

# Single-Incision Laparoscopic Adnexectomy in an Obese Patient with Previous Laparotomies

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## ABSTRACT

**Introduction:** No case of single-incision laparoscopic surgery in obese patients who had previously undergone multiple midline vertical laparotomies has been described in the literature to date. Hence we report the first case of single-port laparoscopic salpingo-oophorectomy in an obese patient who was affected by a left adnexal mass and who had previously undergone 3 midline vertical laparotomies.

**Case Description:** A postmenopausal 57-year-old woman with a body mass index of 31.2 kg/m<sup>2</sup> and a history of 3 midline vertical cesarean deliveries and a right salpingo-oophorectomy was diagnosed with a left adnexal mass and underwent a single-incision laparoscopic salpingo-oophorectomy.

**Discussion:** The patient was treated successfully. The operative blood loss was minimal. The postoperative hospital stay lasted 18 hours, and postoperative pain was short-lasting. No early or long-term postoperative complications were registered. On histopathologic examination, a diagnosis of ovarian serous cystadenoma was made. Even though this unique case is the first to be reported in the literature, its encouraging results suggest the use of this new surgical technique in similar clinical situations to verify whether the feasibility and safety reported in this article are confirmed.

**Key Words:** Single-incision laparoscopic surgery, Salpingo-oophorectomy, Benign adnexal mass, Midline vertical laparotomies, Obesity.

## INTRODUCTION

Laparoscopic surgery with a single access site, known as single-incision laparoscopic surgery (SILS), laparoendoscopic single-site surgery, or single-port access surgery, represents a new frontier of minimally invasive surgery. Its feasibility in gynecologic surgery has been shown by various authors who performed salpingo-oophorectomies, uterine myomectomies, hysterectomies, and more recently, radical surgeries with pelvic lymphadenectomy.<sup>1-3</sup> Interest in this technique is based on its many benefits over traditional laparoscopy, such as decreased operative time, reduced incidence of intraoperative complications, improvement of cosmetics results, and shorter length of hospital stay.<sup>2-4</sup>

In defining the inclusion and exclusion criteria for SILS in patients, several authors considered obesity, previous abdominal surgeries, and early-stage gynecologic cancer as relative contraindications to this surgical approach whereas patients who had previously undergone >2 midline vertical laparotomies or panniculectomies, who did not possess a native umbilicus, or who had a diagnosis of advanced malignancy were judged unsuitable candidates for SILS.<sup>3,5,6</sup>

To our knowledge, no case of SILS in obese patients who had previously undergone multiple midline vertical laparotomies has been described in the literature. Hence we report the first case of single-port laparoscopic salpingo-oophorectomy in an obese patient who was affected by a left adnexal mass and who had been previously undergone 3 midline vertical laparotomies.

## CASE REPORT

A postmenopausal 57-year-old woman, gravida III, para III, with a body mass index of 31.2 kg/m<sup>2</sup> presented to our institution with a diagnosis of left adnexal mass. In 2004 she had undergone a right quadrantectomy for breast cancer that, at present, was in remission. The patient reported 3 previous cesarean deliveries performed through midline vertical umbilical-pubic incisions. During the last cesarean delivery, she had also undergone right salpingo-oophorectomy because of a benign ovarian cyst. Transabdominal and transvaginal ultrasonography showed a

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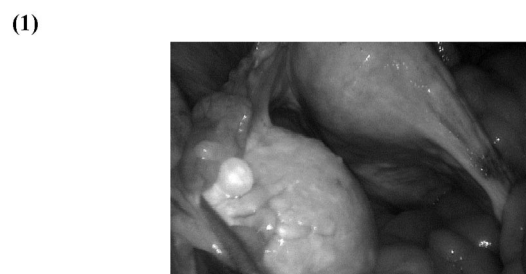
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34 × 27 × 23-mm left ovarian cyst with no peripheral vascularity, no septa, and no echogenic signs. Ovarian markers were negative.

