Journal of Pelvic, Obstetric and Gynaecological Physiotherapy, Spring 2020, **126,** 5–10

OPINION

Standardizing indications for episiotomy: a narrative review of contemporary clinical evidence

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Abstract
As an intrapartum intervention with uncertain indications, benefits and outcomes, episiotomy has long been a subject of debate. The controversy surrounding its use is reflected in the worldwide variation in current obstetric practice. The most recent guidelines support restrictive rather than routine episiotomy, something that is not always implemented by healthcare professionals. This narrative review explores the relevant clinical trends, presents data from different countries and summarizes the most up-to-date protocols. Additionally, via content analysis, the authors aim to investigate when episiotomy should be an option, and whether this aligns with the existing care offered to parturient women. Finally, they discuss the potential of a universally accepted optimal proposal, with a view to encouraging best practice and preventing serious perineal trauma during vaginal birth.

Keywords: best practice, episiotomy, maternal morbidity, obstetric anal sphincter injuries, perineal trauma.

Introduction

Globally, the majority of women give birth with minimal medical interference, and without any major complications. Obstetric involvement in this dynamic physiological process is warranted when intrapartum concerns arise. A cautious approach needs to be taken when attempting to improve the quality of obstetric care during childbirth. This is because interventions such as an episiotomy can be associated with concomitant risks.

An episiotomy is traditionally used to expedite vaginal delivery when foetal distress is suspected, and for facilitating instrumental delivery. Moreover, since extensive perineal trauma can encompass the anal sphincter complex, with potentially severe maternal morbidity, an episiotomy is often employed in an attempt to minimize such an injury. Apart from the fact that the absolute indications to perform an episiotomy are limited, the advantages of this liberally used practice remain unclear and conflicting, and there is some evidence that these procedures may, in fact, cause serious perineal lacerations, rather than prevent them.

In particular, UK practice is for an episiotomy to be mediolateral. This is because a midline episiotomy, a common procedure in the USA, is a strong independent risk factor for anal incontinence and obstetric anal sphincter injuries (OASIS). In addition, it has been found that episiotomy increases the risk of second-degree tears in subsequent deliveries, and compared with spontaneous lacerations, it may be related to a decrease in pelvic floor strength, more perineal pain and also dyspareunia (Sartore *et al.* 2004; Alperin *et al.* 2008).

On the other hand, a recent meta-analysis of observational data concluded that mediolateral episiotomy may reduce OASIS, and should not be withheld, especially in nulliparous women (Verghese *et al.* 2016). After adjusting for confounding factors, mediolateral episiotomy has

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been shown to result in a significant reduction in the development of lacerations in primiparous women compared with no episiotomy (Verghese *et al.* 2016).

Overall, despite episiotomy being habitually performed, it entails a certain degree of possible harm, and therefore, its benefits need to be balanced against the reported risks. There is a consensus about trying to reduce its prevalence since the evidence has failed to establish the proposed significant reduction in maternal morbidity, especially when it is used in an unrestricted fashion and outside well-defined criteria. Therefore, distinct protocols should be in place to promote the best clinical practice, and prevent unnecessary episiotomies, while minimizing perineal trauma.

Episiotomy rates around the world

Published studies have revealed that there are considerable differences among healthcare systems, and although there is a decreasing trend in most countries, rates of episiotomy remain high overall (Wildman *et al.* 2003; Graham *et al.* 2005; Friedman *et al.* 2015). Except for East Asia, where these rates are persistently elevated, the number of total episiotomy procedures around the world appears to be dropping (Clesse *et al.* 2018).

The optimum rate of warranted episiotomies is uncertain. Some authors state that episiotomy rates above 30% cannot be medically justified while others imply that a rate of 20% may be more appropriate (Henriksen *et al.* 1992; AETCG 1993; WHO 1996).

In general, episiotomy numbers tend to be lowest in English-speaking and some European countries. Episiotomy rates that include both primiparous and multiparous women range from as low as 4.9% in Denmark to nearly 100% in Taiwan and Guatemala. In 2010, episiotomy rates were recorded at 19.4% in England, 23.6% in Scotland and 20.1% in Wales (EPP, SCPE & EUROCAT 2010). Episiotomy rates vary from 3% to 31% in Canada, from 27% to 38% in the USA, from 9.9% to 20.9% in Australia and from 10% to 11% in New Zealand (MoH 2003; Laws & Sullivan 2004). The reported rate is 6.6% in Sweden, 24.1% in Finland, 26.9% in France, 27.7% in Germany and Switzerland, 67.5% in Poland, and 72.9% in Portugal (EPP, SCPE & EUROCAT 2010). In Latin America, nine in every 10 primiparas can still expect to receive an episiotomy (Althabe *et al.* 2002). Similarly, in Shanghai, China, episiotomy rates are as high as 65–93% (Qian *et al.* 2001; Graham *et al.* 2005).

