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RESEARCH ARTICLE

CONTROVERSIAL BENEFIT OF EPISIOTOMY ON MATERNAL AND FETAL OUTCOMES A PROSPECTIVE COMPARATIVE CLINICAL STUDY

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ABSTRACT

Background: Episiotomy is performed as one of the most common surgeries procedure to facilitate delivery and prevent complications of hard labor in both mother and her neonate. Routine episiotomy is a controversial issue among gynecologists. **Objectives:** To evaluate the controversial benefit of episiotomy by comparing planned episiotomy vs. planned non-episiotomy as regard to maternal and fetal outcomes during spontaneous vaginal delivery. **Patients and methods:** 400 pregnant women (primi & second gravidae), full term gestation were recruited from those attending delivery ward of Obstetrics and Gynecology department of Al-Azhar university hospital in Assiut during the period started from January 2018 till August 2018 . Women were classified into 2 groups according to planned episiotomy (Group I =200 woman) or no episiotomy (Group II= 200 woman). Each group was assessed during the early postnatal period for fetal and maternal outcomes and throughout the duration of puerperium for evaluation of maternal morbidities. **Results:** In term pregnancies with spontaneous vaginal deliveries, the episiotomy group had more risk of physical and psychological morbidities than non-episiotomy group, however fetal outcomes were the same in both groups. **Conclusion:** Episiotomy is not essential or beneficial in every delivery, so it should not be a routine procedure during delivery and should be individualized according to obstetrician experience and maternal and/or fetal indications.

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INTRODUCTION

Episiotomy is a surgical incision of the vagina and perineum carried out by a skilled birth attendant to enlarge the vaginal opening. Rates of episiotomy increased substantially during the first half of the 20th century. At that time, there was an increasing move for women to give birth in a hospital and for physicians to manage normal uncomplicated childbirths. Since then, episiotomy has become one of the most commonly performed surgical procedures in the world. There is extensive disagreement about the necessity and benefits of this procedure (Saxena *et al*., 2010). Prevention of severe perineal tears was advocated as a benefit of routine episiotomy in primiparous women (Chakpan *et al*., 2008). Episiotomy is a controversial procedure, especially because the discussion that surrounds it has gone beyond the field of scientific debate, being adopted as an indicator of the "humanization of childbirth (Jiang *et al*; 2017).

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American College of Obstetricians and Gynecologists guidelines state that "the best available data do not support the liberal or routine use of episiotomy. However, there is a role for episiotomy for maternal or fetal indications such as avoiding severe maternal lacerations or to facilitate difficult births (ACOG; 2006). The World Health Organization recommends an episiotomy rate of 10% as "a good goal to pursue (WHO, 1996). In the United States, there has been a steady decline in episiotomy rates from 62% in 1987 to 30 – 35 % in 2003 (ACOG, 2006). Episiotomy, actually increased rates of perineal infection, blood loss, pain during healing, negatively affected body image issues and sexual function, and incidence of injuries to the anal sphincter with subsequent increased risks of incontinence of flatus and fecal material. Multiple studies demonstrated that the routine use of episiotomy did not protect against pelvic relaxation or fetal intracranial hemorrhage (Chakpan *et al*., 2008). Episiotomy may increase perineal pain during postpartum recovery, resulting in trouble defecating, particularly in midline episiotomies. In addition it may complicate sexual intercourse by making it painful and replacing erectile tissues in the vulva with fibrotic tissue (Signorello *et al*., 2000). Women who underwent episiotomy reported more painful intercourse and

insufficient lubrication 12–18 months after birth, but did not find any problems with orgasm or arousal (Hanna *et al*., 2008).

OBJECTIVE: to evaluate the controversial benefit of episiotomy by comparing of episiotomy and planned non-episiotomy as regard to maternal and fetal outcomes durning spontaneous vaginal delivery.

PATIENTS AND METHODS

This study is a prospective comparative clinical study conducted on 400 full term pregnant women (primi & second gravidae) from those attending delivery wards of Obstetrics and Gynecology department of Al-Azhar university hospital at Assiut over a period started from January 2018 till August 2018. Women in labor with a full-term live fetus, dilatation of 6 to 8 cm and cephalic presentation (vertex position) were included. Exclusion criteria consisted of bleeding disorders and an indication for a caesarean section. After signing the consent form, Women were classified into 2 groups according to planned episiotomy (Group I = 200 cases) or planned no episiotomy (Group II= 200 cases). During intrapartum period, the same standard obstetrical managements were provided in both groups.

