Care of the Patient with Gynecologic Malignancies: Ovarian, Cervical & Endometrial

Cynthia Smith, RN, BA, MSN, AOCN
Oncology Clinical Nurse Specialist
Harrison Medical Center

Objectives
By the end of the presentation, participants will be able to:

• Describe the care of patients with gynecologic malignancies e.g. ovarian, cervical and endometrial

• Review the following aspects of gynecologic malignancies:
  – Etiology and Pathophysiology
  – Presenting Signs and Symptoms / Diagnostic Work-up
  – Classification and Staging / Prognostic Factors
  – Usual Therapy / Side Effect Management
  – Nursing Considerations / Patient Resources
  – Survivorship / Surveillance Issues

Gynecologic Malignancies: In the News

• The CDC recommends routine vaccination of 11 or 12 year olds against HPV-related cancer and diseases April 2011, www.gardasil.com

• CDC has new tool for women to assess risk for hereditary breast & ovarian cancers Know:BRCA May 2014, ONS Connect, http://connect.ons.org


Gynecologic Malignancies: In the News


• Bariatric Surgery Decreases Risk of Uterine Cancer August 2014 ONS Connect http://connect.ons.org

Gynecologic Malignancies: In the News


- Sit, Stay, Sniff out cancer, August 18-14. L. Conway, Oncology Roundtable. The Advisory Board. Dogs have 98% accuracy in sniffing out prostate, lung, & ovarian cancers. Tumors have volatile organic compounds; dogs have 220 million olfactory cells.
Ovarian Cancer Statistics

- Leading cause of death from gynecological cancer is the 5th most common cause of cancer mortality
- Median age of diagnosis is 63
  Incidence increases with age up to 80 years then declines. Incidence rates are slightly decreased over last 30 years.
- 70% present with advanced disease (Stage 3 / 4); 5 year survival 20 – 30%. For early stage, 5 year survival 70 – 90%
- If patient is optimally de-bulked and receives standard treatment, the median survival is 4 years. Have only been incremental improvements in survival.

Ovarian Cancer Case Study

Let’s Get Our Anatomic Bearings In The Pelvis

Etiology & Pathophysiology Ovarian Cancer

- Ovarian cancer originates within the tissues of the ovary and is classified according to the type of abnormal cells present:
  1) Epithelial
  2) Germ cell (ovum)
  3) Sex-cord stromal
     (Sertoli-Leydig cell)
  4) Granulosa
  5) Carcinosarcoma
     (Malignant Mixed Mullerian)

- Epithelial carcinoma makes up 80 – 90% of all new cases of ovarian cancer diagnosed each year (Chan, Bast, Shih, Sokol et al., 2009).
Etiology & Pathophysiology Ovarian Cancer

Hypotheses regarding pathogenesis are:
1) Incessant ovulation: repeated trauma & repair to epithelium
2) High estrogen concentration: epithelial proliferation (possible malignant transformation)
3) Exemplified genes with biological functions promoting ovarian cancer development & potential clinical significance include:
   • Nuclear proteins (e.g. Notch3, HBXAP [Rsf-1], NAC1 and NFκB)
   • Cytoplasmic proteins (e.g. fatty acid synthase, apolipoprotein E)
   • Cell surface / secretory proteins (e.g. mucin-4, mesothelin, claudin, HLA-G, kallikrein and folate receptor and osteopontin).
   • Tumor Suppressor / EGFR: p53, AKT2, cyclin E, ERB2 (Her2) & CA125


Ovarian Cancer Risk Factors

Genetic (10-15%)
• BRCA1, BRCA2 Mutations
• Lynch Syndrome
• Germline mutations in the DICER1 gene

Other
• Obesity
• Talc (pre-1973 asbestos mix)
• Hormone Replacement Therapy
• Use of fertility drugs
• Increasing age (90% > 45 years)

Increased Risk
• Family History ovarian, breast or colon cancer
• Nulliparity
• > 35 years 1st pregnancy
• Early Menstrual / late menopause

Decreased Risk
• Oral contraceptive use
• Pregnancy / lactation
• Tubal ligation / Hysterectomy
• Prophylactic oopherectomy

What to Do for Women at risk for Ovarian Cancer? Screening, Early Detection, Treatment

