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Mediolateral Episiotomy in Nulliparous Women Increases the Risk of Sexual Dysfunction

Mediolateral Epizyotomi Yapılan Nullipar Kadınlarda Seksüel Disfonksiyon Riski Artabilir

Erhan Okuyan[1], Özlem Karabay Akgül[2], Emre Günakan[3], Lena Türeyici[1]

[1]Batman Training and Research Hospital, Clinic of Obstetrics and Gynaecology, Batman, Turkey
[2]University of Health Sciences Turkey, İstanbul Bağcılar Training and Research Hospital, Clinic of Obstetrics and Gynaecology, İstanbul, Turkey
[3]Başkent University Faculty of Medicine, Department of Perinatology, Ankara, Turkey

Abstract

Objective: Postpartum sexual functions may be affected in women who have had a vaginal delivery by performing an episiotomy. The aim of this study is to compare the frequency of sexual dysfunction between women who were delivered with a mediolateral episiotomy and those who were delivered without an episiotomy.

Method: A total of 179 women who gave birth in a tertiary center were included in the prospective study. The patients were divided into two groups as women with and without mediolateral episiotomy. The groups were compared in terms of age, body mass index, educational status, duration of active phase of labor and Arizona sexual experiences scale (ASEX). Mediolateral episiotomy increases the risk of sexual dysfunction.

Results: Labor and duration of active phase of labor are associated with sexual dysfunction in patients undergoing mediolateral episiotomy ($p<0.001$ and $p=0.01$, respectively). But the duration of delivery is not an independent factor. However, performing an episiotomy increases the risk of sexual dysfunction 2.5 times (odds ratio: 2.35, confidence interval: 1.45-3.83, $p=0.001$). In evalutaion of ASEX subscores according to the presence of epsitomy; patients with episiotomy had significantly higher scores in sex drive, ability to reach orgasm and satisfaction from the orgasm ($p<0.001$ for all). Besides arousal and lubrication was not affected by presence of episiotomy.

Conclusion: According to the results of our study, performing mediolateral episiotomy during vaginal delivery increases the frequency of sexual dysfunction in postpartum women.

Keywords: Arizona sexual experiences scale, episiotomy, mediolateral episiotomy, sexual dysfunction

Öz

Amaç: Bu çalışmanın amacı, mediolateral epizyotomi ile doğum yapan kadınlar ile epizyotomi yapılmadan doğum yapan kadınlar arasındaki cinsel işlev bozukluğu sıklığını karşılaştırmaktır.

Yöntem: Bu prospektif çalışmaya üçüncü basamak bir merkezde doğum yapan toplam 179 kadın dahil edildi. Hastalar mediolateral epizyotomi yapılan ve yapılmadan vajinal doğum yapan kadınlar olarak iki gruba ayrıldı. Gruplar yaş, vücut kitle indeksi, eğitim durumu, doğum için hastanede kalış süresi ve Arizona cinsel deneyimler ölçeği (ASEX) açısından karşılaştırıldı.

Bulgular: Mediolateral epizyotomi uygulanan hastalarda doğum eylemi ve doğum süresi cinsel işlev bozukluğu ile ilişkili bulundu (sırasıyla $p<0,001$ ve $p=0,01$). Ancak doğum için geçen süre seksüel disfonksiyon açısından bağımsız bir faktör değildir. Ancak epizyotomi yapılması cinsel işlev bozukluğu riskini 2,5 kat artırmaktadır. (olasılık oranı: 2.35, güven aralığı: 1,45-3,83, $p=0,001$). ASEX subskorlarının epizitomi varlığına göre değerlendirilmesinde; epizyotomili hastaların cinsel dürtü, orgazma ulaşma ve orgazmdan tatmin olma puanları anlamlı olarak daha yüksekti (tümü için $p<0,001$). Ayrıca epizyotomi yapılanlarda cinsel uyarılma ve lubrikasyon etkilenmedi.

Sonuç: Çalışmamızın sonuçlarına göre vajinal doğum sırasında mediolateral epizyotomi yapılması, doğum sonrası kadınlarda cinsel işlev bozukluğu sıklığını artırmaktadır.

