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Huge Adnexal Masses Managed by Single Port Laparoscopy: A case series

Dev Adneksiyal Kitle yönetiminde Tek Port Laparoskopi: Olgu serisi

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ÖZ

Amaç: Adneksiyal kitle jinekoloji kliniklerinde en yaygın cerrahi endikasyonlardan biridir ve laparoskopi bu kitelelerin tedavisinde altın standart olarak kabul edilmektedir. Tek insizyon laparoskopik cerrahi (SILS) minimal erişim cerrahisi döneminde gelişen endoskopik yaklaşımdır. Son zamanlarda, adneksiyal kitlenin de SILS tarafından yönetilebileceği bildirilmiştir. Bu çalışma, SILS ile yönetilen dev adneksiyal kitleleri sunmayı amaçlamıştır.

Gereç ve Yöntemler: Bu yazıda büyük adneksiyal kitlesi olup tek portlu laparoskopik yaklaşımla ameliyat edilen 3 semptomatik hastayı sunuyoruz. Yaş, klinikodemografik özellikler, adneksiyal kitle boyutu, CA-125 değeri ve operasyon süreleri kaydedildi.

Bulgular: Operasyonların ortalama süresi 95 dakikadır (75-135 dakika aralığında). Hiçbir hastada laparotomiye dönülmedi. Tüm hastalar postoperatif 1. günde taburcu edildi. Hiçbir hastanın tekrar hastaneye başvurusu gerekmedi. Ameliyat sonrası tüm hastalar kesi ve kozmetik sonuçlarından memnun kaldı.

Sonuç: Tek port laparoskopik yönetim, daha iyi kozmetik sonuçlara sahip büyük adneksiyal kitleleri olan hastalarda SILS PortTM ile başarıyla tamamlanabilir.

Anahtar Kelimeler: Tek port, tek port laparoskopik cerrahi, tek kesi cerrahi, tek port giriş cerrahisi, SILS, adneksiyal kitle

ABSTRACT

Aim: Adnexal mass is one of the most common surgical indications in gynecology clinics, and laparoscopy is generally accepted as a gold standard in the management of adnexal mass.Single incision laparoscopic surgery (SILS) is an evolving endoscopic approach in the era of minimal access surgery. Recently, it has been reported that adnexal mass may also be managed by SILS. This study aimed to present huge adnexial masses managed by SILS.

Materials and Methods: In this report, we present 3 symptomatic patients with a huge adnexal mass operated by a single port laparoscopic approach. Age, clinicodemographic characteristics, size of the adnexal masses, CA-125 levels, and the duration of the operations were recorded.

Results: The mean duration of the operations 95 minutes (range 75-135 minutes). None of the patients converted to laparotomy. All patients discharged on postoperative day 1. None of the patients required readmission to the hospital.

Conclusion: Postoperatively all patients were satisfied with their incision and cosmetic results. Single port laparoscopic management can be successfully completed via SILS PortTM in patients with large adnexal masses with better cosmetic outcomes.

Keywords: Single port, single incision laparoscopic surgery, single incision surgery, singleport access surgery, SILS, adnexal mass

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INTRODUCTION

Adnexal mass is one of the most common surgical indications in gynecology clinics, and laparoscopy is generally accepted as a gold standard in the management of adnexal mass.

Classical laparoscopic surgery for adnexal mass is commonly performed by at least 3 trocars. Single port access surgery (SPAS), also known as laparo-endoscopic single-site surgery (LESS), single incision laparoscopic surgery (SILS), is an evolving endoscopic approach in the era of minimal access surgery. SILS may provide better cosmesis, shorter recovery time, and less pain compared with conventional laparoscopy, which requires multiple trocar incisions (1,2). Recently, it has been reported that adnexal mass may also be managed by SILS (3-5). The feasibility of SILS surgery in adnexal masses has been reported by others. However, the management of adnexal masses bigger than 10 cm have not been well addressed in the literature. In this report, we present 3 symptomatic patients with huge adnexal mass managed by single port laparoscopic approach.

MATERİAL AND METHOD

Surgical Technique

The patients were placed in the modified lithotomy position under general anesthesia.

Initially, the operating surgeon stands on the left side of the patient. Lateral sides of the umbilicus were everted by 2 clamps. Subsequently, a 2-cm vertical intraumbilical skin incision was performed. Sharp and blunt dissection was performed on subcutaneous fatty tissue, and the fascia was exposed, and it was cut by a No.11-blade scalpel, and peritoneum was incised by Metzenbaum scissor. The incision was then extended by another 0.5 cm via stretching of the skin. No other extra umbilical skin incisions were used.