Prophylactic Treatment:
- Prophylactic bilateral salpingo-oopherectomy
- Hysterectomy (leave stump of fallopian tube)
- Persistent risk for peritoneal serous carcinoma
- Consider oral contraceptives

Screening of High Risk: Pelvic exams, serial CA-125, trans-vaginal pelvic ultrasonography (TVUS)

Screening of Average Risk: 1) CA-125 and/or TVUS
2) TVUS + symptom report

Bimanual pelvic exam detects advanced disease

Presenting Signs / Symptoms Ovarian Cancer

2007 Consensus Statement Ovarian cancer associated symptoms
• Includes: bloating, pelvic or abdominal pain, difficulty eating or feeling full quickly, & urinary symptoms (urgency or frequency).
• Women with persistent symptoms should contact MD for F/U. Women with ovarian cancer are more likely to report one or more of these six symptoms, twelve time or more per month.
• Other s/sx: fatigue, indigestion, back pain, pain with intercourse, constipation, menstrual irregularity (Equal rate in those w/o CA)
• Women with symptoms likely to have ovarian cancer? 1% (1 out 100 evaluated for symptoms; up to 1.6 % of women evaluated)

Ovarian Cancer Research News: Ovarian Cancer Screening Method Fails to Reduce Death from Disease

- News from National Cancer Institute sponsored Prostate, Lung, Colorectal & Ovarian (PLCO) Cancer Screening Trial show screening for ovarian cancer with transvaginal ultrasound & CA-125 blood tests do NOT result in fewer deaths from disease compared to usual care. False-positive screens result in unnecessary surgery, complications.

- PLCO trial is a randomized controlled trial of adults 55 to 74 years of age. 78,216 women enrolled & assigned to either annual screening with TVUS, CA-125 tests or to usual care (bimanual exam/palpation)

- The results were presented at 2011 ASCO meeting & appeared online 6-8-11, in JAMA.

Ovarian Cancer Symptoms & Frequency of Presentation (Goff, Mandel, et. al, 2000, 2004, 2007)

- Seminal work from the University of Washington, Virginia Mason, and Fred Hutchinson researchers
- **In 2000, 1500 women surveyed** (ovarian CA newsletter subscribers). 70% Stage III-IV disease. Asked prior to getting diagnosis, how many had symptoms? 95%.
- Abdominal (77%), GI (70%), pain (58%), constitutional (50%); urine urgency/frequency (34%) & pelvic (26%)

- **Time to diagnosis:** < 3 mo., 55%; > 6 mo. 26%; > 1 yr 11%

- Why? No pelvic exam 1st visit; multitude symptoms; diagnosed not having problem; depression, stress, IBS; no US, CT, CA-125 @ 1st visit.

Ovarian Cancer Symptoms & Frequency of Presentation (Goff, Mandel, et. al, 2000, 2004, 2007)

- In 2004, 1709 women took 20-item survey during primary clinic visit; compared to 128 women pre-op with mass; rated severity (1-5 scale) & # episodes/mo. Back pain, fatigue, indigestion, urinary s/sx reports
  1) 95% clinic women min. 1 symptom; median is 4. Recurring median 2.
  2) Benign mass – median reported 4; for recurring symptoms median 2.
  3) Malignancy – median reported 8; for recurring symptoms, median 4.

- In 2007—work to develop ovarian CA symptom index to detect early.

Presenting Signs and Symptoms of Ovarian Cancer…not so silent?

Table 3. Symptoms Prior to Diagnosis

<table>
<thead>
<tr>
<th>Symptom</th>
<th>a</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced symptoms</td>
<td>1,178</td>
<td>87</td>
</tr>
<tr>
<td>Boating</td>
<td>924</td>
<td>67</td>
</tr>
<tr>
<td>Fatigue</td>
<td>622</td>
<td>45</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>629</td>
<td>40</td>
</tr>
<tr>
<td>Urinary frequency</td>
<td>519</td>
<td>42</td>
</tr>
<tr>
<td>Constipation</td>
<td>400</td>
<td>29</td>
</tr>
<tr>
<td>Constipation</td>
<td>364</td>
<td>29</td>
</tr>
<tr>
<td>Dizziness</td>
<td>325</td>
<td>24</td>
</tr>
<tr>
<td>Back pain</td>
<td>282</td>
<td>20</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>278</td>
<td>20</td>
</tr>
<tr>
<td>Vomiting</td>
<td>175</td>
<td>13</td>
</tr>
<tr>
<td>Did not experience symptoms</td>
<td>170</td>
<td>13</td>
</tr>
</tbody>
</table>

* Most common “other” symptoms were bowel changes or diarrhea, pelvic pain, severe indigestion, excessive gas, and painful intercourse.