Mothers of each group were assessed after delivery and during 1st 48 hours till end of puerperium for

- Blood loss,
- Perineal pain score in various positions including standing, walking, lying down and sitting by using the Numerical rating scale (NRS) (With the following pain classification: zero - absence ,1 to 3 mild ,4 to 6 moderate ,7 to 9 strong ,10 unbearable.),
- Wound infection,
- Wound hematoma,
- Return to normal activities such as sitting, walking or lifting the baby,
- Urinary complication (Dysuria, urinary retention),
- fecal complications(Constipation, Fecal incontinence.), Dysparunia and
- Mental status for Anxiety and Depression.

Newborns of both groups were also assessed for

- APGAR score at 1 and 5 minutes,
- Need for neonatal resuscitation or
- NICUE admission.

Statistical analysis: data was collected, tabulated and statistically analyzed using SPSS (statistical program for social science version 12). Descriptive data were reported as frequency, percentage, mean and standard deviation (S.D.) for the comparison of result, Student t-test, chi-Square and Mann-Whitney test were used. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Table 1 shows Demographic and clinical characteristics of the study groups. No statistical significant were present between groups (p>0.05). Table 2 shows incidence of complications in both groups. In episiotomy group pereineal pain score and its degree, amount of blood loss, dysuria, constipation, dysparuneadyspareunia, were significantly higher in episiotomy group also return to normal activities after 2 weeks was prolonged in the episiotomy group (p>0.5). On the other hand no statistically significant differences were found between both groups as regard to other parameters (p>0.05). Table 3 shows neonatal outcomes for both groups, no statistically significant differences were present between both groups as regard to APGAR score, need for neonatal resuscitation or NICU admission (p>0.05).

DISCUSSION

In the present study the incidence of episiotomy or perineal laceration in the studied groups was not associated with statistically significant relation to maternal age (18-35 years), this finding was in accordance with the studies done by Saxena *et al*., 2010 and Chakpan *et al*., 2008 who concluded that there was no correlation of episiotomy or tears to the maternal age in both groups. However our results were against the studies done by Marie *et al*., 2007 who found that episiotomies and lacerations were more likely if a women was 30 years or older and Chigbu *et al*., 2008 who showed that women undergoing episiotomy were younger than women without episiotomy. Also there was no statistically significant relation between episiotomy or. pereineal tears to gestational age (37-41 weeks), this findings was similar to results of the study done by Chakpan *et al*., 2008. As regard to the amount of blood loss, episiotomy was associated with more blood loss vs. non-episiotomy group and the difference was highly statistically significant. This was similar to the study done by (John *et al*., 2005) who found that there is a risk of increased bleeding when episiotomy is done. In contrast to our results, Murphy *et al*., 2008 performed a multicenter pilot randomized controlled trial in Ireland to investigate the primary and secondary postpartum hemorrhage (PPH) of routine versus restrictive use of episiotomy. They did not find any significant difference in both primary and secondary outcomes between the two mentioned methods. Using the "Numerical rating scale '' to calculate the score of pain felt by women of both studied groups, there was a highly statistically significant difference between both groups. Most women of group I with episiotomy reported moderate or severe pain while most of those of group II without episiotomy reported no or mild pain. These results was in accordance with the studies done by John *et al*., 2005, Macarthur *et al*., 2004 and Jiang *et al*; 2017 who found that with episiotomy, women had more postpartum pain than without episiotomy. Results of this study were also in accordance with a similar study in Tehran done by Moini *et al*., 2009 who reported the total rate of severe perineal tears in routine episiotomy to be significantly higher than restrictive episiotomy. They concluded that routine episiotomy is associated with an increased risk of severe perineal tears and subsequent complications especially pain. There was also another study done by Vansanth *et al*., 2007 concluded that obstetric anal sphincteric injury is associated with more perineal pain than other perineal trauma and that spontaneous second degree tears cause less perineal pain than episiotomies. The study done by Chakpan *et al*., 2008 was against our results and concluded that perineal pain score at 24-hours and 48-hours postpartum were the same in both groups. Also Carroli *et al*., 2009 in their study did not observe differences in most pain measures between the two studied groups. As regard to wound infection and wound hematoma our study showed no statistically significant difference in both groups and that was in agreement with the

Table 1. Demographic and clinical characteristics for both groups

	Group I (n=200)	Group II (n=200)
Maternal Age(yrs)#	27±4	26±5
Body mass index (BMI)#	27 ±0.1	26±0.9
Primigravida*	123 (61.5%)	118 (59%)
2nd gravid*	77 (38.5%)	82 (41%)
Gestational Age(wks)*	38±1.2	38±1.8
P >0.05 (non significant)		
* chi square test used for comparing %		
#T test was used for comparing between means.		

