Abdominal Wall Reconstruction After Extirpation of a 140 Pound Primary Ovarian Mucinous Adenocarcinoma: A Case Report.

Mamtha Raj MD
Lehigh Valley Health Network, Mamtha.Raj@lvhn.org

Sean J. Wallace MD
Lehigh Valley Hospital, sean.wallace@lvhn.org

Nathan F. Miller MD
Lehigh Valley Health Network, Nathan.Miller@lvhn.org

Randolph Wojcik MD
Lehigh Valley Health Network, Randolph.Wojcik@lvhn.org

Published In/Presented At

Raj, M. Wallace, S. J., Miller, N. F., Wojcik, R. (2018, April 21). *Abdominal Wall Reconstruction After Extirpation of a 140 Pound Primary Ovarian Mucinous Adenocarcinoma: A Case Report.* Poster Presented at: 64th Annual Scientific Meeting of the Robert H. Ivy Society of Plastic Surgeons, Hershey, Pennsylvania.

Abdominal Wall Reconstruction After Extirpation of a 140 Pound Primary Ovarian Mucinous Adenocarcinoma: A Case Report

Mamtha Raj, MD, Sean J. Wallace, MD, Nathan F. Miller, MD, Randolph Wojcik Jr., MD

Department of Surgery – Division of Plastic and Reconstructive Surgery; Lehigh Valley Health Network; Allentown, Pa.

ABSTRACT

- Ovarian cancer is a feared diagnosis for women and clinicians alike.
- In this report, we present a case of a 71 year-old woman with a massive and debilitating > 60 centimeter, 140 pound massive primary ovarian mucinous adenocarcinoma. After extirpation, she underwent extensive abdominal wall reconstruction utilizing a team approach.
- Final pathology revealed stage IA grade 2 mucinous adenocarcinoma of the ovary. No adjuvant therapies were indicated. She is in clinical remission and has since resumed her normal daily function.

INTRODUCTION

- Mucinous ovarian cancers constitute 15% of all ovarian neoplasms and exist on a spectrum from benign to malignant. They typically arise from the gastrointestinal tract, endometrium, and/or endocervix.[1]
- Distinction between primary and metastatic mucinous ovarian cancers is made on histologic examination and immunohistochemical (IHC) staining. Common IHC markers include *CK7, CK20, CEA, CA19.9, CDX2,* and *CA-125*. Of these, *CEA* and *CA-125* are commonly used in monitoring for recurrence of disease.[2]
- Team approaches to massive tumor extirpations is essential, as patients often require the expertise of various subspecialists including, but not limited to gynecologic-oncologists, general surgeons, and plastic and reconstructive surgeons.

CASE REPORT

- A 71-year-old female was transferred to a level I trauma and tertiary care hospital with left leg and abdominal pain, refractory cellulitis, and worsening dyspnea.
  - History of present illness revealed gradual and progressive weight gain over 15 years time, decreasing cardiopulmonary function, and loss of ambulatory independence.
  - Significant past medical history included deep venous thrombosis (DVT), chronic bilateral lower extremity edema with recurrent cellulitis, and morbid obesity (BMI: 65.3).
  - Examination revealed a morbidly obese female with:
    - Labored breathing requiring supplemental oxygen
    - Rotund, distended, tender, and cellulitic-appearing abdominal wall with lichenification of the overlying skin.
    - Significant bilateral lower extremity edema, left > right
- Computed tomography revealed a massive > 60 cm intra-abdominal mass with bilateral hydronephrosis (Figure 1). Ultrasounds of lower extremities showed left femoral and popliteal DVTs.
- Pre-operative risk stratification and medical optimization were performed:
  - Low risk with Revised Cardiac Risk Index of 0.9%
  - Systemic anticoagulation and Greenfield filter placement for recurrent DVT
- Operative exploration amongst Gynecologic-Oncology, General Surgery, and Plastic & Reconstructive Surgery Services (Figure 2)
  - Intraoperative highlights:
    - Large volume skin resection in both horizontal (90 x 20 cm) and vertical (60 x 20 cm) vectors
    - Extirpation of massive > 60 cm, 140 pound ovarian mass (Figure 3)
    - Completion hysterectomy, bilateral salpingo-oophorectomy, omentectomy, peritoneal stripping, bilateral inguinal lymphadenectomy, and appendectomy
    - Excision of severely attenuated abdominal wall fascia and reconstruction of posterior rectus sheath with an inlay biologic uncoated mesh followed by an overlay of biologic coated mesh (Figure 4)
    - Complex closure of vertical and horizontal skin components over drains (Figure 5)
    - Secondary to massive volume shifts, a large volume of crystalloids, colloids, and blood products were administered along with vasopressors
- Post-operatively
  - Patient remained intubated and monitored in the intensive care unit due to hemodynamic lability.
  - On post-operative day #20, she was discharged to a skilled nursing facility

