Research Article / Araştırma Makalesi

Outcomes of Genital İnjuries After the First Coitus

İlk Koitus Sonrası Gerçekleşen Genital Yaralanmaların Sonuçları

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Abstract

Background: In this study we aimed to investigate the outcomes of the first coitus injuries in newly married couples which are common in our society.
Materials and Methods: This is a retrospective study involving 89 patients admitted to the obstetrics and gynecology clinic of our hospital with the complaint of bleeding secondary to postcoital vaginal discharge between January 2017 and December 2020.
Results: The mean age of 89 patients admitted due to postcoital genital injury was 26±8 years. All 89 of the patients had genital injury in the first coitus. The mean number of lesions was 1.4 ± 0.73 and their dimensions were 2.7±0.96 cm. 65% of the patients were in primary and lower education groups. The main localizations of genital injuries were in the vaginal introitus (n=29), at the right lateral wall (n=13), at the left lateral wall (n=10) and at posterior fourchette (n=10). Preoperative mean hemoglobin level was 11.2±1.78 and postoperative hemoglobin level was 9.8±1.3. The mean operation time was 21.2±7 minutes and the hospital stay was 1.04±0.2 days. 19 of the interventions were repaired under local anesthesia under office conditions and 70 were repaired under spinal anesthesia or sedo-analgesia in the operating room.
Conclusions: Vaginal injuries after coitus are considerably high. Rapidly developing and life-threatening bleeding can occur after injuries. Premarital education about psychosexualty, preventing pregnancies at an early age and conducting sociocultural-based studies may help to reduce genital injuries after the first coitus.

Key Words: First coitus, Genital injury, Bleeding

ÖZ.

Amaç: Toplumda yeni evlenmiş çiftlerde sık rastlanan ilk koitus sonrası gerçekleşen vajinal yaralanmaların araştırılması amaçlanmıştır.
Materyal ve Metod: Bu retrospektif çalışma Ocak 2017 ve Aralık 2020 tarihleri arasında vajinal ilişki sonrası kanama şikayetiyle hastanemizin kadın hastalıkları ve doğum kliniğine başvuran 89 hastayı kapsamaktadır.
Bulgular: Postkoital yaralanma nedeniyle çalışmamıza dahil edilen 89 hastanın yaş ortalaması 26±8 idi. 89 hastanın tamamındaki genital yaralanmaların ilk koitusa bağlı olduğu saptandı. Lezyonların ortalama sayısı 1.4±0.73 ve ortalama uzunluğu 2.7±0.96 cm idi. Hastaların % 65'inin ilkokul ve altı eğitim grubundan olduğu saptandı. Genital yaralanmalar en sık 29 hastada vajinal introitus bölgesinde saptanırken 13 hastada vajen sağ lateral duvarda, 10'ar hasta grubunda ise vajen sol lateral duvar ve forşette saptandı. Ortalama preoperatif hemoglobin değeri 11.2±1.78, postoperatif hemoglobin değeri 9.8±1.3 bulundu. Ortalama müdahale süresi 21.2±7 dakika ve hastanede kalış süresi 1.04 ±0.2 idi. Vajinal yaralanmaların onarım işlemi 19 hastada ofis koşullarında ve lokal anestezi altında, 70 hastada ise ameliyathane koşullarında spinal ya da sedo-analjezi altında gerçekleştirildi.
Sonuç: Koitus sonrası vajinal yaralanmalar oldukça sıktır. Bu yaralanmalar sonrası hızlı gelişen ve hayatı tehdit edebilen kanamalar görülebilir. Evlilik öncesi çiftlerin psikoseksüel eğitim almaları, erken yaşta gebeliklerinin önlenmesi ve sosyokültürel temelli çalışmaların yapılması ilk cinsel ilişki sonrası genital yaralanmaların azalmasına yardımcı olabilir.

