

CASE REPORT

Olgu Sunumu

Correspondence address

Yazışma adresi

Sule ATALAY MERT

Ankara Etlik City Hospital,
Department of Gynecology and Obstetrics,
Ankara, Türkiye

drsuleatalay@hotmail.com

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Kindan SE. Keskin HL.

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Sule ATALAY MERT

Ankara Etlik City Hospital,
Department of Gynecology and Obstetrics,
Ankara, Türkiye

Tugba KINAY

Ankara Etlik City Hospital,
Department of Gynecology and Obstetrics,
Ankara, Türkiye

Sait ERBEY

Ankara Etlik City Hospital,
Department of Gynecology and Obstetrics,
Ankara, Türkiye

Sinem Ece KINDAN

Ankara Etlik City Hospital,
Department of Gynecology and Obstetrics,
Ankara, Türkiye

Huseyin Levent KESKIN

Ankara Etlik City Hospital,
Department of Gynecology and Obstetrics,
Ankara, Türkiye

A Rare Complication of Hysteroscopic Isthmocele Surgery: Uterine Subserosal Abscess Formation

Histeroskopik İstmosel Cerrahisinin Nadir Bir Komplikasyonu: Uterin Subserozal Apse Oluşumu

ABSTRACT

Diagnosing and treating isthmocele (niche) has become a popular topic in gynecology in recent years. While numerous articles evaluate isthmocele diagnosis and treatment, there is a lack of clear information on surgical complications. This study presents a case of a uterine abscess that developed after hysteroscopic surgical repair. While the literature reports abscess cases on peritoneal surfaces and uterine perforation cases occurring after isthmocele surgery, to the best of our knowledge, our case is the first instance of a uterine abscess causing chronic pelvic pain after isthmocele surgery. The purpose of this case report is to increase awareness among clinicians regarding isthmocele surgery, its growing prevalence, and the potential complications associated with it.

Key Words:

Isthmocele (niche), Hysteroscopic repair surgery, Laparoscopy, Uterine abscess, Pelvic pain

ÖZ

İstmosel (niş) tanı ve tedavisi son yıllarda jinekolojide popüler bir konu haline gelmiştir. İstmosel tanı ve tedavisini değerlendiren çok sayıda makale olmasına rağmen cerrahi komplikasyonlar konusunda net bilgiler bulunmamaktadır. Bu çalışmada histeroskopik cerrahi onarım sonrası gelişen uterin apse olgusu sunulmaktadır. Literatürde istmosel cerrahisi sonrası peritoneal yüzeylerde apse olguları ve uterin perforasyon olguları bildirilirken, bizim olgumuz bildiğimiz kadarıyla istmosel cerrahisi sonrası kronik pelvik ağrıya neden olan uterus apsesinin ilk örneğidir. Bu olgu sunumunun amacı, klinisyenler arasında istmosel cerrahisi, artan prevalansı ve buna bağlı olası komplikasyonlar konusunda farkındalığı artırmaktır.

Anahtar Kelimeler:

İstmosel (niş), Histeroskopik onarım cerrahisi, Laparoskopi, Uterin apse, Pelvik ağrı

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INTRODUCTION

Poidevin first described the cesarean scar defect, known as isthmocele or niche, in 1961 (1). A wedge-shaped anatomical defect is observed as a hypoechoic area on the anterior wall of the uterus at the site of the uterine cesarean section incision via ultrasonography (2, 3). Due to the increasing cesarean section rates and the widespread use of diagnostic imaging methods, the frequency of isthmocele diagnosis has increased. The prevalence of isthmocele ranges from 24% to 88% among patients who had delivery by cesarean section (4, 5).

Isthmocele can either have no symptoms or lead to obstetric complications like placental adhesion issues, scar site pregnancy, or gynecological symptoms such as abnormal uterine bleeding, chronic pelvic pain, pain during intercourse, and secondary infertility (2, 6, 7).

