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Case Report

Post-Partum Vulva Haematoma Management in a Low Resource Setting: A case Report

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ABSTRACT

Large postpartum vulvar hematoma is a rare post-obstetric complication and its prompt recognition can help reduce the risk of maternal death. Only few cases have been reported and currently there is no standard consensus existing on the best management of vulvar hematomas. Herein, we report the successful management of a large post-obstetric vulvar hematoma by medical officers in a low resource setting in government hospital in Isiokolo, Delta State Nigeria. We report the case of a 20-year-old booked now para 1 mother from rural Delta State who presented with vulvar pain and rapidly expanding spontaneous vulvar hematoma in the right labium majus after a spontaneous vaginal delivery on the labor ward. The procedure was performed under ketamine anesthesia, supplemented with local anesthetic infiltration around the right labium majus. A surgical incision was made to drain and evacuate the hematoma. Clots were cleared, active bleeding points were identified and ligated, and the site was thoroughly inspected to ensure adequate hemostasis prior to closure. Good inspection of the vulva and perineum post-delivery remains pivotal in vulva hematoma prevention. Once detected the hematoma must be immediately assessed whether or not it is localized and surrounding pelvic structures must be evaluated as these factors will determine the treatment modality. In low resource settings where hematoma is confirmed to be localized with no damage to surrounding pelvic structures and patients are hemodynamically stable a simple incision to drain the hematoma with ligation of bleeding vessels can be performed.

Keywords: Postpartum Haematoma, Vulva Haematoma, Nigeria, Surgical Management

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INTRODUCTION

Vulvar hematoma is one of many puerperal genital hematomas which include paravaginal, vulva, vulvovaginal, or sub peritoneal hematomas.[1] It is a collection of blood in the vulva that can present as an obstetric complication or due to a non-obstetric cause.[2] The vulva is composed mainly of smooth muscle and

loose connective tissue. It describes all of the structures that make the female external genitalia and includes components such as the mons pubis, labia majora, labia minora, clitoris, vestibular bulbs, vulva vestibule, Bartholin's glands, Skene's glands, urethra, and vaginal

opening.[3] Its venous drainage is via the external and internal pudendal vein and it gets its blood supply through the branches of the pudendal artery.[4]

While vulvar hematomas of non-obstetric origin are relatively rare, with an incidence of 3.7% and accounting for only 0.8% of all gynecological emergencies, they have been documented in the literature.[5,6] Common non-obstetric causes include straddle-type injuries, coitus, or physical assault.[7] A thorough history and physical examination are crucial to exclude other differential diagnoses such as Bartholin's gland abscesses and cysts, inguinolabial hernias, postpartum hernias, vulvar varicosities, and vulvar folliculitis.[1]

Vulvar hematomas during labor may arise from either direct or indirect trauma to the soft tissues. Procedures such as episiotomies, vaginal laceration repairs, or instrumental deliveries are common causes of direct injuries. In contrast, indirect injuries can occur due to excessive stretching of the birth canal during vaginal delivery.[8] Interestingly, the majority of vulvar hematomas are observed following normal deliveries rather than those classified as complicated. [9, 10]

Varicosities of the Vulva are a common occurrence during pregnancy, due to the increasing weight of the uterus which results into an increased venous pressure.[11] The damage to labial branches of the internal pudendal artery in this vascular network results in the formation of the hematoma.[6, 11, 12] Puerperal genital hematoma is often suspected by clinicians following patient's complaints of perineal pain which has been recognized as its hallmark symptom. Vulva hematomas are often a clinical diagnosis following a basic examination of the vulva and vagina to check for any visible signs of a hematoma. Depending on what is found during the exam, an ultrasound or CT scan may be ordered to evaluate the size of the hematoma and whether it's growing. Early recognition is paramount in reducing the associated morbidity, improving patient outcomes, and shortening the length of hospital stay.

Currently no consensus on the management strategy for vulva hematomas exist due to their rarity. While small hematomas are often managed conservatively, some indications exist for surgical and interventional radiology. One of the strengths of surgical management of vulva hematomas is its associated reduction in morbidity and length of hospital stay the surgical solution reduces morbidity and length of stay in the hospital.[5] Although larger vulvar hematomas often appear to be serious, they are often localized and usually require a simple procedure. If poorly managed postpartum vulvar hematomas result in complications such as anemia, postpartum hemorrhage, superinfection, necrotizing fasciitis and increased length of hospital stay.[1, 6, 13] This is a case report of a large post-obstetric vulvar hematoma in a primiparous woman in a low income setting that was successfully treated with a simple incision and drainage under ketamine anesthesia.