Anahtar kelimeler: İlk koitus, Genital yaralanma, Kanama

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Introduction

It has been reported that 1/1.000 of gynecological hemorrhages are caused by genital injuries (1). Genital injuries may be caused by sexual assault, trauma, and coitus (2). In adult women, coitus is the most common genital injury mechanism and accounts for 80% of vaginal lacerations (3, 4). Genital injuries after the first coitus also vary between 10% and 75% in studies with general prevalence (5). Coitus injury has been reported to be between 4-11% if it is a part of a normal sexual life with consent (6- 8). Bleeding after coitus may be more than predicted. Life-threatening injuries requiring urgent surgical intervention are frequently observed (9). Due to the high rates of early marriage in our region, newly married couples are frequently admitted to our hospital due to bleeding as a result of coitus injury. Studies on the subject in the literature are not sufficient. Overall, the study was evaluated together with genital injuries and other genital traumas after coitus. Therefore, there is a need for a study on a homogeneous patient group. In this study, we aimed to investigate the outcomes of the first coitus injuries in newly married couples, which are common in our society.

Materials and Methods

This study was approved by Healt Sciences University Diyarbakır Gazi Yaşargil Training and Research Hospital Clinical Research Ethics Committee (Number: 05.11.2021 / 916).

This is a retrospective study involving 89 patients admitted to the obstetrics and gynecology clinic of our hospital with the complaint of bleeding secondary to postcoital vaginal discharge between January 2017 and December 2020. Our study was approved by the Medical Ethics Committee of our hospital and adhered to the articles of the Helsinki Convention in its design and implementation. All admissions accepted with the diagnosis of postcoital genital injury have been scanned from the archive system and the patients (for example, cervical erosion, mass, menorrhagia) with bleeding due to genital pathologies have been excluded. Parameters such as age, marital status, gravida, coit history, educational status, vital signs at the time of admission, hemogram value, place and duration of intervention, length of hospital stay and transfusion need were obtained through the patient files and hospital archive system.

Information about the number, location and size of genital injuries was obtained through surgical notes. In the presence of multiple lacerations, the largest is taken as basis for our study. Some of the repairs could be performed under local anesthesia with lidocaine under office conditions considering the size and location of the injury in hemodynamically stable patients who could tolerate vaginal examination. On the other hand some patients were intervened in the operating room under sedoanalgesia or spinal anesthesia due to hemodynamic instability, inability of the patient to tolerate vaginal examination and large, deep or excessive bleeding of vaginal injury. Patients were intervened in the asepsis rules in the lithotomy position. Lesions were repaired primarily using 1-0 or 2-0 absorbable sutures as needed. When necessary, a vaginal roll buffer soaked with baticon was applied to the patients after bleeding control after the intervention and the buffer was removed after 6-8 hours. Hemogram measurements were performed twice for control purposes at the time of admission and on average 4-6 hours after the intervention. Patients were called for control after 1 week and a vaginal relationship ban was recommended for 1 month after discharge.

Statistical analysis

We used IBM SPSS 21.0 for Windows (SPSS Inc., Chicago, IL, USA) statistical package program for statistical evaluation of our research data. A descriptive analysis of the records was performed following the completion of the audit. Categorical variables were presented as frequencies and percentages.

Results

The mean age of 89 patients admitted due to postcoital genital injury was 26± 8 years. Nine of them are in the adolescent group. All of the patients had genital injury in the first coitus. The mean number of lesions was 1.4 ± 0.73 and their dimensions were 2.7 ± 0.96 cm. 65% of the patients were in primary and lower education groups.

The main localizations of genital injuries were 29 (32%) in the vaginal introitus, 13 (14%) in the right lateral, 10 (11%) in the left lateral, and 10 (11%) in the posterior fourchette. General information of patients and injuries are given in Table 1.

Table 1. Features of clinical and genital injury

Number of patient (n)	89
First coitus (n)	89
Age	26 ± 8
Married (%)	100
Nullipar (%)	100
Adolescent (n)	9
Gravida	0
Education	
Primary education and below	65%
Primary and above	35%
Number of Injury	1.4 ± 0.73
Injury size (cm)	2.7 ± 0.96
Injury localization	
Vaginal Introitus (n)	29
Posterior fourchette (n)	10
Cervix Posterior fornix (n)	7
Labium minor (n)	2
Right lateral vaginal (n)	13
Left lateral vaginal wall (n)	10
Right lateral wall+introitus (n)	9
Right lateral wall + post.fornix (n)	9

Preoperative mean hemoglobin level was 11.2 ± 1.78 and postoperative hemoglobin level was 9.8 ± 1.3. The mean operation time was 21.2 ± 7 minutes and the hospital stay was

1.04 ± 0.2 days. 19 (21%) of the interventions were repaired under local anesthesia under office conditions and 70 (79%) were repaired under spinal anesthesia or sedoanalgesia in the operating room. Operational information is summarized in Table 2.