Retrospective data indicate that episiotomy rates were 16.4% in England, 21.1% in Scotland and 14.2% in Wales in 2002–2003 (DH 2004). In the same year, the rates in Germany, Finland and Portugal were 30.8%, 32.1% and 75.8%, respectively (Wildman *et al.* 2003). In the Netherlands, these rates varied between 7.6% and 42% in spontaneous term deliveries (Wildman *et al.* 2003). In Argentina, the total episiotomy rate in 1995 was between 33% and 62.5% (Althabe *et al.* 2002).

Cochrane evidence

The most recent Cochrane systematic review (Jiang *et al.* 2017) analysed 12 randomized controlled trials (RCTs) involving a total of 6177 women, and compared selective (or restrictive) against routine (or liberal) use of episiotomy. The studies that were included were carried out in a wide range of locations in Europe, America and Asia. Eight RCTs selected only primiparous women, and four involved both primiparous and multiparous women.

Maternal outcomes with respect to short-term morbidity revealed low-quality evidence suggesting that a policy of selective/restrictive episiotomy may reduce by 30% severe perineal and vaginal trauma, mainly OASIS, as compared with routine or liberal episiotomy in spontaneous vaginal births. Additionally, excluding episiotomy repair, the evidence indicated that a selective episiotomy policy may reduce the need for perineal suturing.

Subgroup analysis by parity suggested that the episiotomy policy might not make a difference to perineal/vaginal trauma in multigravidas. Both selective and routine episiotomy may make little or no difference to blood loss at delivery, rates of perineal infection and the use of pain relief 10 days after birth. Similarly, there was little or no difference in sexual dysfunction, urinary incontinence and genital prolapse at 3 years postpartum.

Other outcomes relating to long-term effects such as urinary fistula, rectal fistula and faecal incontinence were not reported. Women's preferences and satisfaction, the initiation of breastfeeding, and the number of days spent in hospital after birth were also not described. Foetal and neonatal outcomes such as perinatal hypoxia-ischaemia and the effect on infants of an Apgar score of less than 7 at 5 min were of very low certainty, mainly because of the small sample size.

The evidence related to severe trauma was derived mainly from RCTs employing a mediolateral incision technique. Individual trials of midline incisions produced inconsistent results; however, severe trauma occurred more frequently in these studies.

There appears to be no evidence supporting the need for routine episiotomy in any clinical situation. The published findings on the effects of the selective/restrictive use of episiotomy, compared with no episiotomy, reported no differences in any maternal or perinatal outcomes. According to Jiang *et al.* (2017, p. 23), "Based on the logic framework, routine episiotomy appears to offer no advantages or benefits."

Overall, there was moderate bias in the RCTs included, although several had a high risk of bias with respect to incomplete outcome data (Carroli & Mignini 2009; Amorim *et al.* 2017). In summary, there seems to be no justification for the belief that a selective episiotomy policy results in harm to mother or baby, or that routine episiotomy reduces perineal trauma.

Further research involving standardized outcome assessment methods may help to clarify whether routine episiotomy is useful in women who are scheduled to undergo an instrumental delivery. The rationale commonly used to justify routine episiotomy is currently not supported by any evidence from RCTs.

Current official recommendations

The World Health Organization (WHO) regularly disseminates comprehensive guidelines that are intended to improve intrapartum care, and establish an environment supporting a positive childbirth experience. It recommends a policy of avoiding routine or liberal use of episiotomy in women undergoing spontaneous vaginal birth (WHORHL 2018).

More specifically, the Guidelines Review Committee analysed available data showing a lack of evidence for the effectiveness of episiotomy, and stressed the need to discourage excessive use of routine episiotomy across all settings. It was felt that it was important not only to recommend the selective/restrictive use of episiotomy, but to also underline that routine use of episiotomy is "not recommended" (WHORHL 2018, p. 1).

Similarly, the International Federation of Gynecology and Obstetrics (FIGO) has supported the restrictive use of episiotomy, where the procedure is limited to situations in which either perineal laceration has already begun, or there is an imminent threat of perineal tear or urgency in delivering the baby (Nassar *et al.* 2017).

National Institute for Health and Care Excellence recommendations

The National Institute for Health and Care Excellence (NICE) proposes that episiotomy should not be carried out routinely during spontaneous vaginal birth. It also suggests that routine episiotomy should not be offered to multiparous women who have previously sustained OASIS. The clinical indications in which an episiotomy is recommended are instrumental birth or suspected foetal compromise (NICE 2014).

