SYMPHYSIOTOMY.

PRACTICAL DEDUCTIONS FROM AN EXPERIENCE IN THIRTEEN CASES WITHOUT A DEATH FROM THE OPERATION.*

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In complying with the request of the officers of this Section for a short paper on symphysiotomy it is my belief that the most acceptable handling of the subject would be such as best exploits the lessons learned through my own experiences.

I have performed symphysiotomy thirteen times upon eleven individuals, repeating the operation in subsequent pregnancies upon two women, the operation being done three times on one, she having had it done in the first instance by another physician.

Were I to have my obstetrical work to do over again I would refrain from symphysiotomy in one of the cases, selecting Cesarean section instead; I would perform symphysiotomy with less previous use of the forceps in three of these cases, and would perform symphysiotomy in at least ten cases in which it was not done.

Cesarean section was done in one case successfully, in which symphysiotomy would have done equally well, speaking from an *a priori* point of view. In a service of some 5000 confinements, partly indoor and partly outdoor, I estimate that there were about 25 cases which would have been suitable for symphysiotomy from a theoretical standpoint, had they been reached when in proper condition to justify the operation. The results in my cases have been as follows:

CASE 1.—Third pregnancy following craniotomy. Complete recovery from symphysiotomy; child still-born from prolapsus funis, due to shoulder presentation.

CASE 2.—Breech presentation. Cephalic version performed by another physician. Complete recovery from symphysiotomy done by the writer. Child still-born as a result of version and forceps efforts.

CASE 3.—Primipara. Delivery of twins following symphysiotomy. Complete recovery. Infants lived.

CASE 4.—Primipara 3 days in labor. Symphysiotomy, complete recovery. Infant lived.

CASE 5.—Second pregnancy. First child born dead after a week of labor. A vaginal cicatrix of great thickness limited the vaginal caliber to 2 inches diameter. Cicatrix was cut on both sides of the posterior median line. Symphysiotomy was next performed and child delivered in good condition. The pubic wound healed properly, but two sloughs from the cicatricial tissue caused vesico-vaginal and recto-vaginal fistulæ. Puerperal and pneumonic sepsis ensued from bacillus coli communis infection. Patient died 33 days after delivery. Cesarean section should have been performed.

CASE 6. A primipara. Symphysiotomy was performed after hard use of the forceps. Complete recovery. Child lived.

CASE 7.—Third pregnancy following two still-births, one after forceps traction and the other after forceps, podalic version and traumatic separation of the body from the head by traction. Symphysiotomy performed in third labor. Complete recovery. Child lived.

CASE 8.—Eighth pregnancy. Two premature labors, two miscarriages, four forceps deliveries of living children. In present labor, forceps had been used unsuccessfully before I received the case. They also failed after extreme trial by me. Symphysiotomy performed. Complete recovery. Child lived.

CASE 9.—Second pregnancy. The first child was delivered dead after symphysiotomy performed by another physician. The second labor was completed by me after symphysiotomy. Complete recovery. Child living.

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CASE 10.—Primipara. After severe forceps use symphysiotomy was performed and the child delivered in good condition. Complete recovery.

CASE 11.—Third pregnancy; both of the others resulting in delivery of living children after violent efforts, but both children dying shortly after birth. I delivered the third child after symphysiotomy in excellent condition. Complete recovery of mother barring a pinhole fistula which lay just anterior to the cervix. I attribute it to the abnormal condition of the cervicovaginal tissues, which had been much injured in previous deliveries. Child lived.

CASE 12.—Same patient as Case 9.—Two previous symphysiotomies. Following hard forceps traction I performed symphysiotomy for the third time and delivered the child in excellent condition. Mother recovered completely.

CASE 13.—Eighth pregnancy. Two children living. Symphysiotomy performed after failure with forceps. Child delivered alive, but died quickly from over-use of the forceps. Complete recovery of the mother.

I afterwards delivered Cases 6 and 11 of living children without resorting to symphysiotomy. In each case the fetal head diameters were smaller than in the previous children.

Case 1 in a subsequent labor was in charge of another physician during my absence from the city. Podalic version, rupture of the uterus, and death of mother and child resulted.