Diagnostic Workup of Ovarian Cancer

• Staging: Comprehensive laparoscopy, clinical findings, & tumor histology. To stage / treat ovarian cancer, see: International Federation Gynecology & Obstetrics (FIGO); American Joint Committee Cancer; National Comprehensive Cancer Network.

• Diagnosis is made via physical exam, radiologic tests & serum CA-125 antigen, membrane-bound glycoprotein recognized by MoAb (OC-125). Serum CA-125 increases in presence of ovarian cancer cell lines i.e. serous papillary adenocarcinoma in ascites.

• CA-125 levels are elevated in more than 80%–85% of women with advanced epithelial ovarian cancer but is only elevated 50% Stage I ovarian patients. May be high in benign states, e.g. peritonitis, endometriosis, ovarian cyst, pelvic inflammatory dx.

• When suspect ovarian cancer, a pelvic exam, trans-vaginal pelvic ultrasound, & CT scan of the chest, abdomen, & pelvis used to assess whether disease has spread outside pelvic area. Also MRI used.

• When suspect ovarian cancer, a pelvic exam, trans-vaginal pelvic ultrasound, & CT scan of the chest, abdomen, & pelvis used to assess whether disease has spread outside pelvic area. Also MRI used.

• Transvaginal Ultrasound is more sensitive than CT; can pick up complex cysts with both solid and cystic components

• CA-125 > 65 U/ml post-menopausal women, consult gynecologic MD

• Abdominal washings obtained from paracentesis may suggest the diagnosis; an ovarian biopsy obtained by laparotomy is required to confirm diagnosis & r/o abdominal metastases (Bhoola, 2006).

• OVA1 test separates low-risk women (unlikely true malignancy) and high-risk women (more likely to have a malignant tumor). OVA1 implication? Have a gynecologic oncologist in high-risk women do surgery for optimal de-bulking & improved survival.

Exploratory Laparotomy:

• Histologic confirmation / Staging
• Tumor de-bulking (goal is 1 cm or less residual to increase OS)
• Vertical incision
• Total Abdominal Hysterectomy / Bilateral Salpingo-oophorectomy
• Omentectomy / Examination of all peritoneal surfaces
• Lymph node biopsy

• CRITICAL for a Gynecologic Oncologist to do clinical staging; improves survival rate and other patient outcomes, as well as ensuring women receive standard therapy.

• More aggressive surgical techniques & optimal de-bulking more than double survival rate, e.g. 5.9 years if treated by gynecologic oncologist vs. 2.5 years survival if treated by other surgeon.

Classification & Staging of Ovarian Cancer

Chemotherapy for Ovarian Cancer

• Adjuvant for Stage I – Observe or Taxane / Carboplatin 3-6 cycles (depends on grade)

• Stages II, III and IV
  - Taxane (paclitaxel, docetaxel) / Carboplatin™
  - Intraperitoneal Chemo (Stage II & optimally de-bulked Stage III)
  - Bevacizumab (Avastin™). May lengthen time to progression

• Neoadjuvant for Stage III / IV who aren’t surgical candidates

• Those receiving chemotherapy should be followed up with:
  - Pelvic exam q 2-3 cycles
  - Interim CBC with plts as indicated
  - Chemistry profiles if indicated
  - Radiographic imaging if indicated
  - CA-125 before each chemo cycle

Chemotherapy Drugs Used in Ovarian Cancer

Adriamycin PFS™ (Doxorubicin hydrochloride)
Adriamycin RDF™ (Doxorubicin hydrochloride)
Paraplatin™ (Carboplatin)
Cytoxan™ (Cyclophosphamide)
Doxil™ (Doxorubicin hydrochloride liposome)
Gemzar™ (Gemcitabine hydrochloride)
Hycamtin™ (Topotecan hydrochloride)
Platinol™ (Cisplatin)
Taxol™ (Paclitaxel)

