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SYMPHYSIOTOMY.

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MR. PRESIDENT AND GENTLEMEN: In accepting your flattering invitation to deliver the address on Obstetrics on the occasion of your two hundredth meeting I have chosen for my subject symphysiotomy. The position of this operation in the treatment of labor obstructed by a contracted pelvis is beyond doubt the question of greatest present interest in obstetrics. The glamor of novelty surrounding the successful revival of symphysiotomy may have passed away by this time, but the sober second judgment of the profession is now about to be passed upon it. Thanks to the modern method of collective investigation and observation, a few months have sufficed to show defects and advantages in the operation that it would formerly have taken years to learn, so that we are just now in a position, I think, to assign to symphysiotomy its rightful and lasting place among obstetric operations.

It suits my purpose best to indicate first the weak points of the operation that have been manifested in the two years since it has passed from Italy to many different parts of the world.

Foremost among the objections that could be urged against symphysiotomy stands a mortality much higher than was at first anticipated.

In 212 operations since 1887 there have been 27

[1] The address on Obstetrics, delivered by invitation, before the Washington Obstetrical and Gynecological Society, Nov. 17, 1893.

maternal deaths, a mortality of 12. 73 per cent., while the deaths of the infants during and shortly after birth brings their mortality to a fraction over 28 per cent. In our own country the figures are 30 operations, 4 maternal and 7 infantile deaths, or a mortality respectively of 13.3 per cent. and 23.3 per cent. It must be admitted that many of the deaths were not due to the mode of delivery, but were caused by prolonged labor, by injuries to and infection of the parturient tract. Still some deaths are recorded as the result of hemorrhage from the incision, and others were due to septic infection of the wound.

Another objection that might be advanced against symphysiotomy is the fact that it must be limited to contracted pelves with a conjugate above 6.75 cm. It will be difficult, therefore, for the general physician and even sometimes for the specialist to decide, on the one hand, whether symphysiotomy in a given case is practicable, or on the other hand, whether forceps or version and extraction will not prove successful.

Other considerations against symphysiotomy are the tediousness of the operation, followed as it must often be by some other obstetric procedure; the need of good assistants; the absolute necessity of as thorough asepsis as is demanded in abdominal surgery; the likelihood of serious tears in the anterior vaginal wall involving, perhaps, the urethra and the bladder; the difficulty of keeping the vulva clean during the puerperium, on account of the close apposition of the thighs; and the still greater difficulty of disinfecting the vagina and uterus when necessary.

In contrast with these disadvantages attaching to symphysiotomy, let us glance at the advantages of the operation with which it comes chiefly in competition—Cesarean section. If I may be permitted to judge from the comparatively limited experience of three symphysiotomies and four Cesarean sections, I should regard the

latter as decidedly the easier operation. Moreover, by Cesarean section the child is sure to be delivered easily, no matter what the size and shape of the pelvic canal may be, and there is no necessity for that nice calculation in pelvimetry that is usually demanded before a contemplated symphysiotomy, a calculation in which even the best of us may err. Further, the mortality of the infants is not quite so great in deliveries by Cesarean section. Finally, the after-treatment of Cesarean section in a favorable case is much easier for patient, physician, and nurse. It is obvious, therefore, that symphysiotomy can be preferred to Cesarean section on one ground alone—that it is less dangerous to the mother. If statistics demonstrate this, then it is the duty of every intelligent obstetrician to familiarize himself with the indications for symphysiotomy, and possibly with its technique for this is not an operation to be lightly undertaken by anyone who does not possess skill both in obstetrics and abdominal surgery.

A careful study of the results of symphysiotomy and of Cesarean section will show that the latter is at the very least twice as dangerous to the mother as the former. In Dresden, Vienna, and Glasgow the maternal mortality of Cesarean section (99 operations) in the hands of the best operators has been about 10 per cent. In this country, Dr. Harris tells me, he has collected the reports of 88 recent Cesarean sections, with a maternal mortality of 39.7 per cent. The table which Dr. Harris kindly gave me in response to my inquiry is so very important and interesting that I add it in full:

Cesarean operations in the United States, commencing with October 6, 1882	88
Deaths (maternal)	35
Operations in New York City	21
Women recovered	12
Children saved	17
Operations in Philadelphia	15
Women recovered	10
Children saved	11

