

Routine episiotomy for vaginal birth: Should it be ignored?

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Abstract:

Introduction: Routine episiotomy has no benefits to mothers, but results in undue perineal pain and delayed wound healing. The aim of the present study was to assess incidence of postpartum urinary and fecal incontinence and dyspareunia among women with routine episiotomy at the end of the postpartum period.

Methods: A retrospective study was conducted on 400 women at the end of postpartum period who attended at maternity and children health care. The study also included 100 obstetricians to assess their experience towards routine episiotomy. Interviewed questionnaire form was done to collect data from women who underwent episiotomy and a second questionnaire to assess data of obstetricians in upper Egyptian hospitals. Each interview lasted 15 to 20 minutes for women and 5 to 10 minutes for obstetricians.

Results: It was found that, delayed wound healing and gapping, were significantly increased by high number of previous episiotomy ($p=0.013$, and $p=0.008$ respectively), wound extension and/or hematoma ($p=0.0009$ and $p<0.0001$ respectively), and occurrence of postpartum wound infection ($p<0.0001$ for both). Postpartum dyspareunia, urinary and fecal incontinence were affected by multiparity ($p=0.012$, $p=0.0009$, and $p=0.024$ respectively), high number of previous episiotomy ($p=0.003$, $p=0.0001$ and $p=0.045$ respectively), wound extension ($p=0.027$, $p=0.001$, and $p<0.0001$ respectively) and presence of wound infection ($p=0.049$, $p=0.48$ and $p=0.037$ respectively). The majority of obstetricians convinced by necessity (86%) and favorable impact (59%) of episiotomy, and that it decreases the risk of posterior perineal lacerations (57%).

Discussion: Routine episiotomy should be discarded and replaced by selective use in cases in which the likelihood of spontaneous laceration seems high.

Key words: Libral episiotomy, forbidden, vaginal delivery.

I. Significance of the study:

In developing countries including Egypt, routine episiotomy assisted vaginal delivery is a common practice. The predominance of routine episiotomy is due to obstetricians' belief that it may prevent pelvic floor relaxation and its sequelae, such as urinary incontinence, and facilitate vaginal delivery. However, most of the reported studies, found that , it is associated with undue adverse effects such as severe perineal pain, delayed wound healing and gapping, wound infection, postpartum dyspareunia, urinary and fecal incontinence.

II. Introduction

In developing countries, women's deliveries in hospitals become more common [1], where obstetricians continue to apply a policy of "avoid tears - do episiotomies" routinely [2]. Episiotomy is surgical perineal incision to widen vaginal opening in order to shorten expulsion period and prevent perineal tear [3, 4]. However, this policy has no maternal or infant benefit, but leads to undue perineal pain and may result in adverse effects [5]. The World Health Organization has taken a clear stand against routine episiotomy, in line with the best available evidence [6].

About 30% to 60% of pregnant women developed urinary incontinence after delivery [7 - 9] with persistent postpartum incontinence occurred in 2% to 52% [7, 10]. In addition, vaginal delivery assisted via episiotomy may be associated with more risk of fecal incontinence and dyspareunia as compared to spontaneous perineal tear [7, 11, 12].

The major advantage attributed to routine episiotomy is that it prevents pelvic floor relaxation and its sequelae, such as urinary incontinence, and facilitate vaginal delivery (especially in primigravida), by reducing risk of perineal trauma and shortening second stage of labor [13, 14]. However, routine episiotomy has resulted in problems as perineal pain due to perineal trauma that healed (with cessation of perineal pain) after 2.6 weeks from delivery [15]. Furthermore, Sartore et al [16], found that mediolateral episiotomy does not protect against urinary or fecal incontinence and is also associated with more dyspareunia.

In contrast to the current literature, Bertozzi et al, [7], stated that episiotomy could serve as a protective factor for pelvic floor disorders when considered in terms of quality of life, since women who received an episiotomy and experienced perineal symptoms in the early postpartum have a better psycho-physical health status at the mid-term follow-up. The inconsistent data from reported studies may explain the reluctance to give

up and resistance to change this practice [3], and in this context, routine episiotomy is still a usual practice during vaginal delivery in Egypt.

The aim of the present study was to assess incidence of delayed wound healing and gapping, as well as urinary and fecal incontinence and dyspareunia among women with routine episiotomy at the end of the postpartum period.

III. Methods

Study design: This study was designed as a retrospective study.

Setting: The present study was conducted in the maternity and children health care units where routine episiotomy was done. Almost all vaginal deliveries were assisted by mediolateral episiotomy with women in lithotomy position.