Summarizing the results, I have operated 13 times without infection of the joint, and without a death due to the operation. Three children were lost and 11 saved. Perfect union of the pubes, that is, firm, fibrous union with a play of the joint of about one-eighth inch, has been secured in every case, except in Case 5, which died as above stated. Each patient was kept in bed four weeks. My method of operation was followed in all cases. Hemorrhage did not amount to more than three to four ounces at any time. No stitches were taken in any case. With the exception of Case 5 with the cicatricial vagina, there was no laceration of the vagina, bladder, urethra or peritoneum. No general disability has ensued. Moderate cystocele resulted in two cases, and bladder irritability lasted in most of the cases for four to six weeks. In no case has discharge from the wound occurred. In the last six cases the patients were placed in my symphysiotomy hammock bed, with marked improvement in comfort, cleanliness and ease of nursing.

A well-defined prejudice exists against symphysiotomy. This seems to be due to the dislike we feel to making wounds close to the vulva in labor, to the opening of a joint, to fear of hemorrhage that might be difficult to control, to fear of tearing the soft tissues around the symphysis, to fear of injuring the sacro-iliac joints, and to the dread of failure of union of the joint and consequent crippling.

This prejudice has been still further strengthened by two factors: 1, that the majority of operations have been undertaken only after severe efforts had been made to deliver the child with forceps, and 2, in about 90 per cent. of cases the operators' experiences have been limited to but one or two symphysiotomies.

In addition to the above, the general statistical results of the operation have, if taken at their face value, justified this prejudice, for a mortality percentage of between 9 and 10 is far from satisfactory. The true mortality can be had only after we have subtracted that due to all efforts at delivery which preceded the operation. The mortality from parturition is about seven-tenths of 1 per cent. From such cases as involve delay, version or forceps, and all objectionable features, difficult deliveries in short, the mortality, outside Cesarean section, symphysiotomy or craniotomy, is surely in the neighborhood of 4 to 5 per cent. The onus of such efforts long falsified the truth regarding Cesarean section; and it is still giving a bad name to symphysiotomy.

I protest against the recent statement of Professor Reynolds, that, when the patient is of the "favorable class" Cesarean section should be the choice, and when the "unfavorable class" symphysiotomy should be preferred.[1] Nor do I agree with him in the statement, that the essential mortality in Cesarean section is as low as that of symphysiotomy. Properly, an operator should select that method which will give the best results, not in general, but in his hands; and he may be able to get better results with the unsafer method as compared with such results in general.

In briefly considering the sources of prejudice against symphysiotomy I am compelled to speak from the standpoint of my method of operation, as my experience is limited to that method.

1. Wounds About the Vulva.—The site of the small wound made just below the clitoris can be made absolutely aseptic, even though infection of the vaginal tract has already occurred. This wound is kept open for but a few minutes while the joint is being severed; and it is kept safe from infection during delivery by placing a wet antiseptic wad of cotton over it until final closure. No stitches are required, as the mouth of the wound is tightly closed by bringing the knees together, which closes the vulva, and by drawing the skin to the median line with transpubic adhesive strips. Anterior rotation of the trochanters further helps to close the labia over the wound. A soft-rubber retention catheter being left in the bladder and dropped down behind the thighs to the bed-pan, avoids any necessity of disturbing the wound after dressing the patient for bed.

2. Opening of a Joint.—The dangers from opening a joint depend primarily upon the ability to secure perfect technic in asepsis, and in avoiding exposure of the bone structure in case of suppuration. Notwithstanding many statements which I have noted to the contrary, I believe perfect technic and asepsis can be easily attained in the subcutaneous method of section of the symphysis. The latter is not a joint in the ordinary sense, as, while there is motion there is not any play of one surface over the other. It is more like the joints of the bodies of the spinal vertebræ in construction than sliding joints, having a cartilaginous plate interposed between the pubic bones. The osseous tissue should not be touched by the knife, although it may occur. But certainly it is much easier to secure perfect asepsis here than in a Cesarean section, and drainage and thorough irrigation are easily obtained if needed.

3. Hemorrhage.—It is simply impossible for hemorrhage beyond several ounces to occur, unless one stupidly passes the scalpel below the pubes instead of along its face, cutting the bulbi vestibuli, or pushes the knife up beyond the upper border into the peritoneal cavity. That which might result from laceration of the vagina must depend upon the judgment used as to the amount of disproportion between the fetal head and the pelvic caliber and the care employed to secure full dilatation of the cervix before operating, and that employed during delivery by the operator and the one holding the pelvic crests. Separation of more than 2½ inches should not be counted upon to secure passage of the head.