If an episiotomy is performed, the advocated technique is a mediolateral episiotomy originating at the vaginal fourchette, which is usually directed to the right side, after the provision of effective analgesia. The angle to the vertical axis should be between 45° and 60° (Stedenfeldt *et al.* 2012; Rusavy *et al.* 2016).

Episiotomies should be performed in the expulsive phase of the second stage of labour, when the presenting part of the baby is bulging the perineum during efforts to bear down. Clinicians should avoid performing an episiotomy before crowning; this is because the procedure is associated with increased vaginal trauma, longer average incision length and greater average estimated blood loss.

Royal College of Obstetricians and Gynaecologists guidelines

The Royal College of Obstetricians and Gynaecologists (RCOG) recommends considering a mediolateral episiotomy in operative vaginal deliveries. However, its guidelines emphasize that, in the absence of robust evidence to support the routine use of this procedure, only restrictive rather than routine use of episiotomy, based on the clinician's judgement, is supported (RCOG 2011, 2015).

At the same time, additional strategies have been evaluated to reduce both episiotomy rates and the incidence of perineal trauma. Digital perineal massage applied before delivery and during the second stage of labour, and also warm compresses on the perineum during the second stage, appear to help to decrease perineal injury. Moreover, firm perineal support and clear communication seem to play a vital additional role in reducing trauma (RCOG 2011, 2015).

Practice in America

The American College of Obstetricians and Gynecologists (ACOG) recommends the use of episiotomy in the management of some deliveries, but its routine use is not deemed to be necessary. The American College of Nurse-Midwives advocates that episiotomy should only be employed to relieve foetal or maternal distress, or when the perineum is thought to be responsible for the lack of progress (AAP & ACOG 1997).

Similarly, the Society of Obstetricians and Gynecologists of Canada (SOGC) advises that episiotomy should only be used to expedite delivery in cases of foetal compromise, or maternal distress and lack of progress. Health Canada also recommend performing an episiotomy in cases in which there are foetal or maternal problems. The advice of the Latin American Center for Perinatology and Human Development, and the Pan American Health Organization is along the same lines, and these organizations have campaigned for restrictive rather than routine use of episiotomy (SOGC 1998; PHAC 2000).

Discussion

The implementation of these recommendations for the restrictive use of episiotomy in up-to-date clinical practice can be challenging. However, educational strategies to reduce the number of unnecessary episiotomies have been shown to be both feasible and effective. Altering the current culture of still-high episiotomy rates requires: effective communication across all healthcare providers responsible for parturient women; training; and continuous clinical audits.

A universal policy on the use of episiotomy requires planning, the adaptation of local policies and a process of implementation that takes into account individual health services. The WHO intrapartum care model is based on the best available clinical evidence, and it can be transferred to intrapartum care practices worldwide. Small modifications when necessary could be justified, as long as these enable behavioural changes that are based on recent evidence.

Skilled obstetricians and experienced midwives can play a vital role in reducing unnecessary interventions, especially in a clinical environment in which fear of litigation drives a defensive model of practice.

At the same time, the maternal perspective should be central and not overlooked. Evidence shows that women are concerned about interventions like episiotomy, even when such procedures are clinically indicated. This anxiety needs to be addressed sensitively, ideally in the antenatal period, and any discussions should be supplemented by written information. Informing expectant mothers that episiotomy is performed judicially has the potential to improve positive intrapartum outcomes.

Whenever episiotomy is necessary, women should give their clear consent during the peripartum period, otherwise their basic human rights are breached. Healthcare professionals should aspire to provide a positive birth experience for all women, and ensure good outcomes for both mothers and newborns.

Conclusions

When there are no supporting data to justify the daily practice of nearly non-restrictive episiotomy, questioning its use is a vital step towards clinical excellence in obstetrics. The effect of an episiotomy on the quality of life of a woman should not be underestimated. Allied healthcare professionals, physiotherapists and midwives often encounter women who have had problems with making a recovery after delivery. While the selective practice of episiotomy is consistent with the up-to-date clinical studies, routine episiotomy could cause more harm than previously thought.

The first step to addressing this issue is the dissemination of evidence-based clinical recommendations in a transparent way. Avoiding routine episiotomy implies using clinical judgement, rather than withholding its use in all circumstances. In certain situations, it may prevent serious lacerations, and expedite the delivery of babies who are thought to be hypoxic. In such cases, clinicians should thoroughly inform women about episiotomy, and properly obtain their consent before performing the procedure. At optimum rates of episiotomy, a reduction in OASIS should be considered as an indicator of high-quality care in vaginal delivery, and our clinical practice should aspire to achieving this.

Disclosure of competing interests

The present authors declare that they have no competing interests, and have received no funds for conducting this study.

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