How to Gross a Female Pelvic Exenteration for Advanced Sigmoid Colon Cancer

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Background Information:
Colorectal cancer is the most common gastrointestinal malignancy and contributes to nearly 10% of all cancer deaths, second only to lung cancer. North America has the highest incidence and disease peaks between 60 to 70 years of age. Colonic adenocarcinomas are distributed along the length of the colon, growing as exophytic masses in the proximal colon and amnial, constricting lesions in the distal colon. Colon adenocarcinoma most commonly metastasizes to the liver as a result of portal drainage, but may also metastasize to regional lymph nodes, lungs and bones. Pelvic exenterations are surgeries performed to treat advanced-stage malignancies that are confined to the pelvis, including cancers of the female reproductive organs (cervix, uterus, ovary, vagina, vulva), cancer that has spread from the colon or rectum to nearby organs, or cancer that has come back in the pelvis after being treated with radiation and/or chemotherapy. These procedures were once performed for palliative purposes, but are now curative. This surgery involves removal of reproductive organs, the bladder or rectum or both, and lymph nodes in the pelvis. An anterior exenteration includes the bladder but not the rectum and a posterior exenteration includes the rectum but not the bladder. A total exenteration includes both the bladder and the rectum.

Purpose:
The purpose of this poster is to create a step-wise approach for the gross examination of a female anterior pelvic exenteration. The preparation, gross examination, and section key are displayed to the right.

Illustration of Abdomino-Pelvic Cavity

Gross Photographs:

Preparing the Specimen:

1. Identify the components:
   - Colon and or Rectum, Bladder, Urethra, Uterus, Fallopian Tubes, Ovaries
   - Orient the specimen using anatomical landmarks anterior to posterior:
     - Bladder – Anterior
     - Uterus – posterior to bladder
     - Rectum – posterior to uterus
   - Photograph oriented unopened specimens with clean background and ruler for scaling. Measure each organ separately.
   - Colorectal segment (length x diameter)

2. Colorectal segment
   - Amount of peri-colonic fat
   - Bladder dimensions (length to urethra, laterally, anterior to posterior)
   - Uterus (length x diameter of each)
   - Ovaries dimensions (corpus to cornu, fundus to cervix, anterior to posterior)
   - Fallopian tubes (length x diameter, presence/absence of embriated ends)

3. Slice OR perpendicular to section organ margins, depending on proximity to tumor and tissue in labeled cassettes with a note designating each cassette.
   - Proximal colon, distal colon, left and right ureters, urethra.

4. Identify other labels: "Segmented colon, uteri, tubes, ovaries, and bladder" is an ink insertion of segmental colon, bladder with peristaltic activity, seminal vesicles, lymph nodes in the pelvis, and create measuring 1 cm overall. The specimen is sliced as follows: Radial margins – Black, Anterior bladder – Black, Right urethra – green, left urethra – blue.

5. Ink the specimen according to laboratory protocol:
   - Posterior cervix – orange
   - Anterior bladder – black
   - Right urethra – green, Left urethra – blue

6. Palpate the colon to determine the location of the tumor and open the colon along its length, avoiding cutting through the tumor.

7. Rinse the colon and measure the tumor; make note of tumor distance to each margin and location.

8. Open the bladder along the anterior surface in a Y-shaped fashion beginning from the inferior aspect (after the prostate) to the left and right anterolateral walls. Measure any grossly identifiable tumor(s).

9. Flip the specimen over and remove the uterus laterally up to each cornu so that the anterior half is still attached to the bladder and the posterior half is "hanging."

10. Pin the specimen out on a cork or Styrofoam plate. The right (n 0.5 cm) and left (n 0) fallopian tubes are fimbriated and grossly unremarkable with a pinpoint orifice.

11. Pin the anterior apex flap of the bladder back so it folds in an open fashion and pin the urethra on each side.

Grossing the Specimen:

Sections:

- Uterus/Fallopian Tubes/Ovaries:
  - Anterior uterine wall to bladder
  - Endometrium
  - Cervix
  - Right fallopian tube
  - Left fallopian tube
  - Right ovary
  - Left ovary

1. Preproximal margin
2. Distal margin
3. Tumor margin
4. Tumor with greatest extension
5. Regional lymph nodes

Sample Dictation:

"Colorectal Cancer Facts & Figures."
"NCI Dictionary of Cancer Terms.
"Milanowski, Ann. ‘‘Life-Altering’’ Cancer Operation Calls for Multidisciplinary Approach."
"Pelvic Exenteration in Women.
"Colon and Rectum."
"Bataille, et al. Colon and/or Rectum, Bladder, Urethra, Ureters, Uterus, Fallopian Tubes, Ovaries.
"Pelvic Exenteration in Women.
"How to Gross a Female Pelvic Exenteration for Advanced Sigmoid Colon Cancer.
"Perivesicular fat

References: