

# Successful Complete Laparoscopic Staging of Ovarian Cancer in a Patient with a 17cm

## Malignant Ovarian Tumor

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### BACKGROUND:

As minimally invasive surgery becomes more and more prevalent in the US, practitioners continue to push the boundaries of what procedures can be performed through minimally invasive means. In this unique case, a 17cm mass was removed without spillage, and after removal of the mass the gynecologic oncologist was able to present and together the two surgeons were able to complete the omentectomy, lymph node dissection and complete the staging procedure completely laparoscopically. This is the largest known malignant tumor to undergo successful laparoscopic staging.

### ABSTRACT

A 47-year-old Caucasian female presented with pelvic pain and suspected ovarian torsion. Patient was taken to the OR for severe acute pain, and was known to have a 17cm right sided ovarian mass. On laparoscopy, the mass was found to be perfused with no evidence of torsion. Frozen section after removal of the mass was found to be consistent with an adenocarcinoma. This entire tumor was able to be removed laparoscopically with the aid of blunt instruments and an in-bag morcellation technique, avoiding any spillage of the contents of the bag. The remainder of the staging procedure was able to be completed laparoscopically in conjunction with a gynecologic oncologist.

### INTRODUCTION

Laparoscopy is often considered preferable to open procedures by patients and surgeons alike. It is associated with a decrease in cost, recovery time, pain, and postoperative complications [1]. One practice that is often used to aid laparoscopic procedures is morcellation, a method of cutting up larger pieces of tissue in order to be removed through smaller incisions. In recent years, electro-mechanical morcellation has become a point of controversy, due to the risk of dissemination of malignant tissue. This prompted the FDA to release new guidelines and contraindications for the procedure in 2014, heavily restricting its use in gynecological surgery [2]. These concerns have led to a decrease in laparoscopic surgeries overall, despite the clear benefits to the minimally invasive route [3]. Here we describe a new technique of laparoscopically removing a 17-cm ovarian adenocarcinoma from a 47-year-old Caucasian female with the use of power morcellation within a containment bag in order to minimize the risk of tissue dissemination.

#### INITIAL PRESENTATION

A 47-year-old nulligravid, morbidly obese, Caucasian female had a history of a 6 cm left adnexal cystic mass that had been followed for greater than two years. During that time, there was no significant change in character of the mass and the patient's CA-125 levels remained within normal limits for a pre-menopausal female.

The patient had an onset of severe lower pelvic pain following a vigorous workout and was inclined to call an ambulance. At the time of ambulance arrival, her pain had largely resolved, and therefore, she did not present for care at that time. She later arrived to the Emergency Department complaining of severe primarily lower abdominal and pelvic pain. Transvaginal ultrasound and computed tomography scan revealed a large left-sided complex adnexal mass. Labs included a white blood cell count of 9.3, hemoglobin of 4.1, hematocrit of 41.2,

and platelet count of 260. Follicle stimulating hormone and CA-125 levels remained pending at that time. Patient's reported history and imaging studies led to an initial suspicion of ovarian torsion. Although unable to completely rule out the possibility of malignancy, it was reassuring that the mass had been followed and stable for greater than two years and CA-125 levels had remained within normal limits during that timeframe.

## PROCEDURE

Patient was taken to the operating room for an emergency laparoscopy. A weighted speculum was placed in the vagina and the cervix was grasped with a sharp tooth tenaculum in order to install a Valtchev manipulator in the cervix for uterine manipulation. A Veress needle was placed in the abdominal cavity through a small incision at the bottom of the umbilicus and found to be in good position with the saline needle drop test, saline needle withdrawal test, and saline needle injection test. The abdominal cavity was then insufflated to a pressure of 15 mmHg. Next, an 11-mm blunt laparoscopic trocar was placed in the abdominal cavity. Two laparoscopic trocar ports were placed, one midline, approximately 3 cm above the pubis symphysis and a second approximately 8 cm to the right of that position. Washings of the abdominal cavity were collected and sent to pathology for analysis.

Inside the abdominal cavity, findings were largely within normal limits with the exception of the right ovary. The right ovary had no sign of torsion, but was replaced by a 17-cm, large, smooth-appearing white mass. A LigaSure bipolar coagulation device was used to divide the right fallopian tube from its origin at the uterus, and the dissection was carried down along the outer edge of the fallopian tube across the infundibulopelvic ligament in order to disconnect the right ovary. A 15-mm EndoCatch bag was placed through the umbilical port. Using several wavy graspers, the mass was then scooped into the EndoCatch bag without rupture, and we

were able to exteriorize the mouth of the bag prior to any rupture of the mass. Therefore, I believe we mostly eliminated the possibility of spilling the contents into the abdominal cavity. There was extensive morcellation of the mass as it was removed through the 15-mm umbilical port. The frozen section was sent to Pathology and was discovered to be consistent with an adenocarcinoma.

Gynecologic Oncology was then contacted to assist with the remainder of the staging procedure, which was performed laparoscopically. This included total laparoscopic hysterectomy, bilateral pelvic and periaortic lymph node dissection, omentectomy and left salpingo-oophorectomy.

On follow-up with the patient 21 months after the procedure, there has been no recurrence of the malignancy and no reported complications.

## DISCUSSION

In recent years, the use of electro-mechanical morcellation in gynecological surgeries has become a point of controversy. The United States Food and Drug Administration released a safety communication in 2014 on the risks of dissemination of malignancies when using electro-mechanical morcellation. It includes two new contraindications against power morcellation for fibroid removal in peri-menopausal or post-menopausal women, or those who are candidates for en bloc tissue removal, as well as for any gynecological surgery involving tissue that is suspected to contain malignancy [2]. This new technique, as described above, effectively minimizes these risks by using blunt instruments to cautiously transfer a large mass into a containment bag for morcellation and removal, while avoiding rupture of the bag itself.

After this patient's tumor was removed, the remainder of the staging procedure was also able to be completed laparoscopically, an outcome that can make a very large difference to cancer patients especially. A reduction in recovery time will allow patients to begin the next steps in their treatment, such radiation or chemotherapy, sooner than those who undergo open procedures.

This method opens up discussion on more widespread use of minimally invasive surgery. If further studies support its efficacy in preventing tissue dissemination, it has the potential to lead to an increase in candidates for laparoscopy, the removal of larger masses through smaller holes, and ultimately better outcomes for patients.

## CONCLUSION

While this report covers only a single case, this method is step in the right direction for Gynecology as a whole and further studies are certainly necessary. The controversy surrounding the use of power morcellation in gynecological surgeries has led to a decrease in minimally invasive procedures which would otherwise be beneficial to patients [1,3]. This new technique of in-bag morcellation with the aid of blunt instruments has the potential to circumvent these risks, providing the ability to perform laparoscopies on large ovarian malignancies without spreading cancerous tissue.

## REFERENCES

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