Does mediolateral episiotomy reduce the risk of anal sphincter injury in operative vaginal delivery?

Yes. This retrospective cohort study found a sixfold reduction in the odds of obstetric anal sphincter injuries in women undergoing operative vaginal delivery when mediolateral episiotomy was performed, compared with no mediolateral episiotomy (adjusted odds ratio, 0.17; 95% confidence interval, 0.12–0.24).

de Vogel J, der Leeuw-van Beek A, Gietelink D, et al. The effect of mediolateral episiotomy during operative vaginal delivery on the risk of developing obstetrical anal sphincter injuries. Am J Obstet Gynecol. 2012;206(5):404.e1–e5.

EXPERT COMMENTARY

Errol R. Norwitz, MD, PhD, Louis E. Phaneuf Professor of Obstetrics and Gynecology, Tufts University School of Medicine, and Chairman, Department of Obstetrics and Gynecology, Tufts Medical Center, Boston, Massachusetts. Dr. Norwitz serves on the OBG MANAGEMENT Board of Editors.

Episiotomy is an incision into the perineal body that is made during the second stage of labor to expedite delivery. Despite guidelines recommending restrictions on its use, episiotomy is still performed in more than 25% of vaginal deliveries in the United States. Suggested benefits include a shortened second stage of labor, the substitution of a straight surgical incision for a ragged spontaneous tear, and a reduced incidence of severe perineal injury and resultant pelvic floor dysfunction. Few data support these assertions, however.

Episiotomy is no OASIS

Absolute indications for episiotomy have yet to be established. Although there is general agreement that episiotomy may be indicated in select circumstances (such as to expedite delivery in the setting of nonreassuring fetal testing in the second stage of labor, shoulder dystocia, or at the time of operative vaginal delivery), routine use is discouraged.[1,2] Besides the lack of data showing its benefit, episiotomy is associated with several potential complications, including increased blood loss, fetal injury, and localized pain. In contrast to the stated goal of reducing perineal trauma, episiotomy is associated with an increased incidence of third- or fourth-degree perineal lacerations,[3,4] referred to in this study as obstetric anal sphincter injuries (OASIS).

Third- or fourth-degree tears are identified clinically at the time of vaginal delivery in 0.6% to 9% of patients.[4] Studies using two-dimensional endoanal ultrasonography suggest that the true incidence of rectal injury is probably closer to 11%.[5] Such injuries are associated with an increased risk of subsequent urinary or fecal incontinence (or both) and pelvic organ prolapse.

If episiotomy is indicated, how should it be performed?

There are two main types of episiotomy: median (favored in the United States) and mediolateral episiotomy. Complications—especially OASIS—are more common with median episiotomy,[3,6,7] which involves a vertical midline incision from the posterior fourchette toward the rectum. Mediolateral episiotomy (favored in Europe), refers to an incision performed at a 45° angle from the posterior fourchette. OASIS is more common after median episiotomy, compared with the mediolateral approach.[4,6] What is not yet clear is whether mediolateral episiotomy actually protects against OASIS.

FAST TRACK

Mediolateral episiotomy greatly reduced the incidence of obstetric anal sphincter injury, compared with no mediolateral episiotomy

CONTINUED ON PAGE 18

CONTINUED FROM PAGE 17

FAST TRACK

8.6 mediolateral episiotomies would be needed to prevent one anal sphincter injury during vacuum extraction

Details of the study

de Vogel and colleagues evaluated the frequency of OASIS in women at high risk—specifically, those undergoing operative vaginal delivery; they also sought to determine whether mediolateral episiotomy is protective against OASIS. To this end, they performed a retrospective analysis of 2,861 consecutive women who delivered a singleton liveborn infant at term by vacuum, forceps, or both, from 2001–2009. Women were identified through the Netherlands Perinatal Registry, a voluntary reporting national database that includes approximately 96% of the 190,000 births that occur after 16 weeks' gestation each year in the Netherlands. Exclusion criteria included multiple gestation, breech presentation, and use of median episiotomy.

The overall frequency of OASIS was 5.7% (162 cases among 2,861 deliveries). After logistic-regression modeling, a number of variables were significantly associated with OASIS, all of which have been identified previously: forceps delivery, occiput posterior position, primiparity, and epidural anesthesia. Women with a mediolateral episiotomy were at a significantly lower risk for OASIS, compared with women without mediolateral episiotomy (3.5% vs 15.6%, respectively; $P<.001$). Further analysis suggested that 8.6 mediolateral episiotomies would be needed to prevent one OASIS during vacuum extraction, whereas 5.2 procedures would be necessary to prevent one OASIS during forceps delivery. de Vogel and colleagues concluded that mediolateral episiotomy should be performed during all operative vaginal deliveries to reduce the incidence of OASIS.

Although this study included a large sample from a well-established and validated dataset (collected prospectively), it was, by design, retrospective. There was no standardization of when or how to cut the mediolateral episiotomy. However, many of these uncontrolled variables (such as cutting an episiotomy that is more median than mediolateral or cutting an episiotomy only in women who appear to be at imminent risk of sustaining a perineal laceration) would increase—not decrease—the risk of severe perineal injury. This fact suggests that the protective effect of mediolateral episiotomy may be even more dramatic than the sixfold protection reported in this study.

This study focused on women who underwent operative vaginal delivery. It remains controversial whether mediolateral episiotomy is protective in women who have a spontaneous (noninstrumental) vaginal delivery.

The study also lacks follow-up data on how many women with OASIS went on to develop fecal or urinary incontinence or pelvic organ prolapse. However, a third- or fourth-degree perineal laceration is serious enough that it can serve as an acceptable primary outcome measure even in the absence of long-term functional data.

In this study, use of median episiotomy was an exclusion, mostly likely because it is rarely performed in Europe.

WHAT THIS EVIDENCE MEANS FOR PRACTICE

While the battle over "to cut or not to cut" continues to rage, one fact is clear: median episiotomy should be abandoned. If you are going to perform episiotomy, make it mediolateral. According to this report, accoucheurs should consider cutting a mediolateral episiotomy for perineal protection each time they perform operative vaginal delivery.

›› ERROL R. NORWITZ, MD, PHD

References

1. Hartmann K, Viswanathan M, Palmieri R, Gartlehner G, Thorp J, Lohr KN. Outcomes of routine episiotomy: a systematic review. JAMA. 2005;293(17):2141–2148.
2. Carroli G, Mignini L. Episiotomy for vaginal birth. Cochrane Database Syst Rev. 2009;(1):CD000081.
3. Helwig JT, Thorp JM Jr, Bowes WA Jr. Does midline episiotomy increase the risk of third- and fourth-degree lacerations in operative vaginal deliveries? Obstet Gynecol. 1993;82(2):276–279.
4. Dudding TC, Vaizey C, Kamm MA. Obstetric anal sphincter injury: incidence, risk factors, and management. Ann Surg. 2008;247(2):224–237.
5. Williams AB, Bartram CI, Halligan S, Spencer JA, Nicholls RJ, Kmiot WA. Anal sphincter damage after vaginal delivery using three-dimensional endosonography. Obstet Gynecol. 2001;97(5 Pt 1):770–775.
6. Coats PM, Chan KK, Wilkins M, Beard RJ. A comparison between midline and mediolateral episiotomies. Br J Obstet Gynaecol. 1980;87(5):408–412.
7. Kudish B, Blackwell S, McNeeley SG, et al. Operative vaginal delivery and midline episiotomy: a bad combination for the perineum. Am J Obstet Gynecol. 2006;195(3):749–754.