4. Peri-symphysial Lacerations During Delivery.—

1. JOURNAL A. M. A., Feb. 16, 1901.

To my mind the chief anxiety is felt over this feature in symphysiotomy. Section, hemorrhage, sepsis and postpartum disability combined scarcely cause as much anxiety as this feature, and I have tried to study its points accordingly. Symphysiotomy should never be undertaken until one has introduced his hand within the cervix sufficiently to directly palpate the fetal head and pelvic inlet, and so ascertained that a reasonable pubic separation, 2½ inches will secure delivery. Next, as I believe in immediate delivery after pubic section, it is very important to secure full antepartum dilatation of the cervix before operating for these reasons: When the pubes have been separated the bladder and anterior cervix and vagina loose their support and show a marked increase over normal in the tendency to drag down in advance of the head and below the pubes. The anterior cervix appears at the vulva and the bladder rolls around the sub-pubic arch unless prevented. If forceps traction is made with the cervix insufficiently dilated these soft parts are then drawn away from the post-symphysial attachments and thus lead to lacerations. While antepartum dilatation can not be artificially rendered complete, it should be fully approximated by hands or rubber bags; then, in using the forceps, the disengaged hand should press back the cervix and bladder while the forceps slowly and gently bring the head, not so much through the brim as through the cervix. When the latter has been slipped back over the head, the next aim, after the head has entered the pelvic basin, is to assist anterior rotation of the occiput with the forceps. The separation of the pubes alters the normal mechanism as to rotation of the occiput under the pubes, the tendency being for the head to remain in a transverse position. Continued care must be taken in delivering the shoulders, delivery of the anterior shoulder first being my preference.

That my method of operating is best for avoiding lacerations I believe, because by it there is less operative separation of the tissues immediately connected with the symphysis than by other methods, and, consequently, less weakening of their supports and fewer starting points for laceration. I have tested this question by comparisons on cadavers and satisfied myself that this view is correct.

5. Injuries to the Sacro-Iliac Joints.—Such injuries need not occur so long as selection of the operation regards its proper scope. Its avoidance is further secured by means of skilful harmony of action between operator and the one holding the pelvic crests, which means steadiness in traction and evenness in pelvic support.

6. Failure of Joint Union and Subsequent Crippling.—If failure of joint union after symphysiotomy were a matter of good fortune rather than the reward of care there would not be any symphysiotomists. The natural tendency under ordinary care and by various means of pelvic support is to good union. Under the best methods such union becomes a practical certainty.

The following are the requirements necessary to secure the surest and best results:

1. Constant apposition of the pubic bones with even coaptation, but without compression.

2. Ability of the patient to empty the bowels and bladder without disturbance of the pubic joint, and ease of cleansing the genital and anal regions.

3. Freedom of restraint of the body above the pelvis, and of the limbs, whereby lactation can be performed and the great discomfort of prolonged restraint avoided.

4. The avoidance of bedsores.

Considering that what we want is a guarantee, not a probability, of union of the joint, I believe the only sure method of treatment is one in which the pelvis is swung in a U-shaped hammock. I used sandbags in my first two cases and a patent bed similar to the Dupont or Herbet "elevation bed," strapping strips of adhesive plaster across the pubes and pelvic sides; but, while I secured proper union, as many others have done by various methods, there was constant risk that the bags might get displaced or the patient turn on her side and the joint coaptation thus become disturbed.

In my last seven cases I have used my hammock-bed, descriptions of which have courteously been incorporated in the text-books of Drs. Jewett, Grandin and others. I feel satisfied that its features meet all the requirements mentioned above satisfactorily, and particularly afford a guarantee of joint union with proper coaptation of the opposing bones. The only criticism which has been applied to it is that of non-availability, which is true in private practice, but not in hospital work. Where my hammock is not available I recommend Dr. Dickinson's canvas sling, which can be swung from the ceiling or a tripod, and which, like my hammock, represents the safest method of securing union.

The Question of Sutures.—If I believed that suturing of the pubic bones were necessary after symphysiotomy I would discard the operation in favor of Cesarean section. But there is not the slightest need of such procedure by my method of operating; not even suturing of the soft parts is required. Drilling and suturing the bones greatly adds to the objections to the operation.

