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Case Report

Idiopathic massive vulvar edema in late pregnancy: a rare case report

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ABSTRACT

Massive vulvar edema during pregnancy is a rare clinical condition usually associated with preeclampsia, severe anaemia, infection, trauma, or systemic disorders. Idiopathic vulvar edema without any identifiable cause is uncommon and poorly documented in the literature. We report a rare case of idiopathic massive vulvar edema occurring during late pregnancy. A 22-year-old gravida 2 para 1 live 1 woman presented at 33 weeks and 4 days of gestation with progressively increasing vulvar swelling for six months. Clinical examination revealed massive bilateral vulvar edema involving both labia majora and minora. Laboratory investigations, including urine protein, renal and liver function tests, and urine culture, were within normal limits. Systemic and local causes of vulvar edema were excluded. The patient was managed conservatively with bed rest, pelvic elevation, local ice packs, and supportive medications. Significant reduction in edema was observed within two days, with near complete resolution after five days of conservative management. At 35 weeks of gestation, the patient presented again with spontaneous preterm labor and recurrent vulvar edema. She subsequently delivered vaginally a healthy 2.4 kg male neonate with good Apgar scores. Complete spontaneous resolution of vulvar edema occurred during the early puerperium. Idiopathic massive vulvar edema in pregnancy is a rare but generally benign condition. Careful evaluation is necessary to exclude secondary causes. Most cases can be managed successfully with conservative treatment, and spontaneous postpartum resolution is commonly observed.

Keywords: Vulvar edema, Pregnancy, Idiopathic edema, Preterm labor, Conservative management

INTRODUCTION

Vulvar edema refers to excessive accumulation of fluid within the interstitial tissues of the vulva. During pregnancy, it is an unusual clinical finding and is most commonly associated with preeclampsia, severe anaemia, vulvovaginitis, obstructed labor, pelvic trauma, or systemic disorders causing hypoalbuminemia and fluid retention.^{1,2} Massive vulvar edema may lead to severe discomfort, difficulty in ambulation, urinary symptoms, and impaired quality of life. In rare situations, it may complicate labor and postpartum recovery.

Idiopathic vulvar edema in pregnancy, where no definite etiological factor can be identified, is rarely reported in the literature. Conservative management is generally

effective, and spontaneous postpartum resolution is commonly observed. We report a rare case of massive idiopathic vulvar edema occurring during late pregnancy that resolved completely following delivery.

CASE REPORT

A 22-year-old gravida 2 para 1 live 1 woman presented at 33 weeks and 4 days of gestation with progressively increasing vulvar swelling for six months. The swelling was associated with discomfort and tenderness but no fever, abdominal pain, vaginal bleeding, urinary complaints, or pruritus. There was no history of trauma, allergy, drug intake, hypertension, diabetes mellitus, or previous similar complaints.

On general examination, the patient was afebrile and normotensive. Her height was 187 cm weight 63 kg making her BMI 18 kg/m². Figure 1 demonstrates the comparison of her height. There was no pedal edema or generalized body swelling. Obstetric examination revealed a singleton pregnancy corresponding to gestational age with normal fetal heart rate.



Figure 1: Comparison of height of the case (right side women).



Figure 2: Massive bilateral vulvar edema involving the labia majora and minora at 33 weeks and 4 days of gestation before initiation of treatment.

Local examination showed massive bilateral vulvar edema involving both labia majora and minora, more pronounced on the left side. The overlying skin appeared tense and edematous without ulceration or signs of infection. Vaginal examination revealed a healthy cervix and normal vagina (Figure 2).

Routine antenatal investigations were within normal limits. Laboratory findings were demonstrated in Table 1. Urine examination showed no proteinuria or glycosuria.

Table 1: Laboratory investigations of the patient with idiopathic massive vulvar edema during pregnancy.

