

CONCERNING THE PRINCIPLES AND PRACTICE OF EPISIOTOMY.

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BY FRANK A. STAHL, M.D.

DEMONSTRATOR OF OBSTETRICS, RUSH MEDICAL COLLEGE; FELLOW OF THE CHICAGO GYNECOLOGICAL SOCIETY, ETC.

Nature teaches that she endeavors to establish a favorable relativity in size, axes and diameters between those of the mother and her parts, especially the pelvis, and those of the fetus and its parts. Where this is, there is the normal. When this favorable relativity is present and with long fetal part diameter to long pelvic diameter given the proper parturient power, there will be natural, unassisted or normal labor, without destruction or harmful adaptation of part to part; where otherwise, as long fetal part diameter to a shorter pelvic diameter there will be unnatural or abnormal labor, requiring corrective assistance either natural or artificial, be it at the superior strait, in the cavity or at the outlet; be it upon the mother's part or upon the fetus' parts, and as a result of such deviation, necessity has invented operations, such as the forceps, turning, Cæsarean section, embryotomy, and yielding for a moment to the symphyophile, symphysiotomy. At the outlet, nature teaches episiotomy. At the outlet, the longest diameter is the antero-posterior, and to it must be apposed, and through it must pass the longest diameter of the fetal part, and this is usually the case. Unfortunately the antero-posterior diameters of the osseous and soft pelvic outlets are not equal in length, that of the soft outlet being shorter, so that often a fetal part will readily clear the osseous outlet, but

not so the soft outlet, and then with difficulty and traumatism.

Nature endeavors to overcome this difficulty and disproportion between fetal part and soft outlet by dilatation of the soft parts to encourage increase of their diameters and circumference; but where dilatation does not affect this favorable relativity, nature does so by establishing the equality of diameters through separation of the parts of the soft outlet, thus overcoming the disproportion. In the great majority of all cases where this natural separation occurs, be the case normal or abnormal, it does so in the midline through the perineum, a natural episiotomy, as it were, and central in character, though in some few cases the separation deflects to one side or the other. In this phenomenon there is an expression of a law of nature. When and where she finds it necessary to overcome an obstacle, nature chooses that direction and that method in which there is the least resistance, the least injury inflicted, the least expenditure of energy, and in which the necessary therefore the most good is accomplished. Though this assisting corrective principle of nature at the soft outlet is an old one and must have been appreciated by many before him, to Fielding Ould (1742) is given the credit of being first to call attention to this subject. He seems to have adopted nature's plan, suggesting central episiotomy. The records are not clear whether or not he performed episiotomy. Michaelis (1799) is accredited with having been the first to have performed the operation, and he, like Ould, advocated episiotomy in the midline. In 1836 Ritgen suggested scarification of the outlet, but this theory is lacking in efficacy, as well as in principle. In 1850, Eichelberg, and in 1852, Scanzoni brought out and recommended lateral episiotomy, the method as generally practiced to-day, lateral incisions from 1 to 3 cm. in length. More recently Cohen suggested subcutaneous myotomy of the sphincter cunni, a suggestion failing again in efficacy and principle. It savors much of a congenial library and a fragrant Habana. Its to have been anticipated impracticability quickly proved itself when attempted at the bedside. Since Ould's time more or less interest has been shown in episiotomy, yet more interest than practice; its principle has always been regarded with favor, not so the method.

In America renewed interest seems to have been awakened in episiotomy, following the appearance in 1878 of Dr. Anna Bromall's most excellent and exhaustive article which was soon followed by those of Credé and Colpe, Manton, Wilcox, and many others in close succession, one of the last to appear being by Dickinson, well illustrating his conception of the principles and the technique to be followed in lateral episiotomy. They, like our text-books, favored the lateral method and the consensus of opinion to-day is to favor the lateral method. The success with the lateral method has been such that although the writers above referred to have all warmly recommended lateral episiotomy, the success or perhaps the lack of success which this lateral method has met with in the hands of the general, as well as special practitioner of obstetrics, has been and still is such that opinion at the present time is less enthusiastic toward the operation than formerly, many discarding it altogether as without virtue or value. This feeling is quite plainly reflected in the words of Professor Parvin who, in reference to this operation, concludes

as follows: "It may be stated that episiotomy will very seldom be plainly indicated, and in private practice will rarely be done." Very similar in tone writes Professor Lusk: "It (episiotomy) is essentially the operation of young practitioners, the occasions for its employment diminish in frequency with increase of experience," and further, Chailly-Honoré, the most enthusiastic advocate of lateral episiotomy (Bromall), refers to it "as the excellent practice of Professor Dubois, who taught that incisions should be made, extend in an oblique method, not to exceed 2 cm. He admitted, however, that perineal ruptures can not always be avoided, etc.," an expression very clearly showing his doubt in its efficacy and that nature often assists post operationem.