Table 2. Operational features

Preop. hemoglobin (g/dL)	11.2±1.78
Postop. hemoglobin (g/dL)	9,8 ± 1,3
Time from admission to operation (minutes)	
Operation time (ms)	21.2 ± 7
Length of hospital stay (days)	1.04 ± 0.2
Operation location	
Office (n)	19
Operating room (n)	70
Blood Transfusion (n)	4
Hypovolemic shock (n)	2
Systolic blood pressure (mmHg)	96 ± 8
Diastolic blood pressure (mmHg)	61 ±6

Discussion

The amount of bleeding may be higher in genital injuries after consensual sexual intercourse. The frequency of applying to the health center with hypovolemic shock and vaginal laceration is high (10-12). The vagina receives its blood from the azygos arteries, branches of the uterine artery coming from the internal iliac artery. They extend along the front and rear vaginal walls. Since the vaginal region is rich in terms of vascularity, the amount of bleeding may be high in injuries (13). Explaining the customs and traditions of our patients may be useful in making this study more understandable. In this context, the first sexual experience of most of our patient profile is accompanied by marriage. In our society, hymen is given great importance and it is expected to bleed the first night. The tradition of bloody sheets continues in our region. This blood is a proof of her virginity. This blood is expected to be a lot, and even to flow like menstrual blood. The parents wait at the door of the room where the couple have sexual intercourse, and they have to show double blood sheets in the morning. This puts a lot of pressure on couples.

In our study, the mean age of the patients was 26 years and 10.4% of the patients were in the adolescent age group. In this respect, it is in a similar age range to the average of the literature (14). The vast majority of patients apply to the emergency department with excessive bleeding late at night due to the first relationship after the wedding. In our study, a decrease of approximately 1.4 units was observed between preoperative and postoperative hemoglobin values of our patients. Blood transfusion was performed in 4 patients. Two of our patients came with hypovolemic shock. Two patients who came with hypovolemic shock were referred to our hospital from a remote location outside the city. In the literature, the frequency of blood transfusions was frequently performed in case series (14). Tchounzou et al. reported the blood transfusion rate as 5.6% in the coitius injury study of 53 diseases (15). In some studies, it was observed that this rate increased up to 38% (1, 15).

In our study, the most common areas of genital injury after coital intervention were vaginal introitus with 32.5% and right vaginal wall with 14%. Since the vast majority of our patient profile is the first sexual experience, we attribute the frequency of genital injury in the vaginal introitus to this. Coexistence of right vaginal wall and right vaginal wall and posterior fornix was observed more frequently. Sau et al. reported more frequent injuries to the right vaginal wall. There are studies in the literature reporting the frequency of right injury as well as studies reporting no difference (16). Dickinson explains genital injuries on the right as follows is more frequently seen due to dextroversion of the uterus on the right and increased tension of the vagina in this region. Anatomically, the right fornix being larger than the left is more likely to adapt to the fornix and glans penis. This situation stated that it may increase the frequency of stretching along the posterior fornix on the right side during sexual intercourse (14, 17). Vaginal lateral wall tears have been reported to cause more bleeding than other types. In injuries, the vaginal wall is generally opened and the tear expands with more penetration. On the other hand, posterior fornix tears also occur in general, and even if there is frequent injury in the posterior fornix, the vagina does not bleed as much as the lateral wall tears and it is supported by a thinner layer of connective tissue, so it is not bled as much as lateral vaginal wall laceration due to relatively less blood supply (18, 19).