Anahtar kelimeler: Arizona cinsel deneyimler ölçeği, cinsel işlev bozukluğu, epizyotomi, mediolateral epizyotomi

Address for Correspondence: Özlem Karabay Akgül, University of Health Sciences Turkey, İstanbul Bağcılar Training and Research Hospital, Clinic of Obstetrics and Gynaecology, İstanbul, Turkey
Phone: +90 212 440 40 00 **E-mail:** ozlem74akgul@hotmail.com **ORCID:** orcid.org/0000-0003-0313-1893 **Received:** 05.11.2022 **Accepted:** 10.01.2023
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Introduction

The concept of sexual dysfunction in women means lack of sexual desire, arousal disorder, inability to reach orgasm, sexual activity and pain, or a combination of these problems. All these problems can develop due to cultural, physical, mental, psychological and hormonal changes. Studies have shown that 30-60% of women experience sexual dysfunction at least once in their lives (1,2).

Pregnancy and childbirth can cause pelvic floor dysfunction and sexual dysfunction. Sexual dysfunction in women is most common in the first postpartum year (3). In the literature, the frequency of postpartum sexual dysfunction is approximately 70-80% in the first 3 months and 30-60% in the 6th month. In more than one third of women (38%), postpartum sexual life does not reach pre-pregnancy levels (4,5).

In the postpartum period, the frequency of sexual dysfunction may increase due to loss of desire, dyspareunia, lack of lubrication, pain and decreased orgasmic capacity. Among these, loss of desire and dyspareunia are the most important factors (6).

Episiotomy can be done routinely or optionally in vaginal delivery. The literature on the effect of routine episiotomy on sexual functions is contradictory. In some publications, it is said that it has no benefit and even worse effects (7), while in others it is suggested that it reduces pain (8).

Although median episiotomy is most preferred in America, mediolateral episiotomy is mostly performed in Europe and Turkey. Despite the recommendation in the recent literature not to perform routine episiotomy, episiotomy is still routinely performed in primiparous and multiparous patients in many countries. The episiotomy rate of primiparous and multiparous women is 9.7-100% worldwide, while the episiotomy rate of primiparous women is 63-100% (9). The effect of episiotomy on female sexual life is not clear. It has not been clarified yet in evidence-based medicine how long and how intense the perineal injury and healing process caused by median, mediolateral episiotomy are effective on sexual life. The benefits of performing routine episiotomy are currently being questioned.

The Arizona sexual satisfaction scale (ASEX) is a test used for the diagnosis of sexual dysfunction, which takes a short time to perform and is easy to comply with.

Although there are publications in the literature investigating the effect of mode of delivery on female sexual life, publications investigating the effect of epistotomy are contradictory and limited. In this study, we prospectively evaluated patients in active phase of labor using ASEX and wanted to investigate the effect of mediolateral episiotomy on female sexual life.

Materials and Methods

This prospective study was performed in a tertiary hospital in accordance with principles of Helsinki Decleration. We started the study with the permission of the Ethics Committee of Batman State Hospital numbered 249, dated 20/07/2020. Study included 179 primiparous patients who applied to the clinic in labor and gave a vaginal delivery spontaneously between 2020 August to 2021 September. All patients were called up for a control in 6th month after delivery and sexual function was evaluated according to ASEX.

In our study, we used the ASEX test, age, education level, body mass index (BMI) and time spent in hospital for delivery to investigate sexual dysfunction in healthy women who had a vaginal delivery with or without mediolateral episiotomy. The ASEX test is a 5-question survey. In the questionnaire, women were questioned for sexual drive, arousal, vaginal lubrication, ability to reach orgasm, satisfaction from the orgasm. Women gave points from 1 to 6 and their results were recorded. A total score of more than 19 in the ASEX test, or a score of more than 5 in any section, or a score of >4 in 3 sections is considered sexual dysfunction (10,11).

The Turkish validity and reliability study of ASEX was performed by Soykan (12). In Soykan's study, the Cronbach's α values of the scale were determined as 0.89-0.90.