PATIENT AND OBSERVATION CASE

Information of the Patient

A 20-year-old booked, now Para 1 unemployed woman, from Ekrebuo a rural community in Isiokolo in Delta State Nigeria. She comes from a low-income household and had a planned pregnancy that was conceived spontaneously. Pregnancy was confirmed via an ultrasound scan at 12 weeks of gestation. She presented for her booking antenatal at 26 weeks of gestation. The patient's booking parameters indicated a packed cell volume of 35%. HIV screening was negative, and blood grouping revealed the patient to be O Rhesus D positive. Hepatitis B surface antigen (HbsAg) testing was non-reactive, ruling out active hepatitis B infection. Urinalysis findings were unremarkable, with results falling within normal limits.

Patient received two doses of Intermittent Preventive Treatment for Malaria with Sulphadoxine pyrimethamine at presentation and 28 weeks' gestation and received two doses of Intramuscular anti tetanus toxoid at presentation and 28 weeks' gestation. At 04:00 hours on the day of the event, the patient presented in the active phase of labor with cervical dilatation of 6 cm. Labor progression was monitored using a partograph. At 08:00 hours, the patient delivered vaginally via spontaneous vaginal delivery (SVD) without the need for an episiotomy. Delivery was uneventful. She was delivered of a live female neonate at term under the supervision of a physician and a trained midwife. Baby cried at birth. Birth Weight was 3.5Kg, and APGAR scores of 7^{1} and 10^{5} respectively.

Clinical Results

Perineum was inspected post-delivery and no tear was observed. Close monitoring was instituted. The young patient had called the attention of the midwives to feeling of perineal pain 4 hours post-delivery. She was experiencing worsening pain around the vulvar area, with mild vaginal bleeding.

Diagnostic Approach

On examination, a spontaneously developed, expansive hematoma was observed in the right labium majus, accompanied by active hemorrhage and dissection of superficial tissues. The patient was assessed and found to be hemodynamically stable. A tense, tender hematoma with no skin discoloration was observed initially to be

about 10cm but progressively increased in diameter to approximately 30cm in diameter at the level of the right labium majus (Figure 1) at this time vitals were reassessed and patient observed to be deteriorating. Bleeding was observed, however the urethra and vagina appeared normal. The hematoma was observed to be growing and the patient was administered with 600mg of paracetamol to manage the pain. Limited diagnostic investigations could be done at this facility. An urgent PCV was done which revealed Her hemoglobin level was 9. g/dL. The Vulva hematoma was observed to be localized in the vulvar area and did not extend to the pelvis. The pelvic structures appeared normal. This however could not be confirmed via any imaging modality due to the lack of such facilities within the hospital.

Therapeutic Intervention and Follow-up

A written consent was obtained from the patient's husband and she was taken to the theatre. The procedure was performed under ketamine anesthesia, supplemented with local anesthetic infiltration around the right labium majus by the experienced medical officer in the operating theatre. Patient was draped and surgical site was prepared using antiseptic solution.

Figure 1: Large Postpartum Vulva Hematoma

A 3cm longitudinal incision was made at the area of maximal swelling on the labium majus, at the junction of the mucosa and skin, to provide direct access for hematoma evacuation. Approximately 250mL of blood was drained. Active bleeding points, which included branches of the pudendal artery around the clitoris and perineum, were identified and successfully ligated using 2-0 vicryl sutures. The hematoma cavity was thoroughly irrigated with sterile saline to remove residual blood clots and to ensure all active bleeding points had been adequately identified and managed. Following confirmation of hemostasis, the cavity was left open to facilitate healing by secondary intention. The cavity was packed with sterile gauze, which served both as a hemostatic measure and to allow for adequate drainage. This approach was chosen to minimize the risk of infection and to promote optimal wound healing through granulation.

Following the procedure, the patient was noted to be clinically pale, prompting the administration of one unit of packed red blood cells to optimize her hemoglobin level. Postoperative management included the initiation of intravenous antibiotic therapy to prevent infection. The patient was placed on a regimen consisting of intravenous ceftriaxone, gentamicin, and metronidazole, which was continued for 48 hours. This comprehensive approach aimed to address both her hematologic and infectious risk factors while ensuring stable recovery. Patient was hospitalized in the labour ward post operation for close observation after the procedure and had a urethra catheter passed.