Sample: Four hundred women were included in the study. Data of the study were collected between January and April 2015 in the maternity and children health care units that are affiliated to university, general and district hospitals in Assiut and Sohag governorates, Egypt. All women who underwent episiotomy assisted vaginal delivery could be interviewed 2 months after delivery. In addition, 100 obstetricians were also included to assess their attitude and experience towards routine episiotomy.

Data collection tools: The researchers formulated a questionnaire to collect data from women who underwent episiotomy, regarding the age, level of education, employment status, residence, and family income, parity and number of previous episiotomies. The applied questionnaire was also used to collect data regarding the last episiotomy like the level of perineal pain (mild, moderate, severe), intrapartum complications as occurrence of episiotomy extension, or hematoma, and postpartum sequelae as wound infection, gapping and healing time, presence or absence of urinary or anal incontinence and dyspareunia. On the other hand, a second questionnaire was designed to assess data of obstetricians in upper Egyptian hospitals such as age, academic degree and work place as well as to assess their attitude regarding necessity of routine episiotomy and its impact on maternal postpartum outcome, and posterior perineal laceration, its healing rate, and occurrence of dyspareunia and incontinence.

Procedure: The present study was conducted by two researchers, with doctoral degrees in obstetrics and gynecology nursing. Women who underwent vaginal delivery assisted by episiotomy were interviewed 2 months postpartum, via personal interviews. Each interview lasted 15 to 20 minutes. Obstetricians in university, general and district hospitals were interviewed via face-to-face interviews. Each interview lasted 5 to 10 minutes.

Ethical considerations: The study was approved by scientific and local ethics committee of the Sohag faculty of nursing, Egypt. Written or oral informed consent was obtained from all women included in the study.

Statistical analysis: Descriptive data including means and percentages were used for socio-demographic characteristics, parity, number of previous episiotomies and variables of last episiotomy associated intrapartum and postpartum complications. Comparison of women with different factors that might affect delayed wound healing, wound gapping, occurrence of urine or fecal incontinence, and dyspareunia was done by chi square or by Fischer exact test for proportions. The data of the study were analyzed with personal computer using graph prism statistical program. The significance level was considered as a p value < 0.05.

IV. Results

The majority of women in the current study were house wives (60%), in the intermediate age group (between 18 and 35 years; 71.5%), received intermediate or university education (75%), lived in urban areas (54.5%), suffered of no comorbidities (85%), were multiparous and, underwent more than one episiotomy (72%), showed optimal wound healing (<10 days; 55%), and with no intrapartum complications (91%). The most common postpartum complications was severe perineal pain (34%), followed by dyspareunia (32%), wound infection (17%) and urine incontinence (13%), as shown in table 1.

By analyzing factors that might affect, delayed (>3 weeks) episiotomy healing and gapping, it was found that both of them were significantly increased by high number (≥ 3) of previous episiotomy ($p=0.013$, and $p=0.008$ respectively), wound extension and/or hematoma ($p=0.0009$ and $p<0.0001$ respectively), and occurrence of postpartum wound infection ($p<0.0001$ for both). In addition, high parity significantly affected development of wound gapping ($p=0.003$), as shown in table 2.

Table 3 shows factors that might influence development of postpartum dyspareunia, urinary and fecal incontinence. Multiparity, and high number of previous episiotomy were found to increase dyspareunia, ($p=0.012$ and $p=0.003$ respectively), urinary ($p=0.0009$ and $p=0.0001$ respectively) and fecal ($p=0.024$ and $p=0.045$ respectively) incontinence. Wound extension and/or hematoma as well as presence of wound infection significantly increased dyspareunia, ($p=0.027$ and $p=0.049$ respectively) urinary ($p=0.001$ and $p=0.048$ respectively) and fecal ($p<0.0001$ and $p=0.037$ respectively) incontinence. Table 4 revealed characteristics of 100 obstetricians included in this study. The mean age was 33.28 ± 9.51 years (range between 25 and 57 years).

The majority of them had a master degree of gynecology and obstetrics (57%) and worked in general hospitals (51%). The majority of obstetricians convinced by necessity (86%) and favorable impact (59%) of episiotomy, and that it decreases the risk of posterior perineal lacerations (57%), doesn't decrease dyspareunia compared to tear and increases the risk of urinary incontinence (55%) as shown in table 5.

