



**CASE REPORT**

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**Management of puerperal vulvovaginal hematoma with different suture technique; case report**

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**Abstract**

Puerperal hematomas occur in 1–2 per 1000 deliveries and rarely cause maternal mortality. A 21-year-old female patient, gravida 2 parity 2, was admitted to our clinic with bilateral vulvar hematoma after a spontaneous vaginal delivery. Extensive hematomas are primarily treated with surgical debridement. Due to the consistency of hematoma after debridement, primary retention sutures were placed at the vulva and a silicon catheter was placed between the vulva and retention sutures. The patient was hospitalized for five days. The early diagnosis of puerperal hematomas is very important because many complications can be prevented with early *diagnosis and treatment*.

**Keywords:** Postpartum, vulva, hematoma

**Introduction**

The uterus, vagina, and vulva have rich vascular supplies. Possible traumas may result in the formation of a hematoma during delivery. The vulva, vaginal/paravaginal area, and retroperitoneum are the most common locations for puerperal hematomas [1,2].

Puerperal hematomas are mostly related to operative births and lacerations; however, even without lacerations or an incision, hematomas can occur around damaged vessels [1–5]. Nulliparous or greater than 4000 gr fetal weight at birth, preeclampsia, prolonged second phase, multiple pregnancy, vulvar varicose veins, and coagulopathies are the known risk factors for vulvar and vaginal hematomas [2,6–8].

The vulva consists of elastin fibers, smooth muscle fibers, and connective tissue with many vessels; the pudendal artery and its branches are the primary blood supplier [9]. Treatment methods depend on the measurement of the hematoma and the patient's clinical stability. Treatment choices include conservative treatment, surgical debridement, or artery embolization in selected cases [13]. We used a new technique for vulvar hematoma in this case.

**Case presentation**

A 21-year-old Syrian female patient, gravida 2 para 2, was admitted to our clinic with bilateral vulvar hematoma after a spontaneous vaginal delivery.

At six hours postpartum, the patient's physical examination revealed: blood pressure 120/80 mmHg, pulse 110 / minute, conscious, cooperative, contracted uterus, and no defense or rebound during an abdominal examination. The bilateral vulvovaginal hematoma was 13 cm x 8 cm x 5 cm in size. There was no cervical hemorrhage, and an abdominal ultrasonographic assessment was normal. We first drained the hematoma, completed the primary sutures without leaving dead space, and installed a penrose drain.

The laboratory findings of the patient's 6-hour status were as follows: hemoglobin 10.1 gr/dL; hematocrit 31.2; WBC 10.3 x 10<sup>3</sup>/uL and platelets were 160 x 10<sup>3</sup>/uL. The patient's other laboratory values were normal. We transfused two units of erythrocyte suspension and two units of fresh frozen plasma. Second generation cephalosporin and metronidazole were applied to the patient.

At the patient's physical examination ten hours postpartum, the hematoma was getting bigger, and hemoglobin had decreased from 10.1 gr/dl to 7.3 gr/dl. We decided to operate again and placed large retention sutures with a silicon catheter on the vulva. The patient's blood pressure was 125/70 mmHg, pulse 86 / minute, she was conscious, cooperative, and had a contracted uterus. There was no defense and rebound during abdominal examinations. Laboratory findings were: hemoglobin 7.3 gr/dL, hematocrit 24, WBC 13.8 x 10<sup>3</sup>/uL, and platelets were 155 x 10<sup>3</sup>/uL. We again transplanted two units of erythrocyte suspension and two units of fresh frozen plasma.

At the 20-hour postpartum exam, half of the sutures were removed, and after 34 hours, the rest of the sutures were removed. The patient was discharged on the fifth postpartum day.

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**Figure 1:** Big retention sutures with silicon catheter on vulva

### Discussion

Uterine and non-uterine origins of postpartum hemorrhages can cause serious maternal morbidity and mortality. Hematomas can occur in vulvar and vaginal/paravaginal spaces, especially in cases located retroperitoneally; these may need treatment by laparotomy [13].

Following the separation of the placenta, the vagina and cervix should be examined carefully, especially in the following conditions: operative births, episiotomy with multiple lacerations, nulliparous or greater than 4000 gr fetal weight at birth, having maternally increased risks (preeclampsia, coagulopathies, vulvar varicose veins), prolonged second phase, and multiple pregnancy [2,6–8].

Some vulvar, vaginal, and paravaginal hematomas are treated with conservative measures. Spontaneous resorption is also possible. However, cases treated conservatively need surgical debridement at the end of the first postpartum week [10].

In a case report of 11 patients with vulvovaginal hematoma, eight of them needed a blood transfusion. In nine patients, drains were placed into the hematoma; four of them were penrose drains, and the other five were covered drains. In one patient, after surgical debridement, an abscess formed and was resolved by local care without performing a second drainage or surgical debridement [11].

Due to the blood loss caused by hematomas and prolonged treatment, most patients needed a blood transfusion [10-12]. In our case, a total of four units of fresh frozen plasma and four units of red blood cells were transfused.

Generally, surgical debridement is chosen for treating hematomas. In our case, the primary treatment was surgical debridement and a penrose drain placement. The patient was checked hourly, and the examination revealed the hematoma and bilateral vulvar edema becoming larger. Because of extensive edema and the fragility of the tissue, re-debridement was not an option in our case. We preferred, instead, to suture the vulva to prevent the enlargement of the hematoma in a limited size, and we placed a silicon catheter the between vulva and retention sutures, to prevent vulvar skin damage. Our technique was effective in limiting the size of the hematoma.

### Conclusion

In conclusion, the patient's history and family history should be checked in detail to exclude other medical conditions, and the patient should be examined carefully for non-traumatic artery-vein damage. Most patients will need a blood transfusion, due to a vulvar hematoma, and blood parameters should be checked regularly. The primarily preferred treatment of serious postpartum puerperal hematomas is surgical debridement. In cases where debridement is ineffective or a hematoma is enlarged, retention sutures can be a treatment option, rather than re-debridement.

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