






# Recurrent Vulvar Edema Related to Bartholin Abscess in Pregnancy

## Gebelikte, Rekürren Bartolin Apsesine Bağlı Gelişen Vulva Ödemi

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**ABSTRACT** Vulvar edema appears as a manifestation in many diseases rather than (being) a disease. It does not have a specific etiology; it can appear as a result of allergic, inflammatory and neurological diseases affecting vascular and/or lymphatic system, or trauma. In its etiology there are herpes infections, Bartholin abscess, lymphogranuloma venereum, Crohn's disease, Behcet's disease, which are of infection origin. Vulvar edema in pregnancy is a rare clinical condition that often appears at the third trimester, is due to lymphatic obstruction and toxemia of pregnancy. In this paper we present a 25-year-old female patient who was primipara, developing edema of the vulva arising from recurrent Bartholin abscess at the second trimester of pregnancy. After the examinations, vulvar edema was attributed to Bartholin abscess caused by bacterial colonization due to traumatic coitus.

**Keywords:** Abscess; edema; vulva

**ÖZET** Vulva ödemi; bir hastalık olmaktan çok, birçok hastalığın bulgusu olarak ortaya çıkmaktadır. Spesifik bir etiyolojisi olmayıp vasküler ve/veya lenfatik sistemi etkileyen allerjik, inflamatuvar, nörolojik hastalıklar veya travma sonucunda gelişebilmektedir. İnflamatuvar hastalıklardan; herpes infeksiyonu, Bartholin apsesi, lenfogramüloma venereum, Crohn hastalığı, Behçet hastalığı etiyolojide yer almaktadır. Gebelikte ise vulva ödemi nadir görülen ve sıklıkla 3. trimesterde ortaya çıkan, lenfatik tıkanıklık ve gebelik toksemisi ile ilişkilendirilen bir tablodur. Bu yazıda 25 yaşında primipar, gebeliğin 2. trimesterinde ortaya çıkan rekürren Bartolin apsesine bağlı vulva ödemi gelişen bir hasta sunulmaktadır. Olguda yapılan incelemeler sonrasında vulva ödemi travmatik koitus sebebiyle bakteriyel kolonizasyona bağlı Bartholin apsesi ile ilişkilendirildi.

**Anahtar Kelimeler:** Aps; ödem; vulva

Vulvar edema occurs as a sign of numerous diseases rather than being a disease itself. It does not have a specific etiology; may develop due to allergic, inflammatory and neurological diseases or trauma affecting vascular and/or lymphatic system.<sup>1</sup> Vulvar edema has been attributed to gestational toxemia, congestive heart failure, massive ascites, nephrotic syndrome, angioedema, heavy metal allergy, contact allergy due to topical allergens; herpes infection, Bartholin abscess, Lymphogranuloma venerum, filariasis, Crohn's disease, Behcet's disease; local neoplasms, regional lymph node metastases with lymphatic obstruction, ectopic breast tissue, neurological diseases and trauma.<sup>1</sup>

The incidence of Bartholin gland abscesses during pregnancy over the period was 0.13%.<sup>2</sup> Vulvar edema during pregnancy is often encountered as a result of the 3<sup>rd</sup> trimester gestational toxemia. The other reason of vul-

var edema appearing during pregnancy is lymphatic obstruction (occurring) due to the pregnancy. In addition, other conditions that cause vulvar edema apart from pregnancy can lead to the formation of vulvar swelling in the course of gestational period.<sup>3</sup>

Here is presented the case of vulvar edema that was primiparous, at the second trimester of pregnancy, developing recurrent Bartholin abscess attributed to traumatic coitus.

## CASE REPORT

A twenty five-year-old female primiparous patient at the 20<sup>th</sup> week of pregnancy, admitted to skin and venereal diseases outpatient clinic with the complaints of genital swelling, pain and bad smell. The patient said that she had noticed similar complaints 1 month before presentation and that they spontaneously relieved. On dermatologic examination, the anatomical structures could hardly be assessed due to massive edema. Massive edema and erythema were detected the on left labia minor and major (Figure 1).

The patient was hospitalized for bed rest and with regard to being pregnant. The laboratory tests were normal except for leukocytosis the presence of leukocytes in urine, C-reactive protein (CRP) elevation (no proteinuria in 24-hour urine). The serological tests anti-HIV and VDRL were negative. Ultrasonography (USG) examination performed was consistent with Bartholin abscess. Abscess culture yielded penicillin-sensitive enterococcus. Sexually transmitted microorganisms were not detected and after consultation with gynecology oral amoxicillin 1 g of 2x1 was administered and with 0.09% NaCl wet dressing was applied. Upon spontaneous drainage of abscess on the third day of antibiotic therapy her complaints resolved. Antibiotic treatment was completed in 10 days.

One month later after treatment the patient consulted to the hospital again with the complaints of swelling and pain in the genital area. Dermatological examination revealed erythema and mild edema on the right labia major. The USG findings

and the clinical condition of the patient were evaluated as Bartholin abscess. In abscess culture penicillin-sensitive enterococcus was detected and oral amoxicillin therapy was administered together with wet dressing therapy again and she was hospitalized. On the fourth day of therapy the complaints of the patient disappeared remarkably due to spontaneous drainage of abscess (Figure 2). The treatment with oral amoxicillin was completed in ten days. When re-considered in terms of recurrent abscess Bartholin it was identified that the patient had history of traumatic coitus. The patient was discharged with medical advice and until after birth no similar complaints occurred.