**RESULTS**

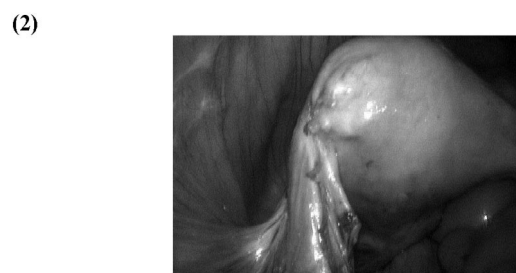
The patient received general anesthesia and was placed in a dorsal lithotomic position. After the uterine manipulator was inserted, a 2.5-cm intraumbilical vertical incision was carried out, in part, overlying the old scar. After an open laparoscopy was performed, a SILS multiple-instrument access port device was inserted (Covidien, Mansfield, MA) and pneumoperitoneum was established. We used two 5-mm cannulas for introducing the laparoscopic instruments (Johann forceps [Karl Storz, Tuttlingen, Germany] and 5-mm LigaSure Advance [Covidien]) and a 12-mm cannula for insertion of a 5.5-mm-diameter, 30°, 50-cm-long rigid laparoscope (Storz Hopkins II; Karl Storz). After the entire abdominal cavity had been observed, which appeared normal except for a few tenuous peritoneal adhesions, we visualized the left adnexa that appeared to be of increased size because of the presence of an ovarian cyst with a smooth and even wall (**Figure 1**). We carried out left salpingo-oophorectomy using a 5-mm LigaSure Advance device (**Figure 2**). The whole specimen was extracted through the umbilicus by use of an Endobag (Covidien) after partial withdrawal of the port device (**Figure 3**). The operative time, from the incision of the skin to its complete closure, was 30 minutes (**Figure 4**). No intraoperative or postoperative complications were observed, and blood loss was minimal. Postoperative pain was assessed at 20 minutes and at 2, 4, and 8 hours by a visual analog scale represented by a line 10 cm long, ranging from 0 (no pain) to 100 (pain as bad as it could be). The score ranged between 6 (20 minutes after surgery) and 0 (8 hours after surgery). The postoperative hospital stay was 18 hours. On histopathologic examination, a diagnosis of ovarian serous cystadenoma was

↑ Single-incision laparoscopic adnexectomy



**Figure 1.** Left ovarian cyst with smooth and even wall.

↑ Single-incision laparoscopic adnexectomy



**Figure 2.** Image after salpingo-oophorectomy was performed with 5-mm LigaSure Advance.

↑ Single-incision laparoscopic adnexectomy



**Figure 3.** Specimen including left ovarian cyst and tube.

↑ Single-incision laparoscopic adnexectomy

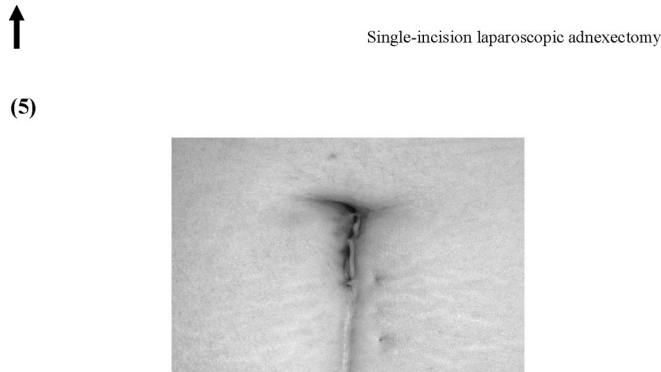


**Figure 4.** Incision site at end of skin closure.

made. At 3 months after surgery, the scar healing was optimal and no incisional hernia was observed (**Figure 5**). We acquired institutional review board approval from the local ethics committee and written informed consent from the patient before reporting this case.

**DISCUSSION**

SILS is a novel technique that has become progressively more accepted and applied as data supporting its safety and



**Figure 5.** Incision site at 3 months after surgery.

enhancements in use have accumulated. A few authors emphasize the advantages of this approach over traditional laparoscopy, such as improved cosmetic results, decreased operative time, and reduced postoperative pain.<sup>7-9</sup> This case confirms those favorable results. Indeed, postoperative pain analysis shows that at 8 hours after surgery, the patient reported no pain. Probably the minor invasiveness of this approach causes less and rapidly decreasing pain, allowing a faster recovery time and, consequently, a shorter hospitalization. Unlike the conventional laparoscopy, another advantage is the possibility of extracting the whole adnexal specimen into a 12-mm Endobag through the unique umbilical incision after partial withdrawal of the port device. This is of great importance especially in cases of suspected adnexal masses because a whole specimen facilitates the histopathologic diagnosis.

However, no case of SILS in an obese patient who had previously undergone multiple midline vertical laparotomies has been described in the literature. Fader et al.<sup>6</sup> advised against executing the SILS technique in women with >2 previous midline vertical laparotomies and suggested that patient selection should initially be geared toward simple cases because learning these ergonomically challenging techniques may be less technically demanding in these cases. Moreover, a body mass index >30 kg/m<sup>2</sup> was considered an absolute contraindication to SILS.<sup>8</sup>

## CONCLUSION

The present case, which was performed by surgeons who had little experience with this procedure, shows

that this technique was carried out rapidly and without any intraoperative and postoperative complications in an obese woman who had previously undergone >2 midline vertical laparotomies. Even though this unique case is the first to be reported in the literature, its encouraging results suggest the use of this new surgical technique in similar clinical situations to verify whether the feasibility and safety reported in this article are confirmed.

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