Although there are no clear guidelines for diagnosing and treating isthmocele, conservative medical treatments such as combined estrogen and progesterone therapy or the Levonorgestrel Intrauterine System (LNG-IUS), like Mirena®, can be used for bleeding issues. Surgical repair of the niche area can be carried out using hysteroscopy, laparoscopy, or a combination of both (8). Although the use of these surgical methods in the treatment of isthmocele is becoming increasingly common, the available knowledge about the treatment results and the operative complications is still limited. In this case report, we aimed to present a rare complication of hysteroscopic isthmocele surgery: subserosal abscess formation on the anterior uterine wall.

Case Presentation

A 30-year-old, gravida 3, parity 3 woman was admitted to the gynecology department of a tertiary care center with the complaint of chronic pelvic pain. The patient had three cesarean sections. Three months after the last cesarean operation, hysteroscopic isthmocele surgery was performed for postmenstrual and intermenstrual bleeding symptoms. The patient did not have pelvic pain before the operation, elevation in the infection markers (such as white blood cells, C-reactive protein, etc.), or leukorrhea, but after the hysteroscopic repair surgery, chronic pelvic pain started and continued for 8 months. In the vaginal examination, the cervix was nulliparous; there was no leukorrhea. The pelvic examination was normal except for mild tenderness and pain during suprapubic palpation. Transvaginal ultrasonography revealed a 40x25 mm-sized cystic formation with a dense inner echo on the anterior wall of the uterus (as shown in Figure 1).

The blood supply of the cystic mass was derived from uterine vascular structures. The endometrial thickness was 5 mm, and the bilateral adnexas were normal. In addition, there was an isthmocele in a triangular configuration with a diameter of 3 mm on the cesarean scar line. The white blood cell (WBC) count and the C-reactive protein (CRP)

level were normal. The B human chorionic gonadotropin (beta-hCG) value was negative.

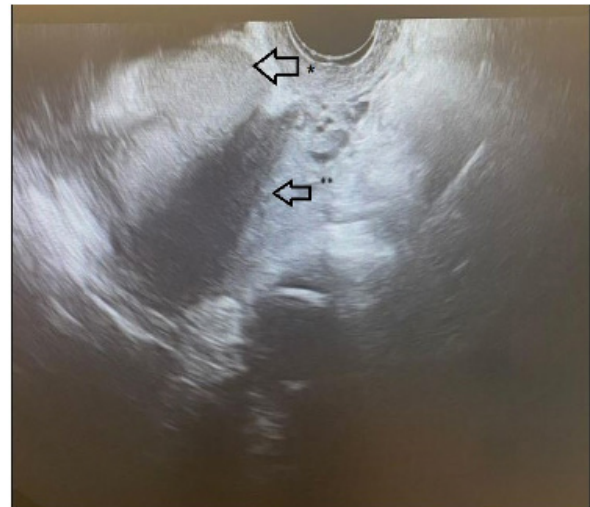


Figure 1: Preoperative ultrasonographic view of the abscess in the anterior uterine wall
*Abscess area, **uterus

The woman underwent laparoscopic surgery. In the laparoscopic view, about a 4x2 cm-sized cystic mass in the subserosal location of the anterior uterine wall was observed (shown in Figure 2).

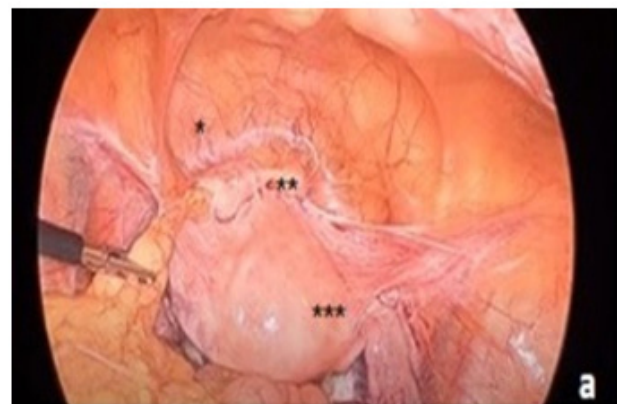


Figure 2. a; laparoscopic observation, approximately 4cm cystic mass on the anterior wall of the uterus with a dense adhesion to the bladder; **b;** appearance of the mass after dissection of bladder adhesions*bladder, **abscess area, ***uterus

