

Case report

The Laparoscopic Assisted Management of a Giant Abdominopelvic Ovarian Mass

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Introduction

Laparoscopic approach to surgery provides numerous benefits to patients, including improved cosmetic results, reduced infection risk, less pain, and quicker recovery from surgery [1]. However, when large cystic ovarian masses are addressed, the laparoscopic approach becomes a challenge. Care must be taken to avoid rupture of the mass and subsequent spillage of its content leading to dissemination of malignant cells in case of cancer. This can lead to upgrading of cancer staging and a potential worse prognosis [2]. In case of benign mass such as dermoid cysts, chemical peritonitis may ensue [3]. Several approaches for the removal of the large cystic ovarian masses have been described in small case series or reports. We describe our technique for the laparoscopic removal of a giant ovarian cystic mass avoiding intra-abdominal spillage.

Case report

Our patient is 21 years old nulliparous referred to our practice due to the finding of a 30 x 35x19 cm abdominopelvic mass on a pelvic ultrasound. The patient had been suffering of increased abdominal girth and bloating for the last 4 months prior to her presentation. She had no family history of cancer. A CT scan of the abdomen and pelvis ordered by her primary physician was consistent with the above mass with features suspicious for a benign mucinous cystadenoma (figure1).

There was no free fluid or lymphadenopathy seen. Her CA 125 level was borderline elevated at

38 U/ml. Given the low suspicion for malignancy, the patient was counseled regarding the approach for removal by laparoscopy versus classical vertical laparotomy. She was aware that if the mass would be malignant and ruptures in her abdomen, she would have an upgraded stage with worse prognosis. The patient elected the laparoscopic approach. Gynecologic oncology consult was obtained for standby in case malignancy was found on frozen section. She underwent a laparoscopic assisted mini-laparotomy with right salpingo-oophorectomy. Given the size of the mass reaching the upper quadrant areas of the abdomen, the procedure was started by a 3.5 cm vertical suprapubic mini-laparotomy and an ALEXUS® (Applied medical, Rancho Santa Margarita, CA, USA) self-retaining retractor was used for exposure at the incision area. Pelvic washing were obtained, then the exposed area of the mass was dried and a biologic glue DERMABOND® (Ethicon, Cincinnati, OH, USA) was applied followed by the application of a large TEGADERM® (3M St Paul, MN, USA) tape placed on the exposed mass to provide a seal and prevent intra-abdominal spillage. A small 0.5 cm incision was performed at the sealed area using a cold knife and 10 liters of brownish tinged fluid was suctioned from the mass without any spillage into the abdominal cavity. Then the taped incision site was closed tight with a delayed absorbable running stitch and the tape was removed and the mass cleaned and replaced into the abdominal cavity. A glove was used to cover the mini-laparotomy site and pneumoperitoneum was obtained by insertion of the veress needle into the glove (figure 2).

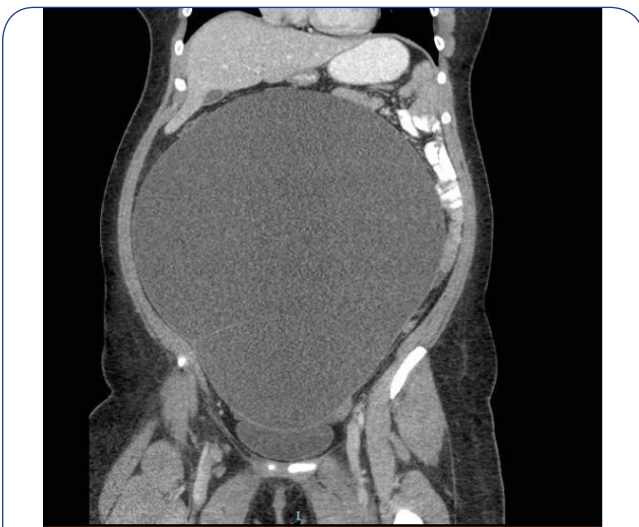


Figure 1: CT scan Abdomen/pelvis showing large abdominopelvic mass with mucinous features

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Figure 2: insufflation of pneumoperitoneum through mini-laparotomy covered by glove

Then a 5 mm optical trocar was inserted through the umbilicus followed by two 5 mm trocars placed under vision at the left and right lower quadrants. Intra-abdominal survey was consistent with a normal right ovary and tube, absent signs of metastatic disease and a left ovarian mass with smooth contour and an elongated left fallopian tube. There was no spillage noted from the mass incision site. A harmonic scalpel was used to cut and coagulate the left infundibulopelvic ligament and to perform a left salpingectomy. The Specimen was removed intact through the mini-laparotomy (figure 3, 4).