The labor (active phase of labor) was defined as cervical dilatation of at least 2 cm with at least 80% of effacement with regular contractions or 4 centimeter dilatation with any effacement with regular contractions or the flow of amniotic fluid. The active phase of labor lasts for 12 hours in nulliparous pregnant women (13).

We performed mediolateral episiotomy in cases where labor was prevented by perineal tissue or when the fetal head circumference was >90. Episiotomy was not performed on the woman who did not need it. We registered the patients according to the criteria, we recorded their birth notes and types from their files without interfering with the flow of birth, and then we applied asex 6 months after the birth.

Mediolateral episitomy was used in all patients when

required and repaired with the same surgical technique. After cutting the midline of the posterior fourchette 3 mm, the incision is advanced laterally to the ischiotuberal process at an angle of 60 degrees (14).

Exclusion criteria were need of labor induction, history of any pregnancy complication (gestational diabetes, hypertension, oligohydramnios, any suspicion of infection or chorioamnionitis…etc.), history of multiparity, women who had problems in their sexual life before pregnancy, women who have experienced the postpartum blues or depression (pregnant women with postpartum mood disorder using Edinburgh scale and postpartum depression scale were not included in the study). Moreover, women who are separated from their baby due to postpartum maternal or infant-related problems, women who do not have enough time and space for postpartum sex, history of vaginal surgery and frequent vaginal infection.

The duration of active phase of labor was defined as the time between hospitalization to delivery (hours). BMI and duration of active phase of labor were analysed according to the median values. Educational status was evaluated according to primary and university graduation.

Statistical Analysis

Data were analyzed using SPSS for Windows v.15.0 (SPSS,Inc., Chicago, IL, USA). Descriptive and frequency analyses were performed. Categorical variables were compared using the chi-square test or Fisher's Exact test, as appropriate. Binary logistic regression analysis was used to evaluate independent samples (BMI, age, duration of active phase of labor) sexual function. Independent samples t-test was used to evaluate the affect of episiotomy on parts of ARISONA score. The level of statistical significance was set at $p<0.05$.

Results

Study included 179 patients. The median age of the patients was 24 (18-48) years old. Mean duration of active phase of labor was 14.2 hours. Episiotomy was perfomed in 66 (36.9%) patients. We asked all women who participated in the study when they first had sexual intercourse after giving birth. 90% of the women said they had intercourse in the 1st month postpartum, and 10% in the 2nd month. Sexual dysfunction was detected in 121 (67.6%) patients (Table 1). While 88% (58 patients) of women who underwent episiotomy had standard deviation, this rate was significantly lower in women who did not undergo episiotomy (56%) (Table 2).

Twenty three out of 179 patients had never been to school. 80% of the women who went to school had completed primary education, 10% had graduated from high school and 10% had graduated from university (Table 2).

In univariate analysis the presence of episiotomy and the duration of active phase of labor more than 12 hours were associated with the presence of sexual dysfunction ($p<0.001$ and $p=0.010$, respectively). Age, BMI and educational status did not affect sexual function. (Table 2). In multivariate analysis the presence of episiotomy was the only factor which was independently and significantly associated with sexual dysfunction [odds ratio (OR): 2.35, confidence interval (CI): 1.45-3.83, $p=0.001$]. Table 3 shows the multivariate analyses. In the multivariate analysis, we found that the duration of active phase of labor was not significant as an independent factor.

In evalutaion of ASEX subscores according to the presence of episiotomy; patients with episiotomy had significantly higher scores in sex drive, Ability to reach orgasm and satisfaction from the orgasm ($p<0.001$ for all). Besides arousal and lubrication was not affected by presence of episiotomy.