The mass was at the location of the previous cesarean section incision line. There were dense adhesions between the cystic mass, the anterior uterine wall, and the bladder dome. Dissecting the bladder adhesions with ultrasonic energy and a cold knife dissection made the mass visible. During the dissection, the mass perforated, and the purulent fluid drained through the mass. Next, we used ultrasonic energy to completely remove the cystic mass from the front of the uterus, and then we repaired the myometrial defect in the anterior uterine wall with primary sutures. The patient used ceftriaxone (500 mg, 2x1oral) and metronidazole (500 mg, 2x1 oral) treatment for 2 weeks postoperatively. The pathology result of the excised mass was reported as abscess formation and an inflammatory process. The pelvic pain symptom of the woman was regressed at the postoperative second-week follow-up examination.

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

DISCUSSION

Diagnosis and treatment of isthmocele (niche) is a gynecological problem that has become increasingly important in recent years. In the published articles, hysteroscopy is recommended in isthmocele surgery if the residual myometrial thickness is high, and laparoscopy or vaginal repair is recommended if the residual myometrial thickness is less than 2.5–3 mm (9). While the risk of uterine perforation is seen during the intraoperative period during hysteroscopic isthmocele surgery, there are no complications stated in the publications in the postoperative period.

The goal of hysteroscopic correction surgery is to remove inflammation in the endocervix, trim the upper and lower edges of the defect, and enable proper blood drainage from the uterus. Thus, abnormal uterine bleeding and pelvic pain, which are common symptoms of isthmocele, can be reduced (10). Those at risk of perforation during hysteroscopy may be better treated with laparoscopy. This is especially important for patients dealing with pregnancy because of the risk of uterine perforation, but there is still no strong evidence that hysteroscopic isthmocele repair leads to more uterine rupture compared with laparoscopy, but myometrial thickness appears to be greater after laparoscopic correction (11, 12). Intraoperative uterine perforation is an expected complication in isthmocele hysteroscopic repair surgery, but there is no such complication reported for the postoperative period.

However, in this case, the inflammatory process had formed an abscess dim on the anterior wall of the uterus after the hysteroscopic repair surgery. The isthmocele may rarely cause an abscess. The infection of accumulated mucus and blood in the niche area leads to abscess formation (10). However, in studies published for this abscess formation, it has been observed that a long period of 10 years has passed since the cesarean section. An abscess was seen in the isthmocele (niche) area, and full recovery was achieved with medical treatment (13). Regarding the relationship between isthmocele and abscess, a case report in the literature developed in the area of isthmocele 10 years after cesarean and was cured with conservative treatment (14). In our case, the patient had hysteroscopic surgery 3 years after the last cesarean section, and the complaint of pelvic pain was present for 8 months. The inflammatory process had formed an abscess on the anterior wall of the uterus. In this case, it was observed that the patient's complaints completely regressed with 2 weeks of antibiotic therapy in the postoperative period.

CONCLUSION

Minimally invasive surgery of isthmocele has been gaining popularity in recent years. Although hysteroscopic surgery is a minimally invasive method with a rapid postoperative recovery, all surgical results and complications of the hysteroscopic isthmocele surgery are not yet known. It would be helpful for clinicians practicing this surgical treatment to keep in mind that they may encounter complications that have not been seen before, such as the case presented.

Consent of Patient:

The rights of all participants were protected, and written informed consent was obtained before the procedures in accordance with the Declaration of Helsinki.

Conflict of Interest Statement:

The authors have no conflicts of interest to declare.

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Author Contributions:

A. M.S: Project development, data Collection, manuscript writing E. S: Data Collection K. HL: Project development K. T: Project development, manuscript writing K. SE: Data Collection

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