Table 2. Incidence of complications in both groups

		Group I (n=200)		Group II (n=200)		test	p
Perineal Pain score (no.&%)*							
Mild		138	69.0%	37	18.5%	103.853	<0.01
Moderate		59	29.5%	152	76.0%		
Severe		3	1.5%	11	5.5%		
Amount of Blood loss (cc) (Mean±SD)#							
Blood Loss		109±52	Rang (50-300)	Rang (63±36)	0-150	-9.663	<0.01
Post partum complications in both groups (no.&%)*							
Wound	Infection	6	3.0%	2	1.0%	2.041	>0.05
	Hematoma	3	1.5%	1	0.5%	1.010	>0.05
Urinary	Dysuria	72	36.0%	91	45.5%	3.738	<0.05
	Retention	2	1.0%	1	0.5%	0.336	>0.05
GIT	Constipation	12	6.0%	3	1.5%	5.61	<0.05
	Fecal incontinence	1	0.5%	1	0.5%	0	>0.05
Genital	dysparunia	41	20.5%	24	12%	5.3	<0.05
Comparing the quality of life after vaginal delivery (no.&%)*							
Return to normal activities after 2 weeks		50	25.0%	170	85.0%	145.455	<0.01
Anxiety		5	2.5%	2	1.0%	1.3	>0.05
Depression		4	2%	1	0.5%	1.823	>0.05
*Chi-square # T test							

Table 3. Neonatal outcomes for both groups

	Group I (n=200)	Group II (n=200)	Test
Apgar score (1 min)#	8±1	8±1	0.23
Apgar score (5 min)#	9±1	9±1	0.34
Need for neonatal resuscitation*	17 (34%)	20(40%)	17.45
NICU admission*	14(28%)	16 (32%)	15.46
#T test was used for comparing between means. * chi square test used for comparing percentage P >0.05 (non significant)			

results of the study made by Malla *et al*., 2003 who found the same findings. As regard to dyspareunia it was statistically higher among episiotomy group, this finding was similar to the results of the study done by John *et al*., 2005 and Jiang *et al*; 2017 who found that episiotomy causes more postpartum dyspareunia and sexual dysfunction than perineal lacerations. As regard to urinary complications this study showed that dysuria was statistically higher in episiotomy, this finding was in accordance with the study done by Kroop *et al*., 2005 who stated that pain caused by episiotomy can cause discomfort with passing urine. On the other hand no statistically significant difference was found regarding urine retention. In the current study episiotomy was significantly associated with constipations while no statistically significant difference could be found as regard to fecal incontinence. Our study showed also a highly statistically significant difference between both groups as regard to return to normal activities and this result was in agreement with the studies done by Kindberg *et al*., 2008 and Hedayati *et al*., 2005 who reported that pain and discomfort related to perineal trauma caused by episiotomy interferes with women's daily activities postpartum such as sitting, walking and lifting her baby. As regard to mental changes (anxiety & depression) this study showed no statistically significant difference between both studied groups and this was against the study done by Navvabi *et al*., 2011 who stated that the pain caused by episiotomy can cause mental changes in mother and change her attitude and activities towards her neonate.

In this study we found that there was no statistically significant difference between the 2 studied groups as regard to Apgar score, need for postnatal resuscitation and NICU admission, these results was in accordance with the results of the study done by Saxena *et al*., 2010 .However this was against the study done Hartmann *et al*., 2005 who claimed that intact perineum may increase fetal head compression or injury.

Conclusions

Routine episiotomy was associated with an increased risk of severe perineal tears and subsequent complications especially pain, dyspareunia, and incontinence also more blood loss compared to non episiotomy spontaneous tears, therefore, they do not improve sexual satisfaction or improve fetal outcome or prevent birth injuries. Episiotomies are not less painful than tears; they may cause prolonged physical and mental disorders.

Recommendation

Episiotomy is not essential or beneficial in every delivery, so it should not be a routine procedure during delivery and should be individualized according to obstetricians experience and maternal and/or fetal indications.

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