Rate and Risk Factors for Episiotomy at King Hussein Medical Center: A One Year Review from the Department of Obstetrics and Gynecology King Hussein Medical Center

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ABSTRACT

Objective: To determine the rate and risk factors for episiotomies at King Hussein medical center Jordan-Amman.

Methods: This was a record review study conducted at King Hussein medical centre during a 12-month period between January 2013 and January 2014 on all women who had vaginal deliveries of a term alive single fetus in cephalic presentation.
Information on age, parity, mode of vaginal delivery, birth weight of the newborn, and episiotomy rate, were recorded. Simple descriptive statistics, (Frequency and percentage), were used to describe the variables.

Results: The episiotomy rate was 52% in our hospital. The most common indications were nulliparous, instrumental deliveries, rigid perineum, fetal weight above 3,500 g, and prolonged second stage of labor.

Conclusion: The episiotomy rate is high at our hospital (52%) in the face of current evidence based literature that supports restricted use of episiotomy. Nulliparity and instrumental deliveries appear to be the risk factors for episiotomy.

Key words: Episiotomy, Instrumental deliveries, Indications, Nulliparity.

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Introduction

Episiotomy has been described in the medical literature for more than 300 years by Sir Fielding Ould in 1741.[1] It was introduced in obstetric practice by DeLee in the 1920,[2] since that time episiotomy has become one of the most commonly performed procedures in obstetrics. In 2000, approximately 33% of women giving birth vaginally had an episiotomy.[3]

Historically, the purpose of this procedure was to facilitate completion of the second stage of labor and to improve both maternal and neonatal outcomes.[4]

Maternal benefits were thought to include a reduced risk of perineal trauma, subsequent pelvic floor dysfunction and prolapse, urinary incontinence, fecal incontinence, and sexual dysfunction. Potential benefits to the fetus were thought to include a shortened second stage of labor resulting from more rapid spontaneous delivery or from instrumented vaginal delivery to spare the Newborn's head from trauma.[4] Despite limited data, this procedure became almost routine resulting in an underestimation of the

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Table I: Maternal age among study group

Age	Number	%
≤20	96	2.5
20-30	3226	83.5
30-40	483	12.5
≥40	58	1.5
Total	3863	100

Table II: Maternal parity among women who underwent normal vaginal delivery

Parity	Number	%
Nullipara	1034	26.8
Para 1-3	897	23.2
Para 4-6	1714	44.3
> para 6	218	5.7
Total	3863	100

Table III: Newborn birth weight (grams)

Newborn's birth weight	Number	%
< 2500	96	2.5
2500-3500	3226	83.5
>3500	541	14
Total	3863	100

Table IV: Mode of delivery among study group

Mode of delivery	Number	%
Spontaneous vaginal delivery	3645	94.3
Assisted vaginal delivery	218	5.7
Total	3863	100

Table V: Episiotomy rates among study group

Episiotomy rates	Number	%
Yes	2002	52
No	1861	48
Total	3863	100

potential adverse cost of episiotomy, including extension to a third- or fourth-degree tear,[5] anal sphincter dysfunction,[6] dyspareunia,[7] and increased blood loss at delivery.[8]

As a result, the World Health Organization recommended that episiotomy be performed only for a strictly limited number of indications.[9]

Very little information is available about episiotomy rates in Jordan. It is important to review the rate of episiotomy because such a review will point in the direction of more up to date discussions about the level of unnecessary interventions and episiotomies.

The aim of this study was to determine the rate and risk factors for episiotomies at King Hussein Medical Center, Jordan-Amman.

Methods

This was a record review study conducted in the maternity unit at King Hussein Medical Centre. All women who had spontaneous vaginal deliveries or assisted vaginal deliveries (forceps and vacuum), of a singleton, term, live-born, cephalic presentation were included. Whether episiotomy was performed or was not recorded.

Multiple gestations and preterm deliveries as well as deliveries complicated by malpresentation, placenta praevia, placental abruption and caesarean section, were excluded.

Age, parity, assisted vaginal delivery, birth weight of the newborn, and presence or absences of episiotomy were recorded.

This study was approved by the institutional ethics committee.

A specially designed abstract record form was used to collect the relevant data.

Simple descriptive statistics (frequency and percentage) were used to describe the variables.

Results

During the period of this study there were a total of 3863 vaginal births of single, cephalic presentation term fetus, including 2002 women (52%) who had an episiotomy. The mean age at the time of delivery was 25years (range19–43years). The commonest age range was 20-30 (83.5%), (12.5%) were between 30-40 years of age, (2.5%) were ≤20 years, and only (1.5%) were ≥40 age, Table I.

Concerning parity 1714(44.3%) were para 4-6, 897 (23.2%) were para 1-3, and 1034 (26.8%) were primipara and 218(5.7%) were para >6. Table II.

The birth weight of the babies ranged from 2300 g to 4100 g with a mean of (3,348 ± 418g). The commonest birth weight range was 2500-3500 (83.5%), (14%) were >3500 gram and only (2.5%) were < 2500 gram Table III.