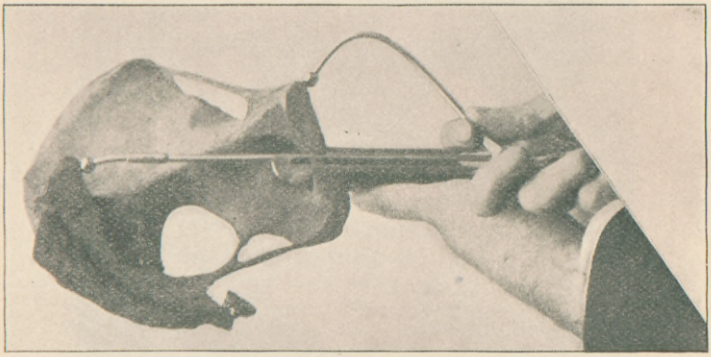
		Women recovered.	Children saved.
Operations of 1887 . . .	8	5	8
" " 1888 . . .	13	5	13
" " 1889 . . .	9	6	8
" " 1890 . . .	17	13	16
" " 1891 . . .	10	7	6
" " 1892 . . .	12	9	12
" " 1893 . . .	10	6	6
	78	51	61

It may be seen by the table that the results of Cesarean section in this country are not improving with time. Since 1887 there have been 78 operations, with 27 deaths —a mortality of 34 per cent. In 1893 there were 10 operations, 4 deaths—a mortality of 40 per cent! The same thing is shown by taking the last 10 cases in New York and Philadelphia. In the last 10 of New York City —women died 5, children lost 1; last 10 of Philadelphia— women died 3, children lost 2—a mortality of 50 and 33 per cent. in the two cities where the best surgical work of the country might be expected.

As is well known, the best work in symphysiotomy has been done in Italy. There the mortality is but 4 per cent. in the last 50 cases. It is true that there is one city in the world where the results of Cesarean section approach those of symphysiotomy. In Leipzig there have been 54 Cesarean operations, with 3 deaths—a mortality of 5½ per cent. But there is no other locality with a record so good as this. Further, if the causes of death after symphysiotomy and after Cesarean section be compared, it will be found that the first has very few deaths attributable to the operation itself. Take, for example, the 4 deaths after symphysiotomy in this country. One was the result of double non-septic pneumonia; another was due to the shock and exhaustion of a prolonged labor and many attempts at delivery, the operation being performed upon a dying woman. The third was

caused by septic peritonitis from infection of the parturient tract; and only one is attributable to the operation itself, the wound being infected during the operation, an accident easily preventable by sufficient cleanliness and proper technique. This is a mortality of but 3 per cent. On the other hand, almost every death following Cesarean section is due to septic peritonitis or to hemorrhage.

FIG. 1.



Pelvimeter measuring distance between outer surface of symphysis, just below the upper edge, and the promontory of the sacrum.

As long, therefore, as the two operations hold this relation to one another in results, symphysiotomy must be the choice of the conscientious operator whenever it is practicable. It follows, consequently, that every one interested in the practice of obstetrics must to-day be familiar with the indications for and the technique of this operation, and it is to these two phases of the subject that I shall devote the remainder of my paper.

Indications. There are two mistakes to be guarded against in deciding for symphysiotomy in a labor delayed or obstructed by a symmetrically contracted pelvis. One

FIG. 2.

Pelvimeter measuring the thickness of the upper part of symphysis. This measurement is to be subtracted from the other. A curved tip is inserted in the pelvimeter for this purpose.

is the resort to this operation when some less radical means would deliver the woman safely of a living child; the other is the attempt to deliver by symphysiotomy through a pelvis too small to permit the passage of a

living child, even when the pelvic bones are separated as widely as possible without injury to the sacro-iliac joints. The first mistake has not been uncommon during the excitement attending the revival of the operation. The most notorious example is the delivery by symphysiotomy of a VII-para, who had given birth to her six children spontaneously and had only lost one, which presented by the breech. This mistake is easily guarded against. I have been summoned expressly to perform symphysiotomy more than thrice as often as I have performed the operation. The application of forceps to the head above the brim will, in practised hands, often secure engagement, and if the attempt is carefully made no harm is done, even should it fail. Version and extraction are to be considered, too; but the danger of these procedures to the child is also to be taken into account. With my own experience of three perfectly uncomplicated recoveries from symphysiotomy, I feel disposed to regard this operation with more favor than version and extraction in a markedly contracted pelvis. The opposite error of opening the symphysis when the pelvis is too small to permit of delivery by this means is more difficult to escape. It will only occur, of course, in a pelvis with a conjugate of 67 mm. or under, a degree of contraction not often seen among us; and, could we always feel sure of the accuracy of our pelvic measurements, the mistake could be pretty surely avoided. But every one knows that, though we report the dimensions of the conjugate diameters of our cases with great precision, we cannot feel absolute confidence that our measurements are always correct. The estimation of the conjugate from the diagonal conjugate is liable to serious error, even though we allow for an increase in the conjugato-symphyseal angle and in the height of the symphysis. For example, I have operated on two rachitic dwarfs, primiparæ, each with a diagonal conjugate of scant 9 cm., say 8¾, and therefore with a true