All 89 patients in our study were first post-intercourse coit injuries. All patients are newlyweds. In this case, it is the first series of coitus injuries in the literature that are newly-wed couples. The first coital relationship is the most significant risk factor in our study. In coitus-related vaginal injuries, the patient's self-contraction with fear may cause increased intra-abdominal pressure in the posterior fornix. Increased intra-abdominal pressure and contraction of vaginal length due to voluntary contraction in vaginal muscles may result in injury due to increased tension in the posterior fornix and decreased flexibility in the vagina during deep penetration (14). Apart from this, various risk factors were found. Coital positions may also cause unusual deep penetrations and may result in injuries. Mc Colgin et al. reported that the most harmful position during sexual intercourse was in cases where the patient was in dorsal decubitus with hyperflexion and abduction of limbs. They also suggested that hormonal deficiency, vaginal infection and male factor -such as vigorous intercourse, penile anomaly (size and shape abnormality), voluntary medical male circumcision (VMMC) and penile swellings and deviations - should be investigated (20-22). Cisse et al. stated that in addition to vaginal infection and position factor, duration of sexual abstinence and aphrodisiac drugs used increased the likelihood of injury (23). One of the risk factors is the adolescent age group. In our study, 10.4% of the patients were in the adolescent age group. Dao et al. reported that there were risk factors due

to genital disproportion and insufficient vaginal tissues in the adolescent age group (24).

Of the 89 patients in our study, 70 were treated in the operating room. The operation duration was 20 minutes and the mean length of hospital stay was 1 day.

Patients who were admitted to our hospital were diagnosed in the emergency department and evaluated for intervention under office conditions in the service. Due to anxiety, agitation and active vaginal bleeding from genital trauma, patients undergo suboptimal vaginal examination under office conditions. At the same time, the lack of vaginal flexibility due to vaginismus and nulliparity, which is common in this patient group, creates difficulty in diagnosing and treating vaginal deep lacerations. Bleeding in the vaginal introitus can be controlled by simple suturing. With the effect of anesthesia under operating room conditions, a better view of vaginal injuries and a more favourable environment for suturing are provided. At the same time, a more suitable environment is provided for the treatment of hypovolemic fluid due to bleeding, which is frequently encountered in this patient group. After the patients are treated, they usually recover quickly and are externalized within a maximum of 24 hours.

In our study, 65% of couples are non-highly educated couples. Omo-Aghoja et al. reported that the education level of couples and lack of foreplay were important factors in coital injuries. In the patient group where the study was conducted, couples often experience their first sexual experience on the first day of marriage. The studies suggest that studies should be conducted to eliminate the lack of psychosexual education of couples before marriage (25-27).

The limitations of the study are that it is a retrospective study due to its nature, that we do not know about vaginal infection, anatomical anomalies and that the male factor is not examined. The strength of our study is that married couples developed coitus injuries after the first coitus and had the highest number of patients in the literature**.**

Conclusion

Vaginal injuries after coitus are considerably high. After these injuries, there is rapidly developing and life-threatening bleeding. In societies where traditions are strong, there are many people who experience their first sexual experience on the first day of traditional marriage. Due to expectations, the first sexual experience of couples is under physical and psychological trauma. Precautions should be taken against these injuries that cause life-threatening bleeding. Premarital couples receiving psychosexual education, preventing pregnancies at an early age, and conducting socio cultural-based studies may help to reduce genital injuries after the first coitus.

Ethical Approval: *This study was approved by Healt Sciences University Diyarbakır Gazi Yaşargil Training and Research Hospital Clinical Research Ethics Committee (Number: 05.11.2021 / 916).*

