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CASE REPORT

Vulva Haematoma following Sexual Assault in an Adolescent Nigerian Girl: A Case Report

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Summary

Non-obstetric vulva haematomas are uncommon, with an incidence of 3.7% accounting for less than 1% of gynaecologic emergencies. Non-consensual sexual intercourse constitutes the most common aetiology. A 15-year-old adolescent Nigerian girl, who presented to the Gynaecologic Emergency Unit of the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria, with vulva haematoma following sexual assault, is presented. She had surgical management, screening and prophylaxis for sexually transmitted infections, emergency contraception, and psychosocial therapy and was discharged after 24 hours, following an unremarkable postoperative period. This case is being reported to draw attention to the serious global public health problem of adolescent sexual abuse, highlight that though rare, vulva haematomas, which could be life-threatening, can be a complication of sexual assault, and review the literature on its management.

Keywords*: *Coital injury, Non-consensual intercourse, Rape, Sexual abuse, Teenager.

Introduction

Non-obstetric vulvovaginal injuries are rare; they are seen in approximately 1/1,000 gynaecologic emergencies. [1] Of these injuries, vulva haematomas have a reported incidence of 3.7%, accounting for only 0.8% of gynaecologic emergencies. [2] The vulva, being mainly composed of smooth muscle and loose connective tissue, is particularly prone to haematoma formation, owing to its rich vasculature. [3] The aetiologies include physical trauma, straddle, sports-related injuries, consensual and non-consensual coital injuries. [4] Coital injuries are the most common aetiology, accounting for up to 40% of cases, with sexual assault being the most implicated. [5,6] One in five women will experience sexual assault in their

lifetime, with young women and children being the most common victims. [7] National surveys have shown that 5-25% of adults were sexually assaulted as children/adolescents. [8] Sexual assault of children and adolescents is a serious global public health issue, with far reaching short and long-term physical, psychosocial, and sexual health negative consequences for victims. More than 40% of cases may result in anogenital injuries. Still, only 2% of these may be severe enough to warrant emergency presentation and medical intervention, [9] as in this case of a 15-year-old adolescent who presented with vulva haematoma that was successfully managed surgically. Not many cases of vulva haematoma following sexual assault have been reported in the literature. From available hospital records, this case is the only case in over ten years, demonstrating its rarity in our facility. This is because less than one-fourth of victims of sexual assault report the incident, especially in low resource settings, out of fear of being stigmatized or not being believed. [10] This case is herein reported to draw attention to the serious global public health problem of adolescent sexual abuse, highlight the fact that though rare, vulva haematomas, which could be life-threatening, can be a complication of sexual assault, and review the literature on its management.

Case description

M.B was a 15-year-old female secondary school student who was brought to the Gynaecologic Emergency Unit of the University of Port Harcourt Teaching Hospital by her uncle, whom she resided with in Port Harcourt. She presented with progressive vulva swelling, associated with vaginal bleeding and peri-anal pain, following sexual assault by two unknown assailants 12 hours before presentation. She was abducted in a car by the assailants while returning from an errand for her uncle. The assailants drove her to an uncompleted building in an unknown location. They restrained her and took turns having non-consensual unprotected sexual intercourse with her, ejaculating in her vagina. She had bled *per vaginam* during the sexual assault. The assailants did not insert any objects in her vagina and did not inflict any bodily injury on her. She had never had sexual intercourse prior. Her last menstrual period was a week before the sexual assault. She attained menarche at 11 years of age and menstruated for four days in a regular 28-day menstrual cycle. Her past gynaecologic and medical histories were unremarkable.

At presentation, she was in obvious painful distress, anxious, not pale, afebrile, with no evidence of bodily injury. Her vital signs were normal. Her breast development was at Tanner stage 5. Abdominal examination revealed normal findings, while vulva examination revealed Tanner's stage 4 pubic hair pattern, a tense, tender, 8 cm x 6 cm x 3 cm haematoma on the left labia majora, obscuring the urethral and vaginal openings (Figure 1A). There were bruises, with the posterior fourchette smeared with bright red blood. There was no active vaginal bleeding. She was unable to tolerate speculum examination due to excruciating pain. Anal examination revealed normal anal folds with a good sphincteric tone.

The full blood count was normal, with a packed cell volume of 32%. Renal and liver function tests were also normal. She was seronegative for Human Immunodeficiency Virus (HIV), Hepatitis B surface Antigen (HBsAg), anti-hepatitis C virus (HIV), and Venereal Disease Research Laboratory (VDRL). The pregnancy test was also negative. The young lady and her uncle were counselled on her clinical condition and the need for an emergency surgical evacuation of the vulva haematoma. A written consent was obtained for examination under anaesthesia (EUA) and surgical evacuation of the vulva haematoma, which had been noticed to be

expanding. A Foley urethral catheter was inserted, and about 100 ml of amber-coloured urine was drained pre-operatively.

