INDICATIONS AND TECHNIQUE OF EPISIOTOMY*

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AFTER discussions dating back a century or more and continuing till within a few years ago, little argument now exists as to the justifiable inclusion of episiotomy among the valuable surgical procedures of obstetrics. However, as to the frequency with which this operation is to be undertaken, the special indications for its use and the direction and depth with which the incisions are to be made, much difference of opinion persists. A great variety of incisions have been described. These have included the true lateral episiotomy now fallen largely into disuse, the multiple small nicks of the vulval ring suggested by von Ritgen, the mediolateral incision, which strictly speaking is the only true episiotomy used today, and the midline incision of the perineum, more correctly termed perineotomy.

The general aims of episiotomy are stated simply. The fetus is to be protected from the effects of a prolonged second stage, particularly from certain injuries which may result when the head acts as a dilator of resistant perineal structures. The mother is to be saved from the general effects of a long labor and the local results of either the uncontrolled stretching of the supporting structures of the pelvic floor, or from irregular, misdirected lacerations.

With these as the general purposes, the following specific indications for episiotomy may be noted:

1. *Fetal Indications.* In any situation in which danger to the fetus calls for a rapid delivery, episiotomy may be of assistance, whether delivery be accomplished by forceps or by breech extraction. In particular is this advisable in the delivery of premature infants, where the wide sutures and soft bones of the fetal skull offer little protection and the poorly developed vascular system and weak connective tissue supports predipose to intracranial lesions. Hence, with the premature infant, episiotomy with or without the application of properly selected forceps may be a means of prevention of birth injuries otherwise only too common.

2. *Protection of the Structures of the Pelvic Floor.* An episiotomy is indicated for the protection of the maternal soft parts in a wide variety of circumstances. Among these are the rigid perineum of the elderly primipara, the scarred perineum following previous plastic operations, the edematous vulva in toxic patients or after long labor, and certain types of anomaly. Among the last may be mentioned the very high perineum, said to be associated with genital hypoplasia with a long space between the introitus and the anus in which a median perineotomy is usually safe, and the very narrow perineum in which a mediolateral episiotomy may be essential to save a tear into the sphincter.

Episiotomy is advised in these cases as a means of preventing serious lacerations, especially those involving the sphincter muscle. In addition, however, it undoubtedly protects the subcutaneous and submucosal structures from the over-distention which results in rectocele and relaxation of the pelvic floor. That episiotomy may reduce the incidence of cystocele, especially when performed fairly early, has been maintained by several writers.

An extreme view that all primiparae should be aided in their delivery by at least

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a small incision of the perineum has been taken by some obstetricians (Pomeroy). An unvarying policy in this respect seems scarcely justified, but the mother's future comfort will be given the best consideration and her first child protected, if after the caput is in sight, the operator holds himself in readiness to perform episiotomy in the event either of threatened spontaneous laceration or undue delay in delivery.