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References

1. Abasiattai AM, Etuk SJ, Bassey EA, et al. Vaginal injuries during coitus in Calabar: a 10-year review. Niger Postgrad Med J 2005;12(2):140-4.
2. Habek D, Kulas T. Nonobstetrics vulvovaginal injuries: mechanism and outcome. Arch Gynecol Obstet 2007;275(2):93-7.
3. Katz VL. Benign gynecologic lesions: vulva, vagina, cervix, uterus, oviduct, ovary, ultrasound imaging of pelvic structures. In: Lentz GM, Lobo RA, Gershenson DM, et al, eds. Comprehensive Gynecology. Philadelphia, PA: Mosby-Elsevier; 2012:383-432. (Textbook chapter)
4. Borhart J. Emergency department management of vaginal bleeding in the nonpregnant patient. Emerg Med Pract 2013;15(8):1-20.
5. Zink T, Fargo JD, Baker RB, et al. Comparison of methods for identifying ano-genital injury after consensual intercourse. J Emerg Med 2010;39(1):113-8.
6. Schmidt AB, Lykkebo AW. Post-coital genital injury in healthy women: A review. Clin Anat 2015;28(3):331-8.
7. Lincoln C, Perera R, Jacobs I, et al. Macroscopically detected female genital injury after consensual and non-consensual vaginal penetration: a prospective comparison study. J Forensic Leg Med 2013;20(7):884-901.
8. Mc Lean I, Roberts SA, White C, et al. Female genital injuries resulting from consensual and non-consensual vaginal intercourse. Forensic Sci Int 2011;204(1-3):27-33.
9. Banerjee A. Coital emergencies. Postgrad Med J 1996;72(853):653-6.
10. Hoffman RJ, Ganti S. Vaginal laceration and perforation resulting from first coitus. Pediatr Emerg Care 2001;17(2):113-4.
11. Jeng CJ, Wang LR. Vaginal laceration and hemorrhagic shock during consensual sexual intercourse. J Sex Marital Ther 2007;33(3):249-53.
12. Sloin MM, Karimian M, Ilbeigi P. Nonobstetric tears in the vajina. J Am Osteopath Assoc 2006; 106: 271-273.
13. Tullington JE, Blecker N. Lower Genitourinary Trauma. 2020 May 22. In: Stat Pearls (Internet). Treasure Island (FL): Stat Pearls Publishing; 2020 Jan.
14. Padoa A, Glick Fishman N, Tsviban A, et al. Vaginal postcoital injuries requiring surgical intervention: a case series and literature review. Int J Impot Res 2021;33(1):110-117.
15. Tchounzou R, Chichom-Mefire A. Retrospective Analysis of Clinical Features, Treatment and Outcome of Coital Injuries of the Female Genital Tract Consecutive to Consensual Sexual Intercourse in the Limbe Regional Hospital. Sex Med. 2015; 3(4):256-60.
16. Sau AK, Dhar KK, Dhall GI. Nonobstetric lower genital tract trauma. Aust N Z J Obstet Gynaecol 1993;33(4):433-5.
17. Dickinson RL. Atlas of Human Sex Anatomy. Baltimore, Md: Williams & Wilkins Co; 1949:100 .

18. Katz VL. Benign gynecologic lesions: vulva, vagina, cervix, uterus, oviduct, ovary, ultrasound imaging of pelvic structures. In: Lentz GM, Lobo RA, Gershenson DM, et al, eds. Comprehensive Gynecology. Philadelphia, PA: Mosby-Elsevier; 2012:383-432 (Textbook chapter).
19. Wilson KF. Lower genital tract trauma. Aust N Z J Obstet Gynaecol 1966;6:291-3.
20. McColgin SW, Williams LM, Sorrells TL, Morrison JC. Hemoperitoneum as a result of coital injury without associated vaginal injury. Am J Obstet Gynecol 1990;163 (5 Pt 1):1503-5.
21. Brito MO, Khosla S, Pananookooln S, Fleming PJ, Lerebours L, Donastorg Y, et al. Sexual Pleasure and Function, Coital Trauma, and Sex Behaviors After Voluntary Medical Male Circumcision Among Men in the Dominican Republic. J Sex Med. 2017;14(4):526-534.
22. Eke N. Urological complications of coitus. BJU Int. 2002;89(3):273-7.
23. Cisse CT, Dionne P, Cathy A, et al. Lésions vaginales au cours du coït (Vaginal injuries during coitus). Dakar Med 1998;43(2):135-8.
24. Dao B, Diouf A, Bambara M, et al. Les blessures vaginales au cours du coït: une série de 98 cas (Vaginal injuries during coitus: 98 cases). Contracept Fertil Sex 1995;23(6):420-2.
25. Boukhanni L, Dhibou H, Zilfi W, et al. Les hémorragies post coïtales: à propos de 68 cas et revue de literature (Postcoital bleeding: 68 case-reports and review of the literature). Pan Afr Med J 2016;23:131.
26. Omo-Aghoja LO, Ovbagbedia O, Feyi-Waboso P, et al. Coitally Related Traumatic Injury of the Female Genital Tract in a Nigerian Urban Setting: A-5 year review. Niger Postgrad Med J 2009;16(1):59-63.
27. Inuwa U, Bako B, Mairiga AG, et al. Coital trauma as seen at the University of Maiduguri Teaching Hospital, Maiduguri. Borno Med J 2013; 10(1): 25-9.