FOGSI
Modern Advances in
OPERATIVE OBSTETRICS

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CHAPTER 10

Episiotomy, Cervical, and Vaginal Tears

Archana Kumari

EPISIOTOMY

INTRODUCTION

Episiotomy is a deliberate incision on the perineum equivalent to a second-degree perineal tear. This is the most common surgical procedure in obstetrics. The routine use of episiotomy in all primigravida has changed to restrictive and reasonable use in indicated cases only. Episiotomy rates must be reduced as evidence shows that they cause significant perineal injuries and lacerations rather than preventing them.[1] Midline episiotomy is a major risk factor for third- and fourth-degree perineal tear.[2] The usual mediolateral episiotomy reduces the incidence of anterior perineal injuries, while increasing the chance of posterior perineal injuries and the need for suturing.[3] Third- or fourth-degree perineal tears increase the chances of anal incontinence after vaginal birth.[4] The International Federation of Gynecology and Obstetrics (FIGO) also endorses the restrictive use of episiotomy rather than universal episiotomy. Restrictive use of episiotomy reduces the risk of vaginal and perineal injury by almost 30%.[1]

INDICATIONS FOR RESTRICTIVE USE OF EPISIOTOMY

Although routine episiotomy should be avoided, there are some circumstances in which it should be used to facilitate fetal delivery and prevent perineal tears and lacerations. Situations when episiotomy should be used include:

- Fetal macrosomia
- Shoulder dystocia
- Assisted breech delivery
- Instrumental delivery (forceps or ventouse)
- Threatened rupture of the perineum in primigravida with rigid perineum
- Previous history of perineal operations like pelvic floor repair

TYPES (FIG. 1)

- *Median:* The incision starts in the center of posterior fourchette and extends posteriorly in the midline toward the anus for approximately 2.5 cm.

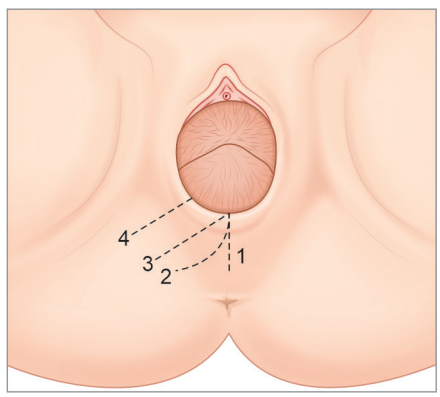

Fig. 1: *Types of episiotomy:* 1. Median; 2. J-shaped; 3. Mediolateral; 4. Lateral.

- *J-shaped:* The incision starts at the center of the fourchette and is first directed posteriorly in the midline for about 1.5 cm and then extended downward and outward along 5 or 7 o'clock position to avoid injury to the anal sphincter. This is not a popular procedure, because the healing and apposition both are poor.
- *Mediolateral:* It is preferred and most commonly done. The incision starts in the midline at the center of the posterior fourchette and extends downward and outward at an angle of 60° either to right or left for 2.5 cm away from anus. Right mediolateral is more commonly performed. Need to cut the perineum at 60° has been confirmed in recent literature. The lowest risk of obstetric anal sphincter injuries (OASI) is observed with an episiotomy angle ranging from 45° to 60° from the midline.[5] A mediolateral episiotomy at an angle of 60° from the midline at the time of crowning corresponds to an angle of 45° after delivery, best performed using Episcissors-60 **(Fig. 2)**.[6]
- *Lateral:* The incision does not start in the midline but starts about 1 cm away from the center of the fourchette and extends laterally.

TIMING OF EPISIOTOMY

Episiotomy before crowning should be avoided as it leads to increased vaginal trauma, blood loss, and longer average incision length.[7] It should be performed in the expulsive phase of the second stage of labor, at the time of crowning, when the perineum is thinned by presenting part during a bearing-down effort. A 4–6 cm length is usually recommended.[8]

STEPS OF MEDIOLATERAL EPISIOTOMY (FIGS. 3A TO E)

Step 1: Preliminaries

Perineal area is cleaned with antiseptic solution and draped with sterile sheets. 10 mL of 1% lignocaine solution is injected in a fan-shaped manner.