Scope of Symphysiotomy.—It seems scarcely worth the while to go over the arguments in favor of one or the other of the four means of securing delivery in obstructed pelvic cases. Nearly all of us argue along the line of our own successes; and in one respect this is, if not logical, at least wise, for the best method in the individual case depends more on the special skill of the operator by one method than upon the results obtained in general. The *essential* mortality from Cesarean section and symphysiotomy is not now far apart, although I believe that of the former to be nearly double the latter. The difference in fetal mortality is, of course, favorable to Cesarean section. The practical advantage between Cesarean section and symphysiotomy will depend upon the operator.

The most influential point affecting the results is the performance of the operation selected when the patient is in a favorable condition. This one point affects the results in general probably 50 per cent. For myself I grant symphysiotomy the following scope:

1. Mensural; obstructed delivery due to pelvic incapacity.—Where separation of the pubes is limited to 2½ inches to secure passage of the head, its availability is not easily ascertained, and we must consider the shape and dimensions of the pelvis and head. With equal length of the conjugata vera in different types of pelves a greater pubic separation is necessary in one form than in another.

The justo-minor pelvis requires a relatively wider separation than others, as gain in dimensions is secured entirely by the separation. Further, the "masculine" type of justo-minor pelvis, with its thicker bones, which encroach upon the caliber, will require more separation than the "juvenile" form with thinner bones.

The obliquely contracted, or Naegele pelvis, requires a relatively lesser separation, as the caliber is greater than in the justo-minor, and becomes utilized by the

head after pubic separation. To illustrate my meaning: If the right half of the pelvis is contracted but not the left, and the fetal head presents in a left occiput transverse, when the pubes separate the occiput moves snugly into the left half, slightly rotating posteriorly, with the right brow pressing into the inter-pubic space. In this way what might be called the normally inutilized space just to the side of the promontory is taken up and offsets the loss in caliber of the right half of the pelvis to some extent.

The narrow, funnel-shaped pelvis requires the least separation relatively, as the separation of the pubic bones, which is like the swinging open of double gates set somewhat out of the perpendicular, secures the fullest effect in increasing the transverse diameter. One-inch separation of the pubes increases the middle transverse diameter at the brim a fraction over one-half inch. The flat, rachitic pelvis, with its projecting promontory and narrow conjugata vera, occupies a place midway between the justo-minor and the narrow-transverse pelvis. The contracted outlet pelvis likewise occupies a middle place.

As symphysiotomy is an operation that should never be determined upon until a patient is in active labor, and as it requires but a few minutes to properly prepare for it, the actual test of the question of its adaptability for securing passage of the head is and should be made during labor and while the patient is anesthetized. Due regard must be given to the previous history in multiparæ and to palpation, pelvimetry, Müller's test, and, if we like, to cephalometry by Perret's method in both primiparæ and multiparæ; but one is neither justified in making a final decision nor required to do so previous to the stage of fair cervical dilatation and moderate test of both automatic engagement of the head and artificial effort with the forceps. An exception might be made to this that it would not be desirable conduct in view of the selection of Cesarean section when it was found that too much separation would be required to justify symphysiotomy. My answer to this would be that pelvic contractions to such degree as demand Cesarean section constitute an exception, as they can be determined before labor.

2. Symphysiotomy is justifiable in certain mal-presentations: Impacted posterior occipital, and chin presentations, in which the fetal pulse is good and delivery is not possible without mutilation.

The operation should give place to premature delivery when the forecast of impossible delivery without major operation is sure and the patient prefers it, or the physician is not accustomed to major operative work. It should give place to Cesarean section in cases in which there are obstructions to vaginal delivery by tumors, exostoses, cancer and pelvic contractions greater than the rule given above allows for symphysiotomy.

The great majority of cases of pelvic contraction beyond the scope of forceps delivery lie within the range of symphysiotomy. In some forty cases of such contractions occurring in my clinical experience, and observation of others' work, there was not one which could not have been delivered by symphysiotomy; and in only one case was Cesarean section positively indicated.

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Novel Post-graduate Course.—The medical officials in the duchy of Hesse were taken on a trip to Hamburg instead of having the usual course of post-graduate lectures. All the sanitary and hospital arrangements of the city were inspected under the guidance of experts.