V. Discussion

Our retrospective study analyzed data of women in postpartum period in different age groups, with or without comorbidities, with various numbers of episiotomies, primipara and multipara, and from different obstetric centers, to assess incidence of episiotomy wound extension, and /or hematoma, infection and delayed healing time, as well as urinary and fecal incontinence and dyspareunia. Primiparous (n=112) and multiparous women (n=288), underwent episiotomy at the time of their vaginal delivery. The high incidence of episiotomy in multiparous Egyptian women is confirmed by Klein et al. [17], who stated that episiotomy at the first vaginal birth significantly and independently increases the risk of repeated episiotomy and spontaneous tears in subsequent delivery. It was reported that, the majority of episiotomy healing takes place within the first 2 weeks, but it may take 4 to 6 months to heal completely [18].

The present study found that episiotomy healing of 13.5% of women in postpartum period was delayed and 4.8% developed wound gapping that were significantly influenced by occurrence of episiotomy wound extension and /or development of hematoma ($p=0.008$, and $p<0.0001$ respectively), wound infection ($p<0.0001$ for delayed healing and gapping), and high (≥ 3) number of episiotomy times ($p=0.01$ and $p=0.009$ respectively).

Our results are lower than those of a Turkish study conducted by Karaçam et al. [19], who reported that 31% of women with episiotomy had problems with wound healing and 21% had delays in wound healing in the third postpartum week. The results of univariate logistic regression analysis revealed that an episiotomy increased the probability of problems with wound healing three times (OR, 3.24; 95% CI, 1.80-5.85), and a delay in wound healing two times (OR, 2.35; 95% CI, 1.23-4.52) in the third postpartum week. The more favorable results of the present study than the Turkish study may be explained on the ground that assessment in our study occurred at the end of postpartum period when some wound complication had been relatively subsided whereas assessment of the reported study was done in the third postpartum week. It was found that increasing perineal pain and a decreasing hematocrit are signs of possible hematoma formation. Therefore, if the bleeding source cannot be identified after the repair of wound, a drain should be placed to ensure drainage [20]. Our results are similar to reported studies [21, 22] where, dehiscence was observed in 2 - 5% of women in postpartum period after a mediolateral episiotomy. The area becomes more painful and appears red and swollen. Treatment involves debridement of any necrotic tissue and broad-spectrum antibiotics. Those wounds are usually allowed to heal by secondary intention.

The present study found that 13% of women in postpartum period developed urine incontinence and 3% fecal incontinence that were significantly influenced by occurrence of episiotomy wound extension and /or development of hematoma ($p=0.001$, and $p<0.0001$ respectively), wound infection ($p=0.048$, and $p=0.04$ respectively), high (≥ 3) number of episiotomy times ($p=0.0001$ and $p=0.045$ respectively) as well as high parity ($p=0.0009$ and $p=0.02$ respectively). Our results are in agreement with Italian study conducted by Sartore and colleagues [16] who concluded that episiotomy is associated with lower pelvic floor muscle strength than spontaneous tears, and does not protect against incontinence, by 3 months postpartum. Moreover, follow up survey at 5 years revealed that episiotomy in a first birth was significantly associated with stress incontinence [23].

Regarding fecal incontinence, its percentage in the current study (3%) is comparable to that found in reported studies [13, 24]. They reported 5.4% prevalence of loss of stool among women who underwent episiotomy. All women who had fecal incontinence and abnormal rectal examination at three months had had an episiotomy [25]. The study team concluded that anal incontinence was associated with severe lacerations that are most likely to result from episiotomy [13, 24, 25].

Scarring of the perineum can also be a reason for long-term dyspareunia, especially after mediolateral episiotomy [26]. Thirty two percent of women in the current study developed postpartum dyspareunia that was significantly affected by occurrence of episiotomy wound extension and /or development of hematoma ($p=0.03$), wound infection ($p=0.046$), high (≥ 3) number of episiotomy times ($p=0.003$) as well as high parity ($p=0.01$). In reported prospective studies, women with episiotomy were 54 % more likely to have postpartum dyspareunia (RR: 1.54, 95% CI: (I: 1.19, 2.00), with an absolute increase in risk of dyspareunia of 5 % [26]. Our results are also comparable with Robson and Kumar [27] who noted soreness and dyspareunia at the episiotomy site in British women; the incidence at 3, 6, and 12 months was 40%, 18%, and 8%, respectively. It was also found that episiotomy during a first birth was a risk factor for dyspareunia 12–18 months postpartum [26]. Unfortunately, in contrast to reported literatures, the majority of obstetricians included in the current study still recommend routine episiotomy and stated that it is not associated with increased risk of long term dyspareunia,

urine and fecal incontinence compared to tear. This explains the predominance of routine episiotomy at the time of vaginal delivery in Upper Egypt.