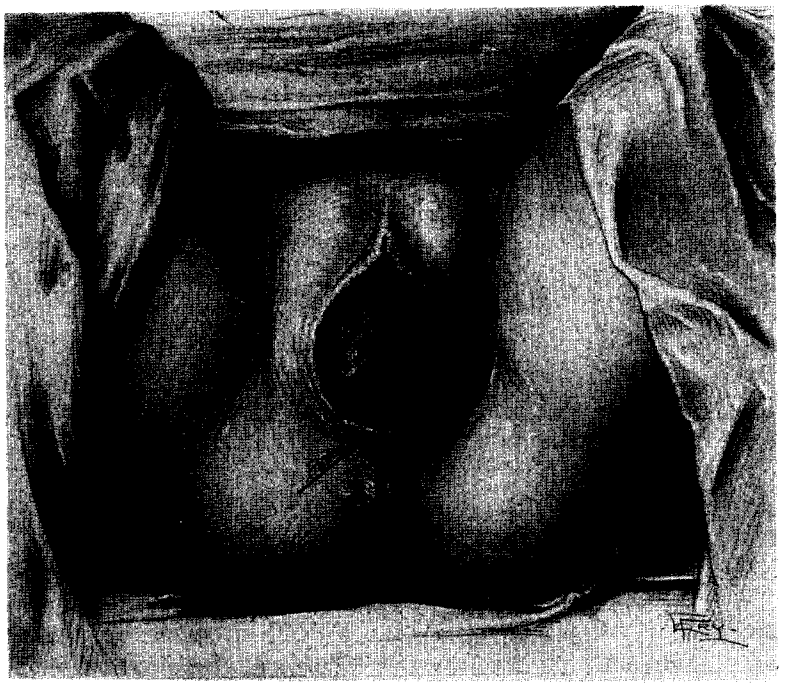

Fig. 1. The incision in mediolateral episiotomy.

3. *Malpresentation and Disproportion.* The presence of a narrow pelvic arch associated with a short bi-ischial diameter, is well known to require that the head descend very low before extension and delivery are possible. With this type of subpubic angle, found particularly in the funnel or android types of pelves, mediolateral episiotomy may be essential to prevent a third degree laceration. Little, in particular, has been impressed favorably by the advantages of incision of the perineum when this form of pelvis is present.

With incomplete flexion of the head requiring a passage of a longer diameter of the fetal skull through the vulva, episiotomy may be indicated from the size of the passing body alone. With the occiput persistently posterior, the mechanism of delivery by flexion again requires that the head pass far down and backward, stretching the vulva, especially in its posterior segments, so that uncontrolled tears may be particularly dangerous. In these situations, extensive episiotomy may be essential to prevent serious injury to the pelvic floor or the anal sphincter.

4. *Episiotomy with Operative Delivery.* Forceps deliveries require episiotomy for several reasons, most often perhaps because of the rapidity with which the delivery through the vulva is apt to be effected, the gradual stretching of the parts not having taken place, at least when the instruments are applied in the midposition. Furthermore, the direction of the pull in order to make the axis of traction coincide with that of the pelvis often produces injuries of the perineum from the instruments themselves before the head has begun to press on the pelvic floor. This type of injury is especially liable to occur from the Kielland forceps with their relative absence of the pelvic curve, and, when these instruments are

used, an early episiotomy is often necessary. Forceps with considerable separation of the shanks, such as the Simpson forceps

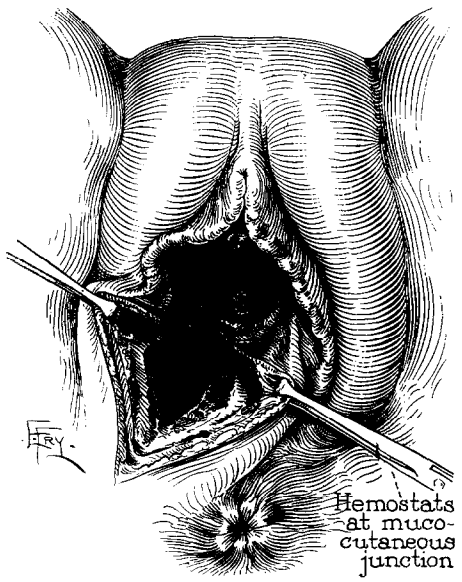

Fig. 2. Exposure of field before beginning repair.

and its derivatives, offer more chance of injury and may require episiotomy more often than do those with the shanks closer together, yet are preferable in some instances, since they offer less chance of injury to the fetal head. Episiotomy may be required in breech delivery, especially when difficulty is encountered with the arms or after-coming head.

The type of episiotomy to be employed still offers a fertile field for argument, in particular between those who favor the median perineotomy and the advocates of mediolateral episiotomy. For the former it may be said that it produces a symmetrical wound, easily approximated in the midline; that important muscles are not injured; and that scar tissue when formed involves the tendinous insertions of the muscles already composed largely of connective tissue. Its chief disadvantage lies in the threat of its extension, so as to cause injury of the rectal sphincter. Its more enthusiastic advocates have made light of this danger, however, maintaining that little permanent harm is done, when the sphincter is torn through an anatomically correct and easily repaired midline perineotomy (Pomeroy). Another objection which has been advanced is that the incision lies in the direct line of the lochial discharge which favors infection and the breaking down of the healing wound.