FIGURE 1: Massive edema and erythema on right labia minor and major.



FIGURE 2: Erythema and mild edema on the left labia major.

## DISCUSSION

Vulvar edema in pregnancy is uncommon and it may appear as a typical signs of many conditions associated with of pregnancy. Many factors associated with or without pregnancy may play a role in the etiology. Local trauma, infections, vascular and lymphatic obstruction are the most important factors that play a role in the development of vulvar edema.<sup>1,3</sup>

Pregnancy is a condition in which complex and significant changes in body fluid balance occur and both plasma and interstitial fluid volume increase during normal pregnancy.

Increase in venous pressure of pelvic and femoral vessels raises lymphatics workload. Relative obstruction to lymphatic vessels due to enlarged uterus reduces lymph fluid drainage. The combination of all of these factors contributes the basis vulvar edema formation.<sup>4,5</sup> In Mozambique in a 3-year study 22 pregnant women were identified with vulvar edema and concomitant genital ulcer disease was detected in 15 of these cases.<sup>6</sup> Vulvar edema which is hardly seen in pregnancy is often discussed with case reports in the literature.

It was reported that bilateral vulva edema at the 34<sup>th</sup> week of pregnancy attributed to preeclampsia resolved at the 48<sup>th</sup> of birth. It was reported that the patient was followed up with solvents without need for drainage.<sup>7</sup> In addition, there are cases who developed edema of the vulva after use of tocolytic agents.<sup>8,9</sup> It has been also emphasized that vulvar edema could develop in a pregnant woman with diabetes.<sup>10</sup> In its treatment, the control of the underlying disease is of great importance. Edema in the patient's rest and wet dressing applications for resolving of edema are the other forms of treatment. Some studies emphasized that it may be likely to treat edema by an instrument composed of six cannulae, a trocar and rubber tubes and lymphatic fluid drainage inserting sterile needles into labia at specific intervals.<sup>11</sup>

In our case, vulvar edema developed at the 20<sup>th</sup> week of gestation was ascribed to Bartholin abscess

as a result of clinical, laboratory, and USG investigations.

The Bartholin's glands are a pair of tubo-alveolar glands located in the vulvar tissue lateral to the vagina, producing mucoid secretion. They discharge into the posterior introitus through a channel especially during sexual arousal. As a result of obstruction to Bartholin gland duct, abscess may occur due to gland secretion retention.<sup>12</sup>

Bartholin abscess gives rise to obstruction caused by inflammation and mass effect thus it may lead to the formation of the vulvar edema. The treatment of Bartholin abscess includes methods such as drainage of the abscess, antibiotic treatment, and silver nitrate application CO<sub>2</sub> laser.<sup>12</sup> As the causative agents of Bartholin abscess opportunistic bacteria are determined that can be frequently encountered in single or polymicrobial. Kessous et al. who studied 219 patients with Bartholin abscess detected *E. coli* being the single most common pathogen followed by polymicrobial infections *S. aureus*, *B streptococcus* and Enterococcus spp. These findings were in agreement with recent studies.<sup>13</sup> These bacteria are known to be colonized in this region following coitus and to increase the risk of abscess formation induced by trauma.<sup>14</sup> There are a limited number of studies about Bartholin abscess in pregnancy.<sup>15</sup>

As the patient in our case was pregnant, recurrent abscess formation can be ascribed to immunological changes arising from pregnancy. Immunological condition occurring during pregnancy while protecting the fetus on the one hand, it puts the mother at high risks for many infections the other hand. During pregnancy infections that are normally not seen may occur and many mild infections can pose serious consequences.<sup>16</sup> On the other hand, Boujenah et al. touched upon hormonal effects of pregnancy on Bartholin gland secretions increased thickness and cyrystalisation contribute to obstruction of the gland.<sup>2</sup> Our case, we think that the presence of either immunological, or physical effects of pregnancy, the history of recurrent Bartholin abscess attributed to traumatic

coitus plays a role in the occurrence of vulvar edema.

Given that our case was pregnant, amoxicillin therapy was started. Amoxicillin treatment was preferred due to recurrence of the complaint. In addition, wet dressing was applied and the patient got rested. The patient complaints about pain and swelling decreased significantly because abscess drained spontaneously on the 3<sup>rd</sup> and the 4<sup>th</sup> day of antibiotic therapy.

The patient in whom the history of traumatic coitus was determined was discharged from the hospital with medical advice, without recurrence of similar complaints during and after pregnancy. We think that the presence of both immunological, and physical effects of pregnancy, the history of recurrent Bartholin abscess attributed to traumatic coitus play role in the occurrence of vulvar edema. With this case it is emphasized that Bartholin abscess may be responsible for the etiology of vulvar edema seen in pregnancy.

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### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### Authorship Contributions

**Idea/Concept:** Zehra Aşiran Serdar, Şirin Yaşar; **Design:** Zehra Aşiran Serdar, Nurhan Döner Aktaş; **Control/Supervision:** Ayşe Esra Koku Aksu, Zehra Aşiran Serdar; **Data Collection and/or Processing:** Nurhan Döner Aktaş, Şirin Yaşar; **Analysis and/or Interpretation:** Zehra Aşiran Serdar, Nurhan Döner Aktaş, Sema Etiz Sayharman; **Literature Review:** Nurhan Döner Aktaş, Zehra Aşiran Serdar; **Writing the Article:** Nurhan Döner Aktaş; **Critical Review:** Zehra Aşiran Serdar, Sema Etiz Sayharman.

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