Step 2: Incision

The index and middle fingers of the left hand are put into the vagina with palmer surface toward the perineum to expose the vaginal skin, fourchette, and perineal body to protect the head of the baby. Incision is given at the height of uterine contractions.

Step 3: Repair

Polyglactin sutures result in less short-term pain, use of analgesia and wound dehiscence than chromic catgut.

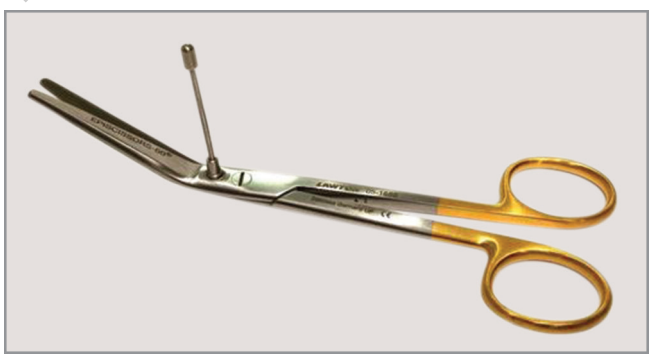

Fig. 2: Episcissors-60 used for delivery.

Figs. 3A to E: *Steps of episiotomy:* (A) Mediolateral incision at 45° with the midline; (B) Episiotomy wound after the incision; (C) Mucosa repaired by continuous sutures; (D) Muscle layer approximated by interrupted sutures; and (E) Skin closed with subcuticular stitches.

Repair of mucosa: A continuous interlocking hemostatic stitch is used to close posterior vaginal wall starting from 1 cm above the apex up to the introitus with sutures placed approximately 0.5 cm from edge of incision.

Repair of muscles and fascia: Dead space is obliterated carefully using interrupted sutures and complete hemostasis achieved.

Repair of the skin: Interrupted mattress or subcuticular stitches are placed using Vicryl rapid.

At the end, rectal mucosa should be checked to make sure that the suture is not placed in the anal canal and also to rule out missed third- or fourth-degree perineal tear.

POSTOPERATIVE CARE

- Early ambulation is recommended.
- *Dressing*: Routine wound cleaning with warm water and antiseptic solution after every act of urination and defecation is advised. Women should be instructed to wash from anterior to posterior side to

avoid contamination from fecal matter and anal microbes.

- According to the American College of Obstetricians and Gynecologists (ACOG), routine use of antibiotics in episiotomy is not recommended unless extension occurs, leading to third- and fourth-grade tears. Single-dose second-generation cephalosporin can be given in case of anal sphincter lacerations.

POSTOPERATIVE COMPLICATIONS

- *Traumatic postpartum hemorrhage (PPH)* from episiotomy site
- *Extension to a complete perineal tear* is more commonly seen in median episiotomy, instrumental deliveries, and face-to-pubis delivery.
- *Vulval hematoma* can develop if hemostasis is not achieved properly which presents with excruciating pain and red tender swelling. Treatment is local drainage, antibiotics, and anti-inflammatory drugs.
- *Infection*: Infected episiotomy presents with fever, pain, and wound looking inflamed and edematous with unhealthy discharge.

  Treatment: Removal of one or two stitches for better drainage, local application of povidone-iodine solution or ointment, oral or parenteral antibiotics such as ampicillin, gentamycin, and metronidazole for 5–7 days is the treatment. Sitz bath is quite helpful in relieving pain. Anti-inflammatory analgesics should be added.
- *Wound dehiscence* occurs due to sepsis, hematoma formation, or improper suturing of episiotomy site. Dressing is done with antiseptic betadine cream till fresh granulation tissue appears and is allowed to heal by secondary intention.
- *Rectovaginal fistula* is seen in rare conditions with faulty technique of suturing.
- *Fecal incontinence* can occur due to damage to anal sphincter.
- *Dyspareunia* can happen due to bad suturing of episiotomy, puckered scar, or inflammation.
- *Scar endometriosis* can occur rarely if endometrial tissue gets deposited at the episiotomy site, causing cyclical pain.