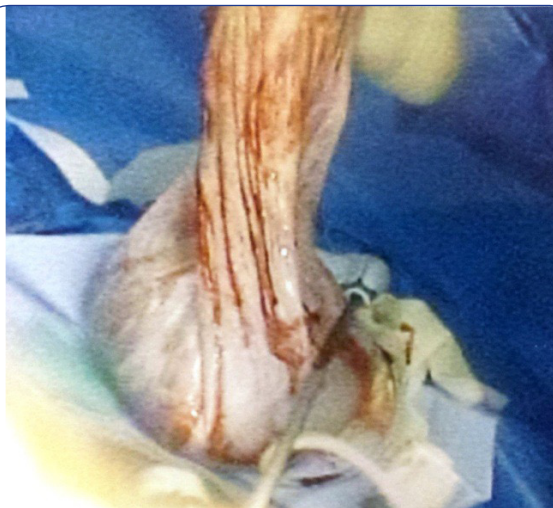


Figure 3: ovarian mass removed intact after drainage of majority of its content



Figure 4: suprapubic mini-laparotomy scar 2 month post surgery

Frozen section confirmed benign pathology. The Procedure was then terminated. The patient postoperative course was uneventful and she was discharged home a few hours later. The final pathology result was consistent with a benign serous Cyst adenoma. The patient postoperative weight was 40 lb less compared to her preoperative one.

Discussion

While laparoscopy has been adopted as the gold standard for management of the benign ovarian mass, its use in the management of malignant ovarian masses have witnessed a progress in recent years. In fact there is a growing body of evidence that there is no statistical difference in survival rates between patients undergoing a laparoscopy versus laparotomy in women with apparent early ovarian cancer or borderline tumors [4-6]. And given the advantages of laparoscopy in terms of faster recovery, less bleeding and reduced post-operative pain, this approach is proving to be superior to the traditional laparotomy in addressing this pathology [4]. In the case of the large ovarian cystic mass >10 cm, the laparoscopic approach poses a challenge given the need to reduce the size of the mass in order to be able to remove it through a small incision. Care must be taken to avoid cyst rupture to prevent the spread of potential malignant cells throughout the peritoneal cavity-leading to upstaging and change in management and prognosis in case of malignancy- and to reduce the risk of chemical peritonitis. Many authors have used different techniques to approach those large masses: Nagele F et al described a technique where they drained the cyst under ultrasound-guidance prior to the removal of the ovary laparoscopically [5]. Other authors drained the cystic mass laparoscopically inside the abdomen prior to removing it either laparoscopically through one enlarged port, a minilaparotomy or culdotomy, followed by profuse irrigation of the abdominal cavity [9-10]. Lee LC et al used a technique where they drained the mass through an open laparoscopy technique and

then removed the ovarian mass extra corporeally [6]. While those techniques helped decompress the large cysts, they didn't seem to adequately prevent spillage of the masses into the abdomen. Our technique-the laparoscopic assisted minilaparotomy (<4cm incision) with ovarian surface taping and draining – is a modification of a previously described technique used for open cases [7]. Its application makes the access of any size tumor with drainable content and low suspicion for malignancy feasible safely via laparoscopy, avoiding large vertical supraumbilical incisions used classically for ovarian cancer staging procedures in the cases of large but benign ovarian masses. By taping the surface of the mass and isolating its taped surface from the intra-abdominal content, drainage can be performed safely with virtually no spillage into the abdomen. Once the volume of the mass is reduced safely, the case can be conducted as any operative laparoscopic procedure. To our knowledge this case is among the few largest ovarian masses reported in the literature managed laparoscopically. We advise caution in the selection of cases managed laparoscopically; appropriate counseling of the patient in terms of risks in the case of the inadvertent finding of malignancy and its consequences should be discussed. We usually approach large masses with this technique when there is low suspicion for malignancy based on clinical presentation, age, family history and benign workup.

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