Table 1. General characteristics of the patients

	Mean ± SD
Age (years)	24.8±4.6
BMI (kg/m²)	15.8±4.2
Duration of labor (hours)	14.2±4.7
Total ASEX score	
Sex drive	2.4±0.9
Arousal	2.4±0.5
Vaginal lubrication	3.5±1.0
Ability to reach orgasm	3.4±1.1
Satisfaction from orgasm	3.5±1.8
	n (%)
Educational status	
Present	156 (87.2)
Absent	23 (12.8)
Episiotomy	
Present	66 (36.9)
Absent	113 (63.1)
Sexual dysfunction	
Present	121 (67.6)
Absent	58 (32.4)

BMI: Body mass index, ASEX: Arizona sexual experience scale, SD: Standard deviation

Discussion

We investigated the factors related to sexual dysfunction in the postpartum period and found that only episiotomy and delivery time were effective. We found that the rate use of episiotomy is not recommended. A systematic sexual dysfunction in women who delivered vaginally with review showed that routine episiotomy does not improve mediolateral episiotomy was approximately 2.5 times higher self-reported sexual function outcomes. According to the than those who did not undergo episiotomy (OR: 2.35, CI: 1.45-3.83, p<0.001) (Table 3). We could not find a relationship between age, education, BMI, duration of delivery and sexual functions in our study patients (Tables 2, 3).

Sexual life is a different phenomenon in the postpartum period than before pregnancy and childbirth. Age, education, BMI, marital status, whether the pregnancy is a desired pregnancy, whether she has given birth before, the weight of the baby born, whether it is intervened (vacuum or forceps delivery), vaginal or abdominal delivery and breastfeeding can cause female sexual dysfunction (15-18).

In the past, episiotomy was frequently used to protect the pelvic floor and for better and aesthetic wound healing. With many publications published today, it has been seen that these benefits are not as many as thought and the rates of episiotomy have decreased. Today, the decision to perform an episiotomy is a clinical decision and routine use of episiotomy is not recommended. A systematic review showed that routine episiotomy does not improve self-reported sexual function outcomes. According to the results of this review, patients who underwent routine episiotomy were more likely to experience pain during sexual intercourse, and it was recommended to limit the use of episiotomy (7).

In fact, there is no evidence to suggest that episiotomy prevents sexual dysfunction, according to a meta-analysis that scanned 54 years of published data published in JAMA in 2005. In fact, pain during sexual intercourse is more common in women with episiotomy. In the same meta-analysis, the evidence does not support traditionally routine episiotomy benefits for the mother. In fact, the results obtained with episiotomy can be considered worse because it is stated that a perineal tear that may occur during delivery will be less of an injury than an episiotomy (7).

Table 2. Factors affecting sexual dysfunction-univariate analyses

	Sexual dysfunction (+)	Sexual dysfunction (-)	p
Age (years)			
<35	70 (63.1)	41 (36.9)	0.098
>35	51 (75.0)	17 (25.0)	
Educational status			
Present	104 (66.7)	52 (33.2)	0.488
Absent	17 (73.9)	6 (26.1)	
Episiotomy			
Present	58 (87.9)	8 (12.1)	<0.001
Absent	63 (55.8)	50 (44.2)	
BMI (kg/m^2)			
<22	61 (64.9)	33 (35.1)	0.416
≥22	60 (70.6)	25 (29.4)	
Duration of labor (hours)			
<12	61 (59.8)	41 (40.2)	0.010
≥12	60 (77.9)	17 (22.1)	

BMI: Body mass index, ASEX: Arizona sexual experience scale

Table 3. Factors affecting sexual dysfunction-multivariate analyses

	Odds ratio	Confidence interval	p
Age (years)	1.05	0.72-1.52	0.801
Educational status	1.09	0.64-1.85	0.749
Episiotomy	2.35	1.45-3.83	0.001
BMI (kg/m^2)	1.06	0.75-1.49	0.740
Duration of labor (hours)	0.993	0.65-1.50	0.974

BMI: Body mass index, ASEX: Arizona sexual experience scale

In some publications, it has been stated that performing episiotomy has a positive effect on sexual life. When the data of 774 nulliparous women who underwent restrictive and routine episiotomy at the 4th year after delivery were compared, a lower rate of dyspareunia was observed in the group that underwent limited episiotomy, although it was not statistically significant (8).