CERVICAL TEAR

INTRODUCTION

Traumatic PPH should be diagnosed when there is continued bleeding from the genital tract, in the presence of well-contracted uterus and complete placental delivery. Cervical tear is the most common cause of traumatic PPH. The incidence of postdelivery cervical lacerations ranges from 0.2 to 1.2%.[9] Cervical tear can vary from superficial to deep tears with extensions to the vaginal vault or even to the lower segment of the uterus. The cervix changes after parturition and is never the same as before. Minor lacerations occur in all cases. But deep tears are largely due to preventable causes. Sometimes, bucket-handle tear can result in complete avulsion of the cervix from the uterus.

CAUSES

- Rapid delivery of the fetus by natural powers (precipitate labor)
- Assisted delivery with forceps or breech delivery when the cervix is not completely dilated.
- Delivery through scarred cervix (from a previous injury to the cervix as an improperly healed cervical tear or laceration or

due to previous surgery on the cervix, like amputation of the cervix or conization). Occasionally, the cervix may be rigid by itself.

- Prolonged labor with cervical dystocia
- Circular or annular tear of the cervix may be due to faulty application of the vacuum cup (more so with metal cups), where the cervix is caught between the cup and the head, so that when traction is applied, a whole ring of the cervical tissue comes off.

Occasionally, the tear in the cervix may extend upward and involve the lower uterine segment with opening up the pelvic cellular space and even the peritoneal cavity.

DIAGNOSIS

Excessive vaginal bleeding immediately after delivery in the presence of hard and contracted uterus and complete placenta should raise suspicion of traumatic bleeding. Since the cervix is flabby after delivery, a digital examination does not diagnose cervical tears satisfactorily. If not diagnosed timely and managed immediately, women may go into shock.

REPAIR OF CERVICAL TEARS

- Call for help.
- Start two wide-bore intravenous (IV) lines with crystalloids.
- Arrange blood after grouping and cross-matching.
- Put indwelling catheter.
- Place a vaginal pack and shift the patient to operation theater (OT) after informing the anesthesiologist. Do not repair in the labor room itself.
- Provide continuous emotional support and encouragement.
- *Prerequisites in OT* are:
  - Good source of light
  - Two assistants
  - *Instruments:* At least two, preferably three, sponge-holding forceps and two vaginal Sims' speculum
- Short IV general anesthesia (pentazocine and phenergan IV slowly).
- Vaginal pack is removed. A broad Sims' speculum is inserted into the posterior vaginal wall, and another speculum is put in the lateral vaginal wall. The anterior cervical lip is caught by a sponge-holding forceps, keeping this as an identification point, and another sponge-holding forceps is applied to the lateral side (the side from which the bleeding seems to arise). Now, keeping the lateral sponge–holding forceps in place, the first forceps is removed and applied to the posterior lip of the cervix. This forceps is then left in place, and the anterior lip forceps is removed and applied further lateral part of the cervix. This technique is called *"walking round the cervix"* and is very useful in reaching up to the apex of the cervix.
- Take the first suture about 1 cm above the apex (to include the descending cervical artery that tends to retract upward) with chromic catgut number 0 or polyglactin (Vicryl) 0 and continue downward as interrupted mattress sutures or continuous suture **(Fig. 4)**.
- If the apex is difficult to reach, ask the assistant to give fundal pressure to push the uterus downward for making the apex more accessible. Then apply sutures as high as possible, keep the sutures ends long and hold it with artery forceps. Give traction to the artery forceps and apply another suture above the previously placed suture, till the apex is reached.
- Sometimes, a long segment of the cervical rim is avulsed, it should underrun with continuous 0 chromic catgut (or polyglycolic) suture.

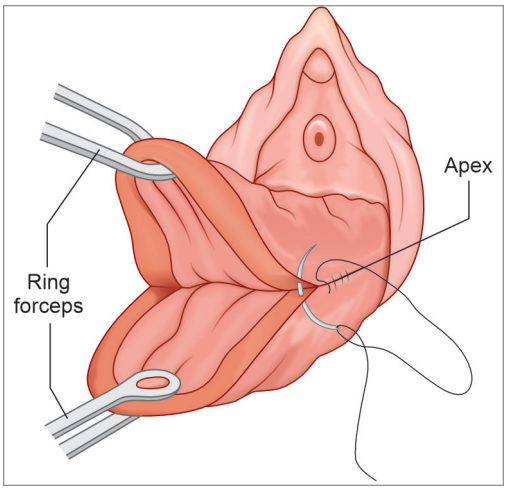

Fig. 4: Repair of cervical tear (First suture 1 cm above the apex).