Drug Combinations Used in Ovarian Cancer

Bleomycin, Etoposide, Platinum (BEP)
Gemcitabine-Cisplatin

Ovarian Cancer Research News: Early Chemotherapy to Prevent Ovarian Cancer Recurrence Fails to Increase Survival

• A large study found women in remission for ovarian cancer who started chemotherapy to prevent a recurrence based on blood levels of the protein CA-125 did NOT live longer than women who started chemotherapy only AFTER symptoms of the disease arose.

• Findings will influence clinical practice; clinicians to re-think how to monitor for recurrence & initiate more treatment / salvage regimens.

• In international, multicenter randomized clinical trial of > 500 women, survival identical between women whose treatment for recurrence was initiated based on CA-125 levels & those treated at the onset of symptoms. CA-125 can be an early indicator recurrence.

• Trial findings were presented at the 2009 American Society of Clinical Oncology (ASCO) Annual Meeting. The results were subsequently published October 2, 2010, in Lancet.

What’s New in Ovarian Cancer Treatment? (ASCO, 2013) A. du Bois, MD, Essen, Germany

• Pazopanib (Votrient™) improves progression free survival (PFS) in advanced ovarian cancer

• According to new data, pazopanib given after successful surgery & chemotherapy extended PFS by an average of 5.6 months (compared to placebos). Adverse events: HTN, headache, nausea, diarrhea, fatigue & neutropenia.

• Median time to progression in pazopanib group was 17.9 months compared with 12.3 months in placebo group.

• High recurrence rate; extended period cancer recurrence and delays need for further chemo

• Already approved for renal cancer & soft tissue sarcoma; awaiting FDA indication for ovarian.
Chemotherapy in Ovarian Cancer

• New chemotherapy drugs & drug combo being tested. Trabectedin (Yondelis™) & belotecan (Camtobell™) hopeful

• When drugs cisplatin & carboplatin stop working, cancer called “platinum resistant”. Goal: sensitize to drugs again.

• Although carboplatin is preferred over cisplatin to treat ovarian cancer, if drug is to be given IP, use cisplatin. New study to see if carboplatin can be given IP as well as cisplatin.

• New approach: Give IP chemo during surgery using heated drugs. Heated intra-peritoneal chemotherapy (HIPEC) is effective & toxic. HIPEC must be studied head-to-head with standard IP chemo to see if actually works better. Toxicities: bowel ileus, poor wound healing, peritonitis, bleeds, & severe myelosupression.

Targeted Therapy in Ovarian Cancer

• Targeted therapy attacks cancer cell genetic programming that distinguishes them from normal, healthy cells. Bevacizumab (Avastin™) is best studied in ovarian cancer.

• Poly(ADP-ribose) polymersases (PARPs) are enzymes recently shown to be key regulators of cell survival & cell death. PARP-I inhibitors fight cancers of BRCA1 & BRCA2 mutations (10-15%).

• In one study, PARP inhibitor Olaparib was also able to shrink tumors in ovarian cancer patients without BRCA mutations. PARP inhibitors clinical trials in progress to see who may benefit.

Immunotherapy in Ovarian Cancer

• Tumor vaccines program immune system recognize cancer cells.

• Monoclonal antibodies (MoABs) to specifically recognize & attack ovarian cancer cells being developed. They can be designed to home in on certain sites on the cancer cell.

• Farletuzumab is a MoAB directed against a protein on surface of ovarian cancer cells. Shows promise to treat ovarian cancer.

• A MoAB now studied in ovarian cancer is catumaxomab (Removab™). Binds to protein in some cancer cells & some immune system cells. Give in abdominal cavity to treat ascites.

Rationale for IP Chemotherapy Ovarian Cancer

2006 GOG trial: Stage III Ovarian, prev. untreated, residual mass <1.0 cm

• Day 1: Paclitaxel 135 mg/m2 IV over 24 hrs
• Day 2: Cisplatin 75 mg / m2 IV
• Every 3 weeks for six cycles

OR

• Day 1: Paclitaxel