Though, comparatively speaking, yet a younger practitioner, I have enjoyed a preliminary training in obstetrics granted to but few, and since then my experience in the obstetrical field has been rich in material, and yet richer in instruction, since this preliminary training enables me to properly appreciate each and every case as it occurs.

Episiotomy, I believe, meets with so little kindness not because episiotomy *per se* is at fault, but rather it is the method in which opinion dictates it should be performed. Opinion has misled, and instructs to adopt the lateral method. On the other hand, nature remonstrates and requests to elongate in the midline. It is opinion that has endeavored to misdirect, but nature, like truth, will assert herself. Still, I can readily agree with these gentlemen in their adverse conclusions, but only in so far as their remarks apply to lateral episiotomy, because lateral episiotomy is wrong in principle and lacking in efficacy. This is not so with nature's method, central episiotomy, which in principle, I believe, is correct, and that is to elongate and increase the circumference in the direction of the essential diameter of the soft outlet, the antero-posterior, thus equalizing the diameters of the soft and osseous outlets and establishing the natural favorable relativity.

Lateral episiotomy does not accomplish this. At the outlet it is to and through this shorter a. p. soft outlet diameter that the longest diameter of the fetal part must pass, therefore if dilatation be not sufficient and inequality of diameter exists, correction in this diameter becomes a necessity and occurs; observation teaches this, so does nature, and central episiotomy thus becomes the natural method. In my humble opinion at the present time there is no subject before obstetrical thought which attaches greater importance to itself than does this matter of episiotomy.

Society, as the accoucheur finds it to-day, has a tendency to gather in the cities, crowding itself within very narrow lines, and where formerly the mode of life was such that there was room and plenty of it to live and move in, there is now, and this tendency is growing, scarcely space in many quarters to breathe in, not to say anything of properly exercising in. This overcrowding and confinement are gradually having their effect upon the body of the species. The physical under these unfavorable conditions is certainly not gaining, nor even in many instances holding its own. As a consequence there is a loss of power, of strength, to overcome the resistances nature requires the physical to overcome. Statistical research and scientific inquiry will prove this to be true, and in all branches of medicine, namely, medi-

cine, surgery and obstetrics. I feel quite sure that there is not an accoucheur of experience present but who indorses the point made by Duncan as to the disproportion between fetal part and soft pelvic outlet. Duncan writes as follows: "That in the Darwinian progress of the head of the species, the head of the fetus has increased in size more rapidly than the orifices and passages, through which it has come, have increased in size and dilatibility." As man's tendency to gather in large bodies in small places continues, so will loss of the physical continue until better hygienic conditions obtain, and so will this disproportion between outlet and fetal part continue, and therefore will continue the necessity for some corrective assisting means to successfully overcome this unfavorable relativity of outlet and fetal part, or we must leave it to nature to correct. It is in consequence of this light, this experience, that I find I can not agree wholly in opinion with our masters of obstetrical thought, Professors Parvin and Lusk. Experience has taught me to adopt episiotomy, and then central, never lateral, where the disproportion between fetal part and soft outlet is plainly evident; this in an experienced sense.

In my hands, episiotomy is an instrument, *par excellence*, aiding as no other instrument can in the preservation of life and body, both in the fetal and maternal, and as I grow in obstetrics and since I find that the disproportion does not decrease, I am glad to know that there is so effectual and yet simple an instrument as central episiotomy at my command. It is in private practice especially where it has proved itself of such benefit, and has often assisted me in saving the life of the fetus and always in preserving the perineal body and other parts of the soft outlet.

In nearly all cases of accouchement forcé, as turnings, high and low forceps in the primiparæ and well-preserved pluriparæ, and in something like 20 per cent. of so-called normal deliveries this disproportion between fetal part and soft outlet exists. Especially in turnings in the primiparæ has episiotomy been of great value to me. Formerly in the after extractions, I found the greatest difficulty in dragging the fetus through the undilated vagina and outlet, greater difficulty indeed than in the intra-uterine turning itself. Even before the turning, in some cases, the power of the arm becomes neutralized because of the intense contraction of the undilated outlet and vagina about the forearm; and often because of this constriction, delivery was not accomplished until vagina and outlet were forcibly ripped apart from the disproportion between fetus and outlet and in the hurry to save life. Now with episiotomy, turning and extraction are far easier than formerly, with greater comfort and less danger to all three concerned—fetus, mother and accoucheur. The same in principle applies to high forceps and in a modified way to low forceps.