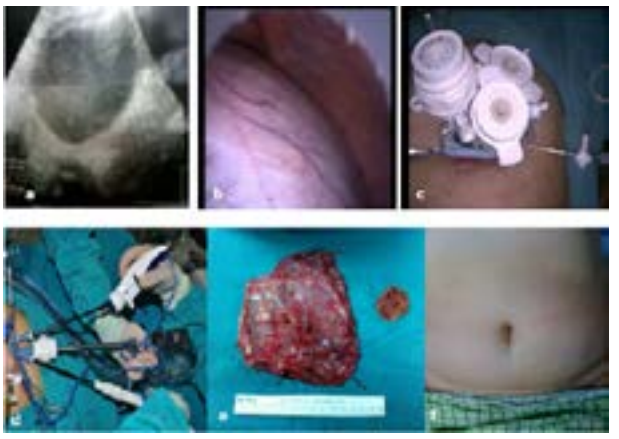
A SILS Port TM with three access inlets was inserted into the abdominal cavity by using a Haeney clamp as shown in the figure, and carbon dioxide pneumoperitoneum was created. A 10 mm rigid video laparoscope was used together with 2 classical non-roticulating straight laparoscopic instruments. One bipolar and monopolar cautery and one dissection forceps and suction-irrigation devices were used sequentially as indicated during the operation. If the collision of the instruments does not provide adequate surgical movements of dissection, cutting or coagulation, the surgeon changed the place of the instruments or changed his position from the lateral side to the patient's head position or changed the location of the endoscope to achieve necessary movements. The specimen was retracted from the umbilical incision at the end of the operations. The fascia was closed as interrupted sutures with no.1 vicrly. All surgical procedures were performed by a single surgeon (PD).

Case History

Case 1

A 41-year-old woman presented to our clinic with pelvic pain and abdominal distension.

Gynecological evaluation with ultrasonography (USG) that showed a left ovarian cyst with dens content. The size of the cyst was 12 cm in diameter. The cyst was including multiple tiny septa, and there was no sign of ascites. The left ovary and uterus were normal. The preoperative CA-125 level was 51 IU/ml. Intraoperatively, left ovarian endometrioma and omental adhesions to the anterior abdominal wall were seen. Adhesions were dissected with monopolar cautery. The cyst was aspirated and excised with its capsule by dissection from the ovary. Following that, the cyst was taken out through the umbilical incision. Finally, umbilical fascia was repaired, and the skin was closed with vicryl. The operation lasted 75 minutes, and blood loss was minimal. The patient had an uncomplicated postoperative recovery. She needed two parenteral analgesics and discharged on the postoperative first day with oral analgesics. During 12 months follow-up, no complications were seen; the incision scar was not visible patient satisfaction was excellent (Figure 1).



Case 2

A 23 year old primiparous women came with the complaint of abdominal and pelvic pain.

USG showed a left anechoic ovarian cyst measuring 18 cm x 14 cm in size. CA 125 IU/ml

was in normal limits. Single port laparoscopy was performed,

and an 18 cm cyst arising from the left ovary was confirmed intraoperatively. A left ovarian cystectomy was performed.

The postoperative course was uneventful. The duration of the operation was 135 minutes (Figure 2).

Case 3

A 28 years old nulliparous woman presented with the complaint of acute pelvic pain,vomiting, and abdominal distension Pelvic USG evaluation was reported as 19 cmcomplicated pelvic mass and minimal pelvic fluid within the abdominal cavity. There wasabdominal pain, rebound, and tenderness on her abdominal examination. Her CA-125 level was 85 IU/ml. Emergent laparoscopy was performed using the transumbilical SILS approach, as described below. Intraoperatively, there was 19 cm rupture endometrioma on the left ovary. Endometrioma cystectomy was performed. The operation lasted 75 minutes. The postoperative course was uneventful.

All 3 patients discharged on postoperative day 1. None of the patients required readmission to the hospital. All the patients' pathology report was reported as benign. None of the patients converted to laparotomy. Postoperatively all 3 patients were satisfied with their incision and cosmetic results (Figures 1 and 2

DISCUSSION

Single port access surgery is a promising form of minimally invasive surgery and currently in the initial stages of clinical experience. There is growing interest and enthusiasm

among surgeons, patients, and industry (1,2). The first single port appendectomy was performed in 2005 then the first single port cholecystectomy was conducted in 2007. Today, complex urological, gynecological, colorectal, and bariatric surgical operations have been performed by SILS technique and equipments. These procedures have been further facilitated by the introduction of rotating instruments and curved instruments into clinical practice (6,7).