conjugate presumably of not less 67 mm. In one I extracted the child with the greatest ease; in the other I broke the child's clavicles and its neck in my efforts to pull the head, coming last, through the contracted pelvis, though the symphysis gaped widely. In both cases the head measurements were almost identical. To avoid this possibility of false calculation I have had constructed a pelvimeter to measure the conjugate as nearly directly as possible. The idea, you will recognize, is borrowed from Skutsch; but this pelvimeter, I think, is better than his.

I can imagine no more embarrassing predicament in obstetrics than a failure to extract the head after opening the symphysis. I should feel reluctant to operate again at the lowest limit for symphysiotomy unless I had the opportunity first to induce labor and artificially dilate the cervix some two or three weeks before term. In this case I should not hesitate to operate with a conjugate as low as 65 mm., and I believe delivery might be possible with a conjugate of only 6 cm.

Technique.—It is unnecessary to describe in detail all the steps of an operation with which the medical world has of late become so familiar. I shall limit this section of the paper to the discussion of certain moot questions in the technique upon which I entertain strong convictions.

The incision in the lower abdomen, extending to within about three-quarters of an inch of the symphysis, and the severance of the joint from below upward and within outward subcutaneously, are much to be preferred to the incision directly over the symphysis. By the former the wound can easily be kept clean in the lying-in period. Troublesome hemorrhage is not so likely, and the urethra is free from danger. By the latter I do not see how the wound can be kept clean with any degree of certainty. Hemorrhage of an alarming character is to be expected, and the urethra is more

likely to be cut. The complaint from some German writers in regard to the fever that follows symphysiotomy is to be explained, I think, by their preference for the direct incision. I have had two entirely afebrile convalescences, and in the third case fever only developed on the twelfth day in consequence of a phlegmasia that had no connection with the operation at all. On the whole, I prefer the old-fashioned model of the Galbiati knife. The long beak enables one to cut almost entirely from below upward, and thus avoid bleeding as far as possible. Dr. Harris's modification of this knife is so closely adjusted to the posterior surface of the symphysis that it cuts as quickly forward as it does upward, and is likely to wound the veins behind the clitoris. I can see no reason for suturing the symphysis. This is troublesome, prolongs the operation, favors inflammation in the joint, and is not necessary. A firm pelvic binder and a close apposition of the thighs, tying the knees together, if necessary, will secure a better approximation of the bones than any stitch could do. It is surprising to read the different methods proposed in recent German articles for suturing the symphysis. I have not yet done this, and, as each one of my cases has had a firmly united pelvis without it, I believe that it is entirely unnecessary.

A very valuable preliminary step in the operation itself is the thorough dilatation of the cervical canal. As the head does not enter the superior strait in the majority of cases in which symphysiotomy is called for, the os will not be well dilated, no matter how long labor may have lasted, so that the cervix will present a serious obstacle to quick delivery after the symphysis is cut, especially in primiparæ. For this purpose I have a Barnes bag twice as large as the largest sold in the shops. After using the three ordinary sizes, allowing each to remain in the cervical canal for some time, I have inserted this largest one, distended it to its full capacity, and allowed it to remain in place for at least an hour. Then, if it is necessary (as it

usually is) to apply forceps or to perform version, the child can be extracted as rapidly as the operator desires. In one of my cases, in a primipara, over thirty years of age, the child, now living and well at the age of six months, was delivered in less than five minutes after the pelvic bones were separated. When the artificial dilatation of the cervical canal was begun in this case, it would just admit one finger. Finally, as to the fixation of the pelvis, the cleansing of the vulva, and the care of the abdominal wound. The first is secured by broad rubber adhesive strips and a stout obstetric binder, coming well down over the trochanters. The vulva is protected by a pad of salicylated cotton and carbolized gauze, and is cleansed by a stream of water from a fountain syringe, several times a day, the patient resting upon a bedpan. The wound need not be disturbed for more than a week. When it is desired to expose it, the lower part of the binder is unpinned, a window cut in the adhesive strips, which are reinforced by others over them when the dressing is completed. In this way the pelvis need not be subjected to the least strain.

To prevent stretcthing of the new-formed union in the joint I have kept my patients in bed five weeks.