- If the apex is difficult to reach, persistent attempts to secure the bleeding points might increase the bleeding. So, in case apex cannot be reached, then hold it with ring/sponge-holding forceps and transfer the women to higher center or leave the forceps in place for 4 hours. Remove the forceps partially after 4 hours and remove completely after another 4 hours.
- Laparotomy is sometimes required to repair a cervical tear, which has extended upward to involve the lower part of the uterus.

POSTOPERATIVE CARE AFTER REPAIR OF A VAGINAL/ CERVICAL/PERINEAL TEAR

- Montor vital signs [pulse, blood pressure (BP), and temperature] every 15 minutes for 1 hour, every half hour for the next 2 hours, and then as required.
- Observe for any bleeding or formation of a hematoma.
- IV fluids should be given if required as per the women's condition.
- Prophylactic antibiotics amoxycillin/ cephalosporins and metronidazole can be given.
- The woman should be followed up after 1 week and after 6 weeks to check wound for proper wound healing.

COMPLICATIONS OF REPAIR OF A CERVICAL TEAR AND THEIR MANAGEMENT

Early Complications

- *Bleeding*: It may continue if the blood vessels at the apex of tear have not been ligated properly. So, take utmost care to secure the apex and also keep in mind that bleeding might come from an atonic uterus.
- *Hematoma*: It may present with vaginal or vulval swelling or pain in perineum and retention of urine. It can be prevented by careful exploration of genital tract after repair and securing the bleeding points while suturing. Remember that traumatic PPH cannot always be isolated cervical tear but can involve vault and vaginal wall also.
- *Retention of urine*: It can occur due to reflex spasm of urethral sphincter due to pain. Hence, woman is encouraged to pass urine frequently. If she is not able to pass urine on her own, especially when tight vaginal pack has been given after repair, an indwelling catheter is placed for 48 hours with antibiotic coverage.
- *Infection*: This can be prevented by giving prophylactic antibiotics and repairing the tear using aseptic techniques. Any suture that falls out or become loose due to infection should be removed. However, all sutures need not be removed at the same time. If the wound is gaping, secondary suturing should be done when

the infection has subsided, and healthy granulation tissue is seen.

Late Complications

- *Cervical scarring* due to an unrepaired cervical tear may lead to prolonged labor in subsequent pregnancies, because the cervix cannot dilate properly. If cervical tears are not sutured properly, it may lead to repeated abortions on account of "cervical incompetence." There is also a tendency for repeat cervical tear in subsequent deliveries at the site of the previous tear.
- Vesicovaginal, vesicocervical, or rectovaginal fistulae can occur if vaginal or cervical tears extend into the bladder or rectum. There is a risk of developing anal incontinence or worsening of symptoms in future pregnancies.

  All women who sustained an OASI in a past pregnancy and are symptomatic should be given the option of elective cesarean birth.

VAGINAL TEARS

Vaginal tears can occur with instrumental and manipulative deliveries.

Treatment: Small tears without excessive bleeding do not need treatment. Large vaginal laceration is stitched using 1-0 polyglactin suture under short general anesthesia in OT with good light source. Vaginal packing can be done along with oral or parenteral antibiotics.

Colporrhexis: Rupture of vaginal vault can be isolated or accompanied by cervical tears. Deeper tears reaching up to the peritoneum are complete colporrhexis.

Treatment: For incomplete colporrhexis, the repair is done under general anesthesia in OT with good light source using 1-0 polyglactin sutures. For complete and complicated colporrhexis, laparotomy and definitive surgeries like hysterectomy are performed after resuscitating the patient.

CONCLUSION

The routine use of episiotomy has changed to restrictive and reasonable use in indicated cases only, as it reduces the risk of vaginal and perineal injuries. The indications of episiotomy in modern-day obstetrics include assisted vaginal deliveries—breech deliveries, instrumental deliveries, shoulder dystocia, fetal macrosomia, and previous history of pelvic floor repair.

Cervical tear is the most important cause of traumatic PPH, which should be suspected clinically by excessive bleeding after delivery in the presence of a well-contracted uterus and complete placenta. Timely diagnosis and prompt management prevent shock. Genital tract exploration should be routinely done to identify vaginal tears and lacerations.

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