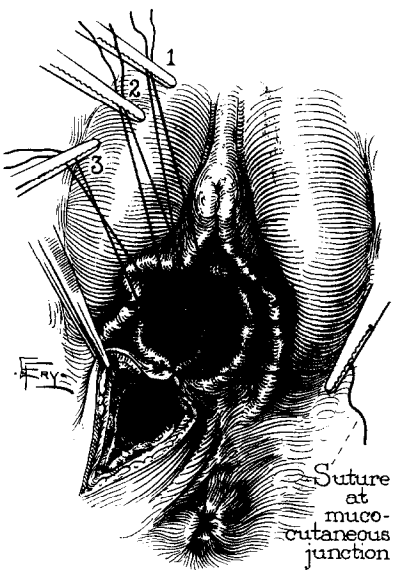

Fig. 3. Closure of the vaginal mucosa by interrupted sutures.

The mediolateral episiotomy, obliquely placed and carried perhaps through some of the fibres of the levator ani muscle, involves structures more difficult to repair. This is especially the case when after the delivery of the child, anatomically corresponding parts are no longer opposite each other on the two sides of the incision. The accurate repair of the important tissues of the pelvic floor under these circumstances requires more skill and care than does the reconstruction of the perineum after the midline incision. Certain advantages, however, make this incision the one of choice under many circumstances. First and foremost is the fact that the accidental extension of this incision during the course of delivery does not endanger the sphincter or the rectal wall, but only carries the division of tissues laterally deeper into the levator muscles. The opportunity given to incise the more superficial fibres of the levator

ani and to perform under rare circumstances a bilateral episiotomy affords room that cannot be safely secured by the wide access is required for some operative procedure, the mediolateral incision is preferable. There remains probably the

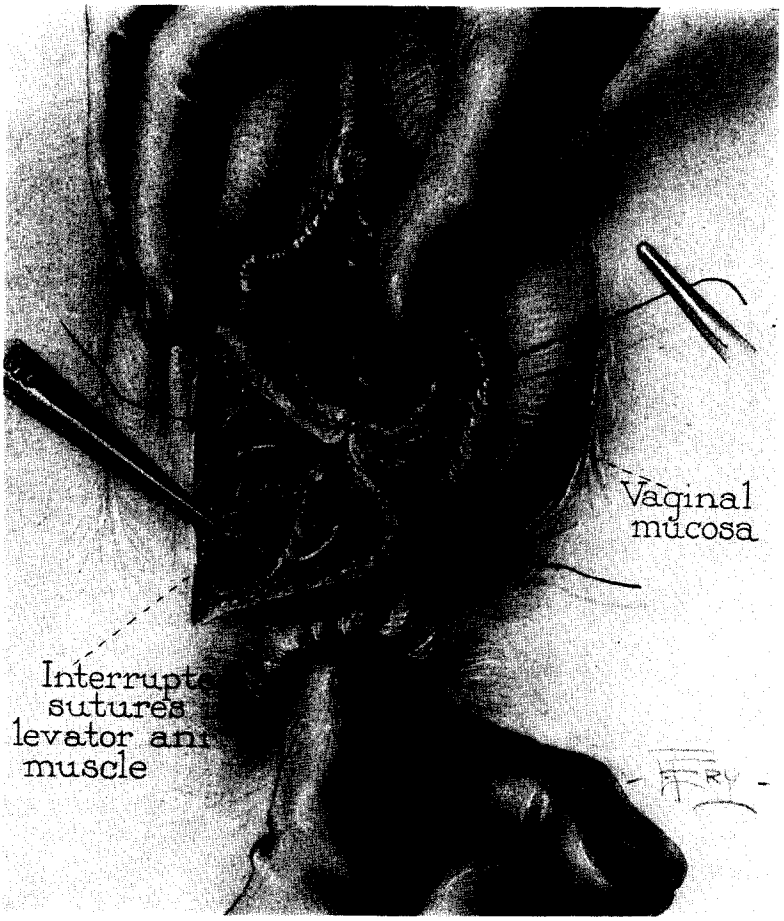

Fig. 4. Repair of anterior fibres of levator ani.

median incision. Finally it must be conceded that with a little experience the operator becomes able to perform and repair this incision with end results as perfect as those obtained after the simple median perineotomy.