In 2006, 'ACOG committee on practice bulletins based on good scientific evidence, recommended that restricted use of episiotomy is preferable to its routine use [14].

Many randomized controlled trials [23, 28-32] comparing liberal and restrictive use of episiotomy were identified. Women in the restrictive-use groups had less severe posterior perineal trauma, less perineal pain, less overall need for suturing, and higher probability of having an intact perineum when compared to routine- or liberal-use policies. Women in restrictive use arms had no greater or lesser risk of wound healing complications and were more likely to resume intercourse earlier. Moreover, the assumed benefits of episiotomy in reducing urinary or fecal incontinence cannot be reached in these trials. Thus there is a consensus that, routine use of episiotomy should be abandoned and episiotomy rates of >30% do not seem justified [33].

In an attempt to prevent or reduce perineal trauma at birth, studies have assessed interventions with usual care antenatally and during the second stage of labor. Antenatal perineal massage [34] carried out by the mother or her partner in the third trimester, and application of warm compresses [35] in the second stage of labor are effective approaches during vaginal delivery.

On the other hand, if episiotomy is mandatory, daily attention should be directed to the episiotomy to detect any evidence of infection and to keep the perineum clean and dry. This is not an easy task because of defecation, micturition, and lochia. However, a squeeze bottle of water to irrigate the perineum may be helpful for assuring cleanliness. The use of cooling treatment (the effect of cooling treatments such as ice packs, cold gel pads, and iced baths) have been also studied and found to result in improvement in perineal pain 24–72 hours after birth [36]. Many women with perineal incisions or lacerations require analgesics for several days after delivery. The requirements for rapid acting and effective postpartum analgesic is mandatory with paracetamol is the most common analgesic used for mild perineal pain [5]. Non-steroidal anti-inflammatory agents may also be used and may have a role in reducing swelling as well as their analgesic effect [37].

VI. Conclusions

Based on the relatively high incidence of episiotomy related complications in our study and on the current literatures, routine episiotomy should be discarded and replaced by selective use in cases in which the likelihood of spontaneous laceration seems high. Furthermore, in women who should undergo episiotomy, care of episiotomy wound should be undertaken to minimize its adverse effects. Future prospective randomized studies are recommended to evaluate the restricted versus the liberal use of episiotomy in upper Egyptian women.

VII. Limitations of the study:

There were several limitations to the present study. First, the study was retrospective with interviewing women in postpartum period after undergoing episiotomy assisted vaginal delivery. Second, the healing status of perineal wound, the presence of hematoma, wound infections and gapping, were assessed through the self reports of the women. The episiotomy related complications reported by the women might be different from those determined by obstetricians.

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Conflict of Interest:

The authors have no conflicts of interest to disclose.

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Table (1): Characteristics of 400 women in postpartum period

Variable	NO (%)
Age	
< 18 years	23 (5.7)
18 – 35 years	286 (71.5)
> 35 years	91 (22.8)
Education	
Illiterate	59 (14.8)
Read & write	40 (10)
Intermediate degree	200 (50)
University degree	101 (25.2)
Residence	
Rural	178 (44.5)
Urban	222 (54.5)
Occupation	

House wives	239 (59.8)
Employees	161 (40.2)
Comorbidities	
Diabetes mellitus and /or Hypertension	61 (15.2)
No comorbidities	339 (84.8)
Parity	
Primipara	112 (28)
Multipara	288 (72)
Place of labor	
University hospital	156 (39)
General hospital	142 (35.5)
District hospital	102 (25.5)
Number of episiotomy	
One	112 (28)
Two	157 (39.3)
≥ Three	131 (32.7)
Healing of recent episiotomy wound duration	
< 10 days	219 (54.8)
10 – 21 days	127 (31.7)
> 21 days	54 (13.5)
Intrapartum complication	
Hematoma	22 (5.5)
Episiotomy extension	15 (3.7)
No intrapartum complication	363 (90.8)
Postpartum complication	
Severe perineal pain	136 (34)
Wound infection	68 (17)
Constipation	27 (6.8)
Dyspareunia	128 (32)
Urinary incontinence	52 (13)
Fecal incontinence	12 (3)
Wound gaping	19 (4.7)

Table (2): Factors that might affect, episiotomy wound extension, repair and gapping