However, reports of adnexal mass being operated through a single incision using straight classical laparoscopic instruments are still very few. Kim et al. reported feasibility, safety, and operative outcomes for the management of 24 adnexal masses by single port access (SPA) laparoscopy with a wound retractor and a surgical glove. Single port access

laparoscopic adnexal surgery was successfully completed in 22 of 24 patients. The median tumor size was 5 cm, and the median operative time was 70 minutes (range 40-128 minutes).

Finally, the authors concluded that "The single port access laparoscopic adnexal surgery was safe and feasible and provided almost no visual scar" (4).

Lee et al. compared the 17 SPA laparoscopic adnexal surgeries with 34 conventional laparoscopic adnexal surgeries. In this study, the authors reported that there were no differences between SPA and conventional groups with respect to median operation time (64 min vs. 57.5 min, p=0.252), the number of patients that requested parenteral non-steroidal anti-inflammatory drugs, and the absolute decrease from preoperative hemoglobin to postoperative day 1 measurements. They concluded that "SPA laparoscopic adnexal surgery had comparable operative outcomes to conventional laparoscopic adnexal surgery" (8).

Jung et al. reported the results of eighty-six patients underwent SPLS for adnexal lesions. The median operation time was 64.5 min (range 21-176 min). The median blood loss was 10 ml. The median length of postoperative hospital stay was 2 days, and endometriosis was the most frequently diagnosed pathology (9). Chua et al. reported the first case of a 10 cm ovarian fibroma managed via a laparoendoscopic single-site trocar through transumbilical access. They performed bilateral salpingo-oophorectomy, a large 10 cm ovarian tumor, using a laparoendoscopic single-site approach with a Covidien SILS trocar and standard laparoscopic instruments in a 64 years old postmenopausal women. The duration of the operation was 99 minutes, and the patient was discharged on postoperative day one. The authors concluded that "Laparoendoscopic single-site bilateral salpingo-oophorectomy of a large ovarian tumor is feasible with standard laparoscopic instruments (10).

Although the benefits of single port surgery over classical endoscopic laparoscopic surgery have not been established yet, this method could be the first choice for some symptomatic or

complicated adnexal cysts because of the acceptable operation time, less blood loss, good clinical outcome, and better cosmetic appearance (11).

It is well known that SILS surgery have some limitations like proximity of the working instruments, limited triangulation of the instruments, limited range of motion, an unstable camera platform, and often a decreased number of ports. All these aforementioned limitations increased the difficulty of the SILS operations and may cause longer operation time compared with conventional laparoscopy (12-14). We used a 10 mm endoscope with zero degrees, and we did not encounter any serious problems, although we acknowledge the difficulty due to the collision of the instruments and camera. The most important problem that we encountered during the surgery was the collision of the conventional laparoscopic device and limited space for instrument movements. However, these difficulties never stopped or canceled none of the procedures in our experience and as in others (12-14).

Supraumbilical, infraumbilical, or transumbilical incisions might be used for single port surgery. It is generally accepted that the transumbilical incision, rather than a supra- or

infraumbilical incision, may result in a more cosmetic scar and a nearly normal looking

umbilicus. We used the transumbilical approach, and in all our patients and all the patients

the incision size varied between 2.0 and 2.5 cm, as in other reported studies (7). SILS surgery initially has been described and performed by crossing roticulating and articulating laparoscopic instruments. Some others suggested one roticulating instrument and one straight instrument perform dissection (5,14-15). The usage of roticulating and articulating device might be difficult due to hard hand-eye coordination and limited surgical space. Usage of usual straight instruments may overcome this difficulty. However, this may have some drawbacks like clashing of the instruments, limited triangulation of the instruments, limited range of motion, and often a decreased number of ports (5,14-15).

One of the important advantages of SILS surgery is the extraction of the specimen via

the umbilical incision site without extending the incision. It is well known that classical

laparoscopic surgery can be performed for big adnexal masses and myomas as well. However,

specimen extraction could be problematic in this approach. Sometimes specimen morcellation or incision extension might be necessary for the classical laparoscopic approach. However, the SILS approach generally does not need the incision extension or morcellation due to an adequate umbilical incision site.

In conclusion, the SILS procedure is feasible for the management of large adnexal mass in

experienced hands. We acknowledge the weakness of the retrospective nature and small

sample size of our study. Further studies needed to determine the safety and benefits and the

limits of this approach.

Conflict of interest: None

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