Both incisions have their special indications. When only a little increased room is needed to effect delivery, when the perineum is broad and no great laceration is anticipated, the median incision is done easily and more quickly repaired, so that the patient is subjected to the least possible surgery and anesthesia. When there is a marked threat to the sphincter as in cases of persistent posterior occiput or in women with a narrow subpubic angle and where majority of the cases in which the experience and preference of the operator may justifiably be the chief criterion for a decision.

The technique for median perineotomy has been described recently and well illustrated by Little in the System of Obstetrics and Gynecology edited by Curtis. The steps in the performance and repair of mediolateral episiotomy to be outlined here follow in general the technique in use on the division of obstetrics at the Bellevue Hospital and that taught to the internes and residents of that service. It is a method followed because of its practicability and the simplicity with which it can be taught to a series of rather frequently changing

internes. That it is efficient and satisfactory has been demonstrated by the rarity with which primary union is not attained and

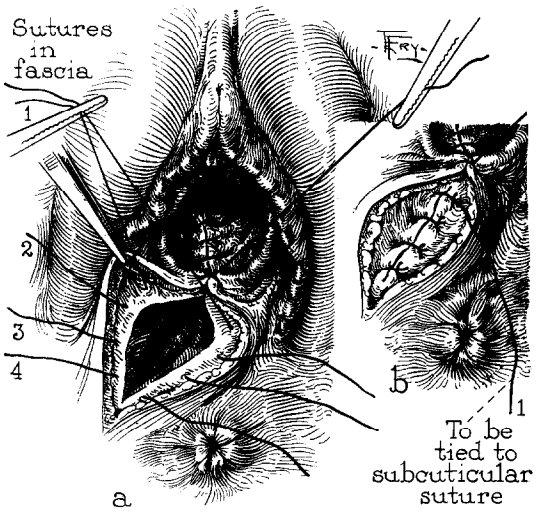

Fig. 5. Repair of fascia and muscular structures of the urogenital triangle.

the satisfactory character of the scar after healing.

Exact definition of the optimum time during delivery in which to perform episiotomy is difficult to give. Delivery must be anticipated within a few minutes, for otherwise there will be unnecessary bleeding in the second stage. The head must be well down on the pelvic floor, the caput in sight, and the perineum bulging except in certain cases of operative delivery in which special access is required or the manipulations have already begun to injure the perineum. Certain writers recommend waiting until the imminence of a laceration is shown by a blanching of the vulva and perineal skin, or until minute tears are actually visible in the vaginal mucous membrane about the introitus, as the head recedes slightly between pains. If possible the cut should be made, however, slightly before these signs are evident, because when blanching or superficial lacerations are present, permanent damage to the muscular structure of the pelvic floor may already have occurred. The tendency is in most cases to delay too long rather than to incise prematurely.

The incision is begun near the midline posteriorly and carried downward and backward about midway between the anus and the tuberosity of the ischium. The instrument used is usually the scissors, but

