sincere beliefs, gleaned and spoken, not to shake old beliefs and teachings, but to express the results of many years of thought and study.

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