Parameter	Value
Hemoglobin	11.2 g/dl
Total leukocyte count	11,400/cu mm
Neutrophils	82%
Lymphocytes	14%
Platelet count	1.66 lakh/cu mm
Serum sodium	136 mEq/l
Serum potassium	4.1 mEq/l
Serum creatinine	0.48 mg/dl
Blood urea	14 mg/dl
Uric acid	4.01 mg/dl
SGOT	12 U/l
SGPT	19 U/l
Alkaline phosphatase	149 U/l
Urine culture	No growth after 24 hours incubation
Urine protein	Negative
Urine glucose	Negative

A provisional diagnosis of idiopathic vulvar edema in pregnancy was made after exclusion of systemic and local causes. The patient was admitted and managed conservatively with bed rest, foot-end elevation, local ice packs, and supportive therapy including intravenous ceftriaxone, metronidazole, and pantoprazole for five days. Significant reduction in edema was observed by the second day of admission, with near-complete resolution by the fifth day (Figure 3). She was subsequently discharged in stable condition.



Figure 3: Marked reduction in vulvar edema following five days of conservative management with bed rest, pelvic elevation, and local ice pack application.

At 35 weeks of gestation, the patient presented again with recurrent vulvar swelling and spontaneous onset of preterm labor. Abdominal examination revealed a longitudinal lie with cephalic presentation and fetal heart rate of 150 beats/minute. Uterine contractions occurred

three times in 10 minutes, lasting 35–40 seconds each. Per vaginal examination showed a fully dilated and fully effaced cervix with bulging membranes and fetal head at +1 station. She delivered vaginally a healthy male neonate weighing 2.4 kg with good Apgar scores. The vulvar edema resolved spontaneously during the early puerperium (Figure 4).

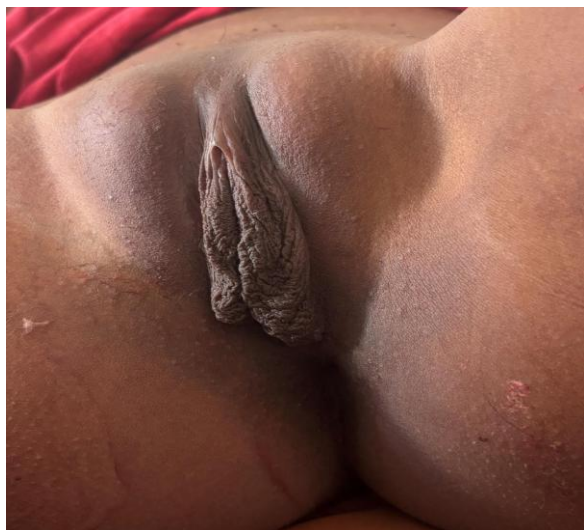


Figure 4: Complete postpartum resolution of vulvar edema in the early puerperium following spontaneous vaginal delivery.

DISCUSSION

Localized vulvar edema is a rare complication of pregnancy and is usually associated with preeclampsia, trauma, severe anemia, vulvovaginitis, lymphatic obstruction, or systemic disease.^{1,2} Idiopathic vulvar edema without any identifiable cause is uncommon and remains poorly understood.

In the present case, the patient had normal blood pressure, no proteinuria, and normal renal and hepatic function tests. There was no evidence of infection, trauma, allergic reaction, or systemic disease. These findings supported the diagnosis of idiopathic vulvar edema.

The pathophysiology of vulvar edema during pregnancy is not completely understood. Proposed mechanisms include compression of pelvic veins and lymphatic channels by the gravid uterus, resulting in impaired venous and lymphatic drainage. Hormonal changes during pregnancy may further contribute to vasodilatation and increased capillary permeability, promoting fluid accumulation in dependent vulvar tissues.^{1,3}

Clinically, vulvar edema should be differentiated from vulvar hematoma, abscess, cellulitis, Bartholin cyst, and angioedema. Careful clinical evaluation and laboratory investigations are important to exclude secondary causes and prevent unnecessary interventions.⁴

There is no standardized treatment protocol because of the rarity of this condition. Conservative management remains the mainstay of therapy and includes bed rest, pelvic elevation, local cold compresses, and treatment of underlying causes when present. Surgical intervention is rarely required and may worsen tissue edema.^{3,5} Vaginal delivery is not contraindicated, and spontaneous postpartum resolution is typically observed, as in the present case.

CONCLUSION

Idiopathic massive vulvar edema during pregnancy is a rare but generally benign condition. Thorough evaluation is essential to exclude systemic and local etiologies. Most patients respond well to conservative management, and spontaneous postpartum resolution is common. Awareness of this uncommon condition can help clinicians avoid unnecessary interventions and ensure favourable maternal and fetal outcomes.

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