WHO reported the episiotomy rate to be approximately 10% in 1996 (19). Following this, the rates of vaginal delivery with episiotomy started to decrease all over the world. It is difficult to determine a routine or liberal rate of episiotomy for individuals with spontaneous vaginal delivery. In a community-based study involving nulliparous and multiparous pregnant women in Canada, the rate of episiotomy in spontaneous vaginal deliveries decreased from 13.5% to 6.5% between 2004 and 2017. Likewise, in a study comparing previous periods in the USA, the rate of episiotomy was 2.5-34% (20,21). We included only nulliparous patients in our study and we found the rate of episiotomy to be 37%.

In our study, we found a significantly higher rate of sexual dysfunction in women who underwent episiotomy. Of 179 patients, 121 (68%) had sexual dysfunction. In 2015, Khajehei et al. (22) in their study with the female sexual function ındex, similar to our results, they reported the rate of sexual dysfunction in the first year postpartum as 64.3%. However, in another study, other sexual problems such as postpartum dyspareunia and loss of sex drive were reported at a rate of 30-60% in the 3rd month and 17-31% in the 6th month (23).

According to the results of our study, the main problem was found in sexual drive, ability to reach orgasm and satisfaction from the orgasm steps. Perineal trauma and episiotomy are associated with sexual dysfunction (3). Episiotomy may cause a decrease in vaginal lubrication, alteration of the vaginal epithelium, and the development of vaginal atrophy and may cause painful sexual intercourse. However, in our study, it was not demonstrated that episiotomy has an effect on vaginal lubrication (Table 4).

In these participant women, who were called and questioned in the 3rd month after giving birth, sexual drive may have been affected due to reasons such as baby care, insomnia, change in body image, social teachings.

In a study conducted with 282 healthy, non-pregnant Turkish women, it was reported that approximately half of the women had sexual dysfunction (24).

We asked whether the postpartum perineal pain in women who had episiotomy prevented them from having sex, and we learned that they did not have any local pain during intercourse at the episiotomy site. Therefore, in fact, the episiotomy site is healed and psychological concerns such as discharge and bleeding that will affect the sexual life psychologically are reduced. Sexual dysfunction seen in the 3rd month postpartum in women may not be due to a physical problem.

Study Limitations

The most important limitation of our study is that we did not apply a valid test for sexual dysfunction to the patients before pregnancy, but it is not possible to predict which patient would be suitable for the study in the prospective design, and the data on the evaluation of the relationship between the ASEX score and biological parameters are limited. ASEX is an objective test that is reliable, easy to perform, easily interpretable, and the results are not dependent on the researcher. The strongest aspect of our study is its prospective design and well-planned study with a homogeneous group. Nullipar has been studied with young, healthy puerperal patients. Each patient and the same doctor were interviewed one-on-one, and their answers were recorded.

Conclusion

According to the results of our study, vaginal delivery with mediolateral episiotomy has a negative effect on sexual function in women. Therefore, we do not support routine episiotomy, although the results are controversial.

Table 4. Effect of episiotomy on parts of the ASEX score

	Episiotomy (-)	Episiotomy (+)	p
Sex drive	2.2±0.9	2.7±0.8	<0.001
Arousal	2.4±0.5	2.4±0.5	0.860
Vaginal lubrication	3.4±1.2	3.7±0.8	0.168
Ability to reach orgasm	3.0±1.0	4.0±0.9	<0.001
Satisfaction from orgasm	3.1±1.7	4.2±1.7	<0.001

ASEX: Arizona sexual experience scale

Ethics

Ethics Committee Approval: This prospective study was performed in a tertiary hospital in accordance with principles of Helsinki Decleration. This study protocol was reviewed and approved by Batman State Hospital Ethical Board, approval number 249, date 20/07/2020.

Informed Consent: Written informed consent form was obtained from the women participating in the study.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: E.O., Ö.K.A., E.G., Design: E.O., Ö.K.A., E.G., Data Collection or Processing: E.O., L.T., Analysis or Interpretation: Ö.K.A., E.G., Drafting Manuscript: E.O., Ö.K.A., L.T., Critical Revisation of Manuscript: Ö.K.A., E.G., Final Approval and Accountability: E.O., Ö.K.A., Technical or Material Support: E.G., L.T., E.O., Supervision: E.O., L.T., Ö.K.A., Writing: E.O., Ö.K.A.

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