

# Vulvar Edema After Laparoscopic Tubal Sterilization: A Rare Complication of Laparoscopic Surgery: Case Report

## Laparoskopik Tubal Sterilizasyon Sonrası Görülen Vulvar Ödem: Laparoskopik Cerrahinin Nadir Bir Komplikasyonu

Engin KORKMAZER,<sup>a</sup>  
Neşe SOLAK,<sup>b</sup>  
Emin ÜSTÜNYURT,<sup>c</sup>  
Vehbi Yavuz TOKGÖZ<sup>d</sup>

<sup>a</sup>Department of Gynecology and Obstetrics, Giresun University Faculty of Medicine,

<sup>b</sup>Clinic of Gynecology and Obstetrics, Giresun Maternity Hospital, Giresun

<sup>c</sup>Clinic of Gynecology and Obstetrics, Bursa Şevket Yılmaz Teaching Hospital, Bursa

<sup>d</sup>Clinic of Gynecology and Obstetrics, Kızıltepe Public Hospital, Mardin

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Yazışma Adresi/Correspondence:

Engin KORKMAZER  
Giresun University Faculty of Medicine,  
Department of Gynecology and Obstetrics,  
Giresun,  
TÜRKİYE/TURKEY  
ekorkmazer@yahoo.com

**ABSTRACT** Gynecologic laparoscopy is an alternative to open surgery. Laparoscopic sterilization is the most common surgical method among permanent sterilization methods. The rate of serious complications associated with a laparoscopic surgery is overall low. Major complications are bowel injury, major vessel injury and bladder injury. Vulvar edema after laparoscopic surgery is an uncommon complication. It has been presented in the literature only as case reports. The mechanism of vulvar edema after laparoscopic surgery remains unclear. There is no consensus about treatment approach for this situation. We presented an unusual case, unilateral vulvar edema after laparoscopic tubal sterilization in the review of literature.

**Key Words:** Laparoscopy; vulva; sterilization

**ÖZET** Jinekolojide laparoskopik cerrahi, açık cerrahinin bir alternatifidir. Laparoskopik tubal sterilizasyon kalıcı kontrasepsiyon yöntemleri içinde en sık kullanılanıdır. Laparoskopiye özgü major komplikasyon oranı genel olarak düşüktür. En sık rastlanılan majör komplikasyonlar barsak yaralanmaları, büyük damar yaralanmaları ve mesane yaralanmalarıdır. Laparoskopik cerrahi sonrası görülen vulvar ödem ise nadir bir komplikasyondur. Literatür gözden geçirildiğinde sadece vaka takdimleri olduğu bu konuda geniş seriler olmadığı görülmektedir. Cerrahi sonrası oluşan vulvar ödemin mekanizması hala net olarak bilinmemektedir. Bu komplikasyonun tedavisi üzerine standart bir yaklaşım mevcut değildir. Biz de makalemizde laparoskopik tubal cerrahi sonrası nadir görülen tek taraflı vulvar ödem olgusunu ve yönetimini literatürün gözden geçirilmesi eşliğinde paylaştık.

**Anahtar Kelimeler:** Laparoskopi; vulva; kısırlaştırma

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Gynecologic laparoscopy is an alternative to open surgery. Over the past 20 years, laparoscopy has become fairly common.<sup>1</sup> Laparoscopic surgery is used for many procedures that were traditionally performed via laparotomy.<sup>2</sup> Laparoscopic sterilization is the most common surgical method among permanent sterilization methods. The most commonly used methods of laparoscopic tubal sterilization are electrocoagulation and clip application.<sup>3</sup>

The rate of serious complications associated specifically with a laparoscopic surgery is overall low (0.2-10.3%). Most of the complications occur

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at the time of abdominal access.<sup>4</sup> The other types of major complications are bowel injury, major vessel injury and bladder injury. Vulvar edema after laparoscopic surgery is an uncommon complication. We presented an unusual case, unilateral vulvar edema after laparoscopic surgery for tubal sterilization.

## CASE PRESENTATION

Twenty-eight years-old woman whose gravidity and parity were three admitted to our clinic for tubal sterilization desire. She had not any surgery before and any other medical condition in her medical history. She had three spontaneous vaginal delivery. She had her last vaginal delivery two months ago. After evaluation, we offered laparoscopic tubal occlusion with bipolar electrocoagulation technique.

At the operation, the woman was placed in the lithotomy position, the bladder was emptied with catheter. A sharp Veress needle blindly was inserted to the abdominal cavity at the umbilicus, and then carbon-dioxide insufflated. A sharp 10 mm trocar was inserted to the umbilicus and 5 mm trocars were inserted to the 2 cm medial of left and right anterior superior iliac spine. After visualization of abdominal cavity, tube was grasped with bipolar forceps approximately 2 to 3 cm from the uterine horn and placed on tension to ensure that the forceps are not in contact with any other structures. The tube was coagulated with bipolar electrocautery. After coagulation operation was terminated. Patient was discharged from hospital at the same day without any complaints or problems.

Two days after surgery, patient applied to the clinic with severe pain and inability to sit but no voiding difficulties. Examination revealed severe vulvar edema involved left labium majus. Treatment consisted of frequent local ice packs and compress impregnated with 3% saline solution, four times in a day during 30 minutes. Complete resolution of edema was achieved in four days.

## DISCUSSION

Laparoscopic surgery has several advantages, including shorter operative time, smaller scars, faster recovery and decreased adhesion formation. Most complications related to laparoscopic surgery occur during abdominal access, but other complications can occur related to abdominal insufflation and tissue dissection.

Vulvar edema after laparoscopic surgery is an uncommon complication. There have been a few case reports of unilateral vulvar edema after operative laparoscopy.<sup>5,6</sup> Vulvar edema is associated with a variety of medical conditions but the mechanism of vulvar edema after laparoscopic surgery remains unclear.<sup>5</sup> It is believed that post-laparoscopic vulvar edema is similar to Conn's post-paracentesis scrotal edema.<sup>7</sup> In this process, unhealed paracentesis puncture tract leads ascites to travel through and accumulate in the scrotum or labium majus. Similarly trocar sites can cause a tract that is from the skin to the vulva and this tract can permit fluid retention in the vulva. It can occur after any kind of endoscopic surgery (cystectomy, presacral neurectomy, tubal sterilization).<sup>5,6</sup> Vulvar edema occurs especially in cases in which adhesion barrier solution is used. Leakage of this solution to the vulva is believed to be the cause of edema. Pados et al. showed that a tract originating in a lower trocar puncture and dissecting downward subcutaneously by the force of gravity.<sup>5</sup> Thus vulvar edema can be formed from this tract and leakage. But no definitive mechanism has been found yet. The condition is generally self-limited. There is no standard treatment for this condition. Conservative management (analgesia, ice packs, 3% saline solution and bladder catheterization) is effective enough in treatment of the complication. It may require hospitalization if there are voiding problems. Surgery is rarely needed.<sup>6</sup>

At this moment vulvar edema after laparoscopic surgery is unpredictable, but it is rare and it can be treated with conservative management. However further studies are needed to explain relationship between vulvar edema and laparoscopic surgery.

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