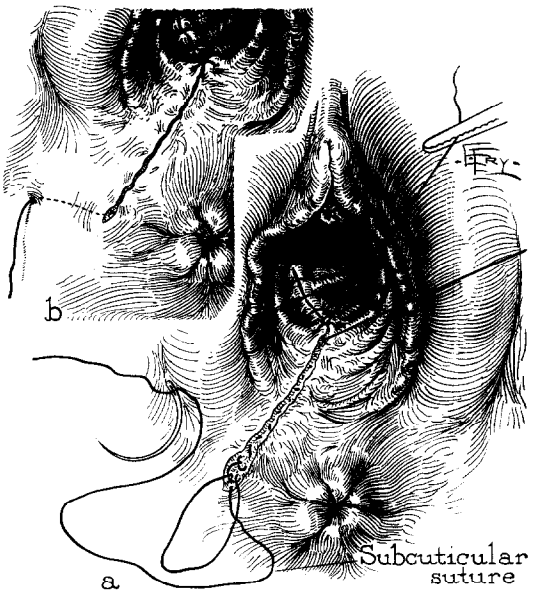

Fig. 6. Closure of the skin by subcuticular suture.

with care a scalpel which makes a very clean incision may be employed. The cut involves both vaginal mucosa and the skin over the ischiorectal space, each for a distance varying from 2.0 to 5.0 cm. The deeper subcutaneous structures divided include the bulbocavernosus, and the two transversus perinei muscles with the fascia of the urogenital triangle, and with the deeper incisions, the superficial fibres of the pubococcygeal portions of the levator ani muscle. The episiotomy is usually made on the right side, although it has been advised that it be placed on the side of the occiput. Bleeding may be brisk if the delivery is delayed at all. If much blood is being lost, the ordinary measures for hemostasis with clamps and ligatures should be instituted, a procedure often wholly neglected in the tension of a difficult delivery. Ordinarily most of the bleeding will cease as soon as the delivery is completed.

The patient is partially redraped following delivery, and fresh gown, instruments and gloves are given to the operator. The placenta, if separated, may be delivered before the repair is begun, or this postponed

till the operation is completed. A gauze pad with a tape, carrying a ring or clamped to the sheets draping the patient, is inserted into the vagina to keep the blood from obscuring the work of repair. The apex of the incision and the points on each side where the incision crossed the mucocutaneous junction are located to give proper orientation. Actively bleeding vessels may be caught and tied and small fragments of crushed, devitalized tissue trimmed away.

1. The vaginal portion of the incision is first repaired from the apex of the incision to the mucocutaneous junction by a series of interrupted sutures of chromic catgut. Care is taken that corresponding points on the two sides are approximated. The final suture at the lower margin of the vagina is kept long and held with a clamp as a guide.

2. The deeper structures, especially the cut fibres of the pubococcygeal portions of the levator ani, are next repaired with a second series of interrupted sutures of No. 2 chromic catgut. At this stage a finger placed in the rectum may prevent the penetration of that organ and the spread of infection by the needle, although with experience this maneuver will rarely become necessary. Needless to say the glove of the hand used must at once be changed. Special effort is sometimes necessary to place the sutures deep enough to eliminate the dead space and approximate portions of the divided levators lying beneath the roof of the repaired vaginal mucosa.

3. The second tier of sutures in the lower half of the incision approximates the deep and superficial layers of the urogenital diaphragm and the structures lying between and above these fasciae. The actual muscles are rarely seen, but the most anterior suture, passed upward into the lower segment of the labium minus, should catch the bulbocavernous muscle and by approximating this to a point near the midline prevent gaping of the vagina and any tendency of the perineum to sag backward and toward the opposite side.

4. The skin may be closed in a variety of ways. A subcuticular continuous suture of No. 2 catgut is employed frequently. This is started near the mucocutaneous junction and carried posteriorly, where it may be looped and tied to itself or by a wide sweep of the needle beneath the skin lateral to the suture line brought back to the starting point and fastened to its own original end. A series of simple interrupted sutures of either catgut or dermol probably give as satisfactory results and should be used when there is the least indication for haste.

CONCLUSION

It may be emphasized that the correct use of episiotomy forms one of the niceties of obstetric practice. The consideration of whether to undertake the operation in a given case demands the balancing of a known type of surgical injury against an unknown degree of trauma from the stretching effects of the presenting part against the perineum. Regret for having performed needless episiotomy is probably less frequent and certainly less permanent than that experienced at times for having omitted it.