Outcome of Intervention and Follow-up

Twenty-four hours post operation, post transfusion PCV increased and vitals remained stable and the Urethral catheter was removed to encourage ambulation. The condition of the vulva twenty-four hours post operation appeared normal. The patient reported no pain and had full range of motion. No bleeding was observed from the incision site. The patient was discharged from the hospital forty-eight hours post operation in good condition on oral amoxycillin/clavulanic acid, metronidazole and analgesics for 7 days. She was also given supplemental iron tablets for 2 weeks.

Patient was satisfied with her management as the large vulvar hematoma resolved successfully with the simple procedure. She was discharged home with her newborn and a follow-up appointment was arranged for regular wound care and monitoring to ensure proper healing and prevent complications.

Patient Perspective

From the patient's perspective, large vulvar hematomas are unpredictable and thus women in rural communities need to register at a hospital to have their delivery and

avoid home deliveries as often seen. This ensures such unexpected complications are managed by physicians and where necessary referral to more experienced specialists.

Informed Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images

DISCUSSION

The female external genitalia are made up of both urinary tract and reproductive structures. It is covered or wrapped by skinfolds called the vulva. These skin folds are called the labia majora and labia minora. Both labia majora and labia minora are part of the vulva.[4] The vulva is made up of smooth muscle and loose connective tissue and through several branches of the pudendal artery which is a branch of the Internal Iliac artery it receives its blood supply.[14] The venous drainage of the Vulva is via the branches of the internal pudendal vein, venae comitantes. Varicosities of the Vulva are common during pregnancy, due to the increasing weight of the uterus. This causes an increased venous pressure and the damage to labial branches of the internal pudendal artery in this vascular network results in the hematoma formation.[6, 11, 12]

Many puerperal genital hematomas exist which include paravaginal, vulva, vulvovaginal, or sub peritoneal hematomas.[1] However in strictly vulva hematomas, the bleeding is confined above the anterior urogenital diaphragm, while in vulvovaginal hematomas the bleeding extends to the paravaginal tissues.[15] Vulvar hematomas are often related to obstetric complications, however non-obstetric vulvar hematomas have also been reported in s gynecological emergencies.[6] Similar to our study majority of all the recorded vulvar hematomas have been found to occur on the right labium. No anatomical explanation has been given for this occurrence.[5]

Owing to its very low incidence there is no consensus on the standard clinical practice for the management of vulvar hematomas. Its management remains individualized, tailored to the patient's specific clinical presentation. The available management options include conservative treatment, surgical medication and selective arterial embolization with factors such as hematoma size, involvement of adjoining organs and the degree of hemodynamic stability often determining the modality of management selected. Conservative management was not an option in our case as it is often reserved for small hematomas with no acute expansion in patients hemodynamically stable.[5, 7, 16]

It often involves the use of ice packs, bed rest, analgesics and local compression. It often requires close monitoring as pressure may builds within the hematoma, leading to the formation of necrotic tissue which will require surgical debridement to prevent further tissue destruction.[11] Patients managed conservatively often require an increased length of hospital stay, prolonged antibiotic course and blood transfusion.[17] Surgical intervention is often recommended for rapidly increasing hematomas and following the failure of conservative methods.[5, 18]

In our case, the hematoma was observed to be rapidly increasing with the possibility of an eventual rupture. It was imperative that a surgical incision was done followed by the evacuation of blood clots and ligation of bleeding vessels with absorbable sutures.

Selective arterial embolization is novel way of managing vulva hematomas. It was first described in 1979 by American radiologists.[19] The success rate for management using embolization is reported to be as high as 70–80% and it is associated with shorter hospitalization days compared to surgical management.[5,20,21] Arterial embolization is a costly technical procedure, that requires radiological expertise and skills that are scarce in such rural setting as our facility. It was not an option in our case because of the unavailability of the procedure and the financial constraint.

CONCLUSION

Lack of prompt recognition of postpartum vulvar hematoma increases the risk of maternal death. We recommend careful assessment, evaluating the size of a vulvar hematoma and the hemodynamic status of a patient before selecting a treating modality. Obstetric vulva hematomas are potentially life-threatening conditions. Prompt surgical intervention reduces risk of morbidity and mortality associated with the condition. Health workers need to be alert to identify this condition post-partum to ensure prompt intervention to reduce need for referral for obstetric expertise following complications. This is particularly important in low-resource settings, such as our facility, where patients often face the challenge of traveling long distances to referral centers and where financial constraints pose a considerable barrier to accessing care.

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