Variable	Wound healing		P value	Wound gapping		P value
	≤ 21 days N=346	> 21 days N=54		Yes N=19	No N=381	
Age			p=0.72			p=0.53
< 18 years	21	2		0	23	
18 – 35 years	256	30		1	272	
> 35 years	79	12		5	86	
Education			p=0.14			p=0.48
Illiterate	48	11		4	55	
Read & write	32	8		2	38	
Intermed. Education	172	28		11	189	
University degree	93	8		2	99	
Residence			p=0.56			p=0.49
Rural	152	26		10	168	
Urban	194	28		9	213	
Occupation			p=0.10			P=0.48
House wives	201	38		13	226	
Employees	145	16		6	155	
Comorbidities			p=0.15			p=0.75
Diabetes/ Hypert.	49	12		2	59	
No comorbidities	297	42		17	322	
Parity			p=0.11			p=0.003
Primipara	102	10		0	112	
Multipara	244	44		19	269	
Place of labor			p=0.90			p=0.98
University hospital	145	21		7	149	
General hospital	124	18		7	135	
District hospital	87	15		5	97	
Number of episiotomy			p=0.013			p=0.008
One	102	10		0	112	
Two	140	17		8	149	
≥ Three	104	27		11	120	
Wound extension / Hematoma			p=0.009			p<0.0001
Present	26	11		14	23	
Absent	320	43		5	358	

Wound infection			p<0.0001		p<0.0001
Present	47	21		12	56
Absent	299	33		7	325

Table (3): Factors that might affect dyspareunia, urine and fecal incontinence.

Variable	Dyspareunia		P value	Urine incontinence		P value	Fecal incontinence		P value
	N=128			N=52			N=12		
	Yes	No	Yes	No	Yes	No			
Age			p=0.93			p=0.11			p=0.51
< 18 years	4	19		0	33		0	23	
18 – 35 years	100	186		42	244		8	278	
> 35 years	24	67		10	81		4	87	
Education			p=0.24			p=0.088			P=0.087
Illiterate	16	43		6	53		4	55	
Read & write	17	23		5	35		2	38	
Interm. Education	68	132		34	166		6	194	
University degree	27	74		7	94		0	101	
Residence			p=0.16			p=0.88			p=0.77
Rural	50	128		24	154		6	172	
Urban	78	144		28	194		6	216	
Occupation			p=0.23			p=0.65			p=0.37
House wives	82	157		33	206		9	230	
Employees	46	115		19	142		3	158	
Comorbidities			p=0.77			p=0.68			p=0.41
Diabetes/ Hypert.	18	43		9	52		3	58	
No comorbidities	110	229		43	296		9	330	
Parity			p=0.012			p=0.0009			p=0.024
Primipara	25	87		5	107		0	112	
Multipara	103	185		47	241		12	276	
Place of labor			p=0.19			P=0.51			p=0.89
Univ. hospital	45	111		24	132		4	152	
General hospital	43	99		17	125		5	137	
District hospital	40	62		11	91		3	99	
Number of episiotomy			p=0.003			p=0.0001			p=0.045
One	25	87		5	107		0	112	
Two	59	98		22	135		6	151	
≥ Three	44	58		25	77		6	96	
Wound extension / Hematoma			p=0.027			p=0.001			p<0.0001
Present	18	19		12	25		9	28	
Absent	110	253		40	323		3	360	
Wound infection			p=0.049			p=0.048			p=0.037
Present	29	39		14	54		5	63	
Absent	99	233		38	294		7	325	

Table 4: Characteristics of the study obstetricians

Variable	No (%)
Age (years):	
Mean ± SD	33.28 ± 9.51
Range	(25 - 57)
Academic degree:	
Bachelor	47
Master	53
Work place:	
University hospital	39
General hospital	51
District hospital	10

Table 5: Opinion and attitude of the study obstetricians towards routine episiotomy

Variable	No (%)
Is routine episiotomy necessary?	
Yes	86
No	14
Routine episiotomy has impact on maternal postpartum outcome:	
Clear favorable impact	
Little favorable impact	59
Non significant impact	27
Unfavorable impact	6
	8
Decrease the risk of posterior perineal lacerations:	
Yes	57
No	43
Episiotomy is better than tear in healing:	
Yes	52
No	48
Increase dyspareunia when compared to tear:	
Yes	37
No	63
Increase risk of urinary incontinence:	
Yes	55
No	45
Long-term increase on urinary incontinence:	
Yes	34
No	66
Long-term increase on fecal incontinence:	
Yes	12
No	88
Total	100