Table VI: Percentage of episiotomy on the base of parity, age, Newborn's birth weight and mode of delivery

Variables Parity	Episiotomy		Total
	Yes N (%)	No N (%)	N
Maternal age (years)			
Nullipara	934 (90.0)	100 (9.7)	1034
Para 1-3	743 (82)	154 (17.1)	897
Para 4-6	325 (19)	1389 (81)	1714
>para 6	0	218	218
Total	2002	1861	3863
≤20	96 (100.0)	0	96
20-30	1844 (57)	1382 (43)	3226
30-40	62 (13)	421 (87)	483
≥40	0	58	58
Total	2002	1861	3863
Newborn's birth weight (grams)			
< 2500	15 (16)	81	96
2500-3500	1943 (60)	1283 (8.7)	3226
>3500	44 (8.1)	497 (92)	541
Total	2002	1861	3863
Mode of delivery			
Spontaneous vaginal delivery	1786 (48)	1859 (51)	3645
Assisted vaginal delivery	216 (99)	2 (0.9)	218
Total	2002	1861	3863

The vast majority of the women 3645(94.3 %) had spontaneous vaginal delivery

While 218(5.7%) had assisted vaginal delivery with vacuum or forceps delivery Table IV.

Episiotomies were performed in 2002 (52%) Table V.

Table VI presents the percentage of episitomy based on parity, age, Newborn's birth weight and mode of delivery.

The rate of episiotomy decreased with parity, the nulliparas had the highest rate (90%) while not any of the grand multiparas had episiotomy during the study period.

Episiotomy rate was highest among mothers, who were 20 years of age and below (100%), while none of the old age ≥ 40 had episiotomy, also the rate of episiotomy was (99%) in women with assisted vaginal delivery and (48%) with spontaneous vaginal delivery.

Episiotomy rate was (16%) when the birth weight was below 2500 grams and it was much higher for birth weight between 2500 to 3500 (60%).

The most common indications for episiotomy were young age (100%), primipara (90%), and assisted vaginal delivery (99%) Table IV.

Discussion

The rate of episiotomy varies across the world.

The rate of episiotomy is on the turn down in developed countries but still remains high in developing countries.

In USA the rate of episiotomy with all vaginal deliveries decreased

From 60.9% in 1979 to 24.5% in 2004.[10.11]

In Canada, episiotomy rates declined from 37.7% in 1993 to 23.8% in 2001. Rates in Alberta were 20.1% in 2000 and 15.5% in 2004.[12]

In Lagos, Nigeria episiotomy rate is 54.9%[13] and in Brazil it is 94.2%.[14] Public hospitals in Hong Kong have an episiotomy rate of 85.5%.[15]

The routine use of episiotomy is being increasingly questioned and is no longer recommended.[16]

Episiotomy on the other hand remains one of the most commonly performed procedures in labour ward in our country.

In our study, the episiotomy rate of 52 % is high in comparison to the 10% recommended by the World Health Organization,[9] and high rates of episiotomy may be found in other parts of Jordan but this study was limited to a single center, and may not be representative of other hospitals throughout the country.

In our study the rate of episiotomy decreased with parity, the nulliparas had the highest rate (90%) while not any of the grand multiparas had episiotomy during the study period. Similar

results were also reported in the studies of Anh T *et al* and [17] Barnabas T *et al*. [18]

The rate of episiotomy was (99%) in women with assisted vaginal delivery and (48%) with spontaneous vaginal delivery which is similar to that reported elsewhere in the medical literature with rates varying between 70% and 90%.[19]

Where they found that instrumental delivery was a high risk factor for performing episiotomy.

In modern obstetric practice the routine use of episiotomy for low-risk vaginal deliveries has become unfavorable.[20,21,23,24]

Mulder A *et al*, and Handa J L *et al* in their recent studies found that midline episiotomy is the strongest risk factor for anal sphincter tear and increase severe perineal damage, and may be the cause of incontinence, chronic pain, and sexual dysfunction, without added benefit for the infant.[25,26]

Emmet H reported that even with instrument-assisted delivery (vacuum or forceps), a surgical cut to the perineum is unnecessary and increases harm.[27]

The results of this study led us to question on how to avoid routine use of episiotomy in low-risk deliveries.

Fernandes S *et al.* reported their experience by changing practice of the routine use of episiotomy by developing multidisciplinary evidence-based guidelines, the rate of episiotomy fell from 64% in 2006 to less than 20% in 2008, with no increase in the incidence of third- and fourth-degree tears.[28]

Recommendation

There is a definite need for evidence based practice guidelines for maternal and fetal indications for episiotomy, care after episiotomy as well as a training courses, audits, company to a staff leader, episiotomy rate statement for every midwife or obstetrician might assist reduces the use of episiotomies.

The research resulted in significant changes in clinical practice in many places and the most recent UK evidence based guidelines (National Institute for Health and Clinical Excellence (NICE), 2007) recommend that episiotomy should only be performed because of clinical need.

Evidence based trained practice of episiotomy to less than 30% should be recommended in all part of the world.

Conclusion

The episiotomy rate is high at our hospital (52%) in the face of current evidence based literature that supports restricted use of episiotomy. Nulliparity and instrumental deliveries appear to be the risk factors for episiotomy.

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