She was put in lithotomy position in the theatre, under conscious sedation with intravenous pentazocine 30 mg *stat* and diazepam 10 mg *stat*. After cleaning and draping aseptically, the labia were parted to expose a torn hymenal ring with ragged edges. A longitudinal incision was made on the mucocutaneous border of the left labia majora, and about 150 ml of clotted blood was evacuated from the haematoma cavity. Bleeding vessels were identified and ligated, and the haematoma cavity was irrigated with normal saline and completely obliterated with vicryl 2/0 absorbable sutures, applied in layers (Figure 1B). The vulva wound was irrigated with about 100 ml of normal saline. The urethral catheter was removed after the procedure.

A **B**

Figure 1: Vulva before and after surgery. A – Vulval haematoma before surgery; B – Vulva after surgery

Following surgery, the patient was admitted into the Gynaecology Ward for observation. She had emergency contraception with tablets of levonorgestrel (Postinor-2®) 1.5 mg stat, tetanus prophylaxis with intramuscular tetanus toxoid 0.5 ml stat. She was also commenced on highly active antiretroviral treatment for HIV post-exposure prophylaxis. She had been fully vaccinated for hepatitis B. She was administered intravenous ciprofloxacin 200 mg 12 hourly, metronidazole 500 mg eight hourly, and paracetamol (Surex®) 1 g eight hourly, for 24 hours. She made a good postoperative recovery and was discharged home after 24 hours of admission on oral antibiotics, analgesics, and haematinics. Prior to discharge, she was reviewed by the psychiatrist and medical social worker for psychological and psychosocial counselling and support. The uncle reported the sexual assault to appropriate security and legal agencies.

She visited the Gynaecology Clinic at four weeks and 12 weeks postoperatively. The vulva healed well. At four weeks, a repeat pregnancy test was negative, and repeat tests for HIV, HBsAg, anti-HCV, and VDRL, at 12 weeks, all remained negative. She was counselled on psychological sexual disorders.

Discussion

Vulvovaginal coital injuries most commonly occur at the extremes of age. [1] The labia majora in adult females is composed of large fat pads that protect the rich vasculature in this region from trauma. Conversely, these fat pads are less well developed in children and adolescents, predisposing them to trauma and haematoma formation. Hypoestrogenism, genital atrophy, and loss of elasticity also make postmenopausal women prone to coital injuries. [2,6] As seen in the index patient, coital injuries occur more often in adolescents on their first coital exposure, non-consensual intercourse being more implicated than consensual coitus. [11] In non-consensual intercourse, as in the index case, inadequate lubrication from lack of sexual arousal increases friction and stretching of vulvovaginal tissues, resulting in injuries and pain. The pain, anxiety, and hypervigilance, cause pelvic floor muscle hyperactivity, which has been demonstrated to be associated with reduced vulvovaginal blood supply and, consequently, reduced lubrication. [12,13] The presence of an inelastic and thick hymenal ring in a virgin female, like the index patient, and penovaginal disproportion are other risk factors. [11]

Introital injuries are commoner in younger, sex-naïve patients, like the index case than deeper vaginal lacerations seen more often in older and sexually experienced women. [1] Injury to the labial branches of the internal pudendal artery, which supply the vulva, can cause significant vulva hematomas. Most vulva haematomas are, however, minor and self-limiting. [5] Unlike in the index case, most vulva haematomas occur on the right; notably, there is no obvious anatomic explanation for this pattern. [3]

There is no consensus on the management of non-obstetric vulva haematomas. The majority are small and can be managed conservatively with bed rest, sitz baths, analgesics, and cold compresses in the absence of acute expansion. [14] Surgical management is indicated in large haematomas greater than 10 cm in diameter, acutely expanding haematomas causing intense pain and distress to the patient, haematomas causing haemodynamic compromise, urologic or neurologic complications, or failed conservative management. Due to the risk of pressure necrosis, a known complication of vulva hematomas, vulva haematomas greater than 4 cm, should be considered for surgical management. [15] Conservative management is associated with a longer duration of hospital stay, increased need for antibiotics, blood transfusion, subsequent surgical intervention, and higher mortality rates. [4,15] The index case was managed surgically because the haematoma was acutely expanding, causing her excruciating pains, with the risk of pressure necrosis; she was discharged after 24 hours in good clinical condition. The surgical incision can be made on the mucocutaneous junction, as was done in the index case, over the point of maximum bulge of the haematoma, or through the vagina mucosa, with similar outcomes. [2] To reduce the risk of pressure necrosis and infection, it is necessary to carefully evacuate all blood clots to evaluate the full extent of the haematoma without provoking further bleeding. [3] A case of successful arterial embolization has been reported [16], but the availability of the required facilities remains limited, especially in low resource settings.

Conclusion

Vulva haematoma may rarely accompany sexual assault in adolescent girls. Most cases are small, with no adverse clinical sequelae but require a high index of suspicion and meticulous vulva examination to diagnose. Acutely symptomatic haematomas require prompt intervention to prevent further blood loss, minimize tissue damage and reduce the risk of infection. Victims of sexual assault should be handled with

empathy, without overt or covert blame, to prevent a "second assault/rape". Multidisciplinary management, adequate counselling, and psychosocial support will significantly reduce the risk of long-term negative consequences, such as "third assault/rape". To reduce the incidence of sexual assault, risk and protective factors must be understood and addressed at individual, local, regional and global levels.

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