RESULTS

- Pathology revealed a stage IA grade 2 mucinous adenocarcinoma of the ovary.
  - No evidence of metastatic carcinoma
  - Tumor weight and dimension: 140 pounds; 63 x 41 x 40 cm
  - Left adnexal specimen positivity for immunohistochemical markers *CK7* and *CK20*
- She was followed as an outpatient by all involved surgical services. Images have been included from her 3 month and 12 month visits. (Figure 6)
  - *CA-125* and *CEA* levels provide evidence of her clinical remission
  - No dehiscence or wound healing problems arose
  - She has returned to her daily activities
- No adjuvant therapies (chemotherapy or radiation) were required

DISCUSSION

- We present a patient with who was incidentally discovered to have a massive abdominopelvic tumor. Extirpation and abdominal wall reconstruction were performed with great improvement in the patient's health, ambulatory status, and reclamation of her independence.
- Pathology revealed stage IA grade 2 mucinous adenocarcinoma of the ovary that was negative for metastatic disease. A review of the literature demonstrates that primary ovarian mucinous adenocarcinomas have been described, but most reported range larger in size (> 10 cm)[3]. To our knowledge, this case represents one of the larger primary ovarian mucinous adenocarcinoma extirpations to date.
- The patient's positivity for *CK7* and *CK20* confirm the diagnosis of primary ovarian mucinous adenocarcinoma, while her normal levels of *CEA* and *CA-125* signify her clinical remission.
- As expected, recurrent or metastatic disease is associated with poorer prognoses and shorter 5-year survival expectancies. As such, it is our hope that presenting this experience will raise awareness of these spectrum of diseases and allow for earlier diagnoses and treatments, as well as exemplify the virtues of a team-based approach in the successful reconstruction of the abdominal wall.

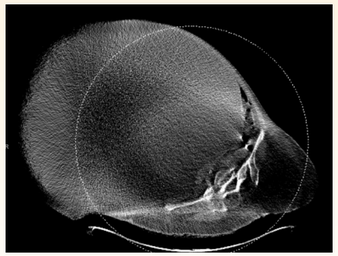

Figure 1: Computed tomography of abdomen & pelvis showing massive intra-abdominal mass and bilateral hydronephrosis.

Figure 2: Pre-operative photograph demonstrating left lateral decubitus positioning that was used for initial tumor removal.

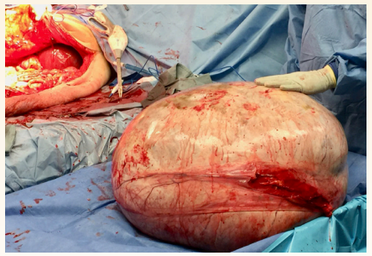

Figure 3: Intraoperative photograph immediately after extirpation of the tumor.

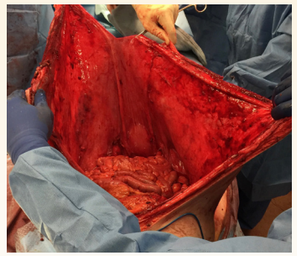

Figure 4: Intraoperative photograph showing extreme redundancy and attenuation of abdominal wall fascia after tumor extirpation.

Figure 5: A. Wounds on postoperative day #2 with patient in supine position from both (A) anterior and (B) lateral views

REFERENCES

[1] Zaino, Richard J. et al. "Advanced Stage Mucinous Adenocarcinoma of the Ovary Is Both Rare and Highly Lethal: A Gynecologic Oncology Group Study." Cancer 117.3 (2011): 554–562. PMC. Web. 10 Apr. 2018.

[2] Perren, Timothy. "Mucinous Ovarian Carcinoma." *Mucinous Ovarian Carcinoma*, St. James Institute of Oncology, oncologypro.esmo.org/content/download/58277/1077216/file/Advanced-Ovarian-Cancer-2015-08-Perren.pdf.

Lehigh Valley Health Network

LVHN.org