Of the four methods—lateral, central, scarification and subcutaneous myotomy, suggested to favor the establishing of the favorable relativity of longest fetal part diameter and longest pelvic outlet diameter and increase of outlet circumference, lateral and central episiotomy only are worthy of consideration. Lateral episiotomy is lacking in two cardinal points: 1, it is wrong in principle; and 2, the operation as recommended is sadly deficient in efficacy, and besides it is unnatural. To establish the favorable relativity, the essential diameter, the soft antero-

posterior must be equalized. Lateral episiotomy, as practiced, does not accomplish this; on the contrary, it elongates the transverse and oblique diameters and remains almost neutral toward the all-important diameter, the antero-posterior, therefore this ill success. My experience with lateral episiotomy has been, I believe, much that of others. In those cases where it seemed to have been of service, legitimate doubt subsequently arose as to whether or not the fetal part could not have passed without lateral incisions. But in those cases where the disproportion was plainly evident, as in nearly all cases of accouchement forcé, as in high forceps and turnings where though lateral incisions were made, observation decided that invariably nature assisted with central episiotomy. And why? As taught, lateral episiotomy is made with reference to length of incision from 1-3 cm. in a lateral direction. Scarcely any mention whatever is made of depth (a depth of a line or 5 m.m. is practically without effect). As stated, this will elongate the transverse and oblique diameters—diameters that need no corrective assistance. Unless lateral episiotomy be made with reference primarily to depth of incision that the interval between the incisions may fall back as a tongue of perineal tissue, lateral episiotomy is absolutely without effect upon the essential antero-posterior diameter. But such a practice compared to central episiotomy is excessive, requires greater efforts to perform and to restore, is more dangerous and requires a longer road to arrive at an inferior result.

One of the best physical explanations offered me in support of this lateral method is the so-called theory of the "parallelogram of pelvic outlet forces"; and is, so I understand it, as follows: The head, as it rides upon and over the perineum and through the parallelogram, as formed by the labiæ, does so in a manner like the segment of a sphere whose diameters are equal in all directions. As a segment of a sphere its greatest power would be exerted at its central axial point, diminishing in a radial manner from the central point. The parallelogram not being continuous, resistance is not met with or power expended at this central axial point, but in a circumferential and radial manner, thus receiving and expending the greatest resistance and power in a radial manner, therefore lateral or radial incisions.

This theory is weak in several respects:

1. The head does not descend upon the soft outlet, so that it acts as a segment of a sphere, nor are its diameters equal in all directions. It may appear so between the labiæ, but the head in its passage over and through the soft outlet acts upon it as a segment of an ovoid whose longest diameter is in the antero-posterior, and to be favorably related to the pelvic outlet must assume and clear that outlet in its longest diameter, its antero-posterior.

2. Radial incisions are wrong in principle, since they increase the circumference, but superficially, and then so as to increase the non-essential transverse and oblique diameters. To be of service, increase of circumference of soft outlet should not be superficial only and must be made so as to increase the antero-posterior diameter.

3. Radial incisions as implied above, regardless of number and length are without the essential corrective effect, unless made with regard primarily to depth. Such a practice compared to the single simple non-dangerous midline incision is seriously objectionable.

4. Nature herself disproves this theory since often, notwithstanding lateral incisions, she corrects even the artifice and separates in the midline, and not seldom exaggerates the lateral incisions both in length and depth; again in the fact that in the great majority of all spontaneous lacerations they are central in incipency and character; also in the fact that where rupture of the perineum solely occurs it is central, never lateral.

5. This theory is not applicable to other forms of labor than occipito-anterior, as in those of occipito-posterior, face and pelvic presentations, where the circumference of the advancing part is oval.

The floor of the pelvis is divided throughout nearly its whole extent by two outlets. In outline these outlets may be compared to a flattened unequally looped figure of eight. The anterior and greater loop ovoidal in outline corresponds to the parturient canal outlet; the posterior, smaller and more circular corresponds to the alimentary canal outlet and as connecting link between the two loops and encroaching upon the caliber of both canals is the triangular perineum. If the circumference of either loop be too small to permit a body to pass, and especially an ovoidal body through the ovoidal loop, the most simple and effectual way to increase that circumference is to overcome the uniting encroaching link, and this will be in a line with its central diameter. In the case of the ovoidal body passing through the ovoidal loop, the greatest resistance will be at the central point of the circumference of the invading link, diminishing in a radial manner from this point.

Separation of the soft perineal link in the midline increases the superficial and deep circumference of the parturient outlet and in a direction equalizing the essential osseous and soft pelvic outlet diameters, with less expenditure of energy to perform and to restore, with less danger to body and life, and is more practicable than in any other method.

So far as technique is concerned, I have nothing to add what is already so well known; all that is required is a pair of blunt-pointed scissors. In high forceps and turnings in the primiparæ and the well-preserved pluriparæ where the fetal parts have to be dragged through an undilated vagina and outlet, where disproportion between fetal part and outlet is always considerable, before applying the blades or attempting to turn, I stretch the undilated perineum between two fingers and sever in the midline through the whole perineal body, through vaginal, parenchymal and dermal parts, as far as necessary even to the sphincter ani, stop hemorrhage where any, then apply or turn. In low forceps or normal labor I sever, as recommended by B. Schultze, only then when "the commissure shows signs of yielding," following in both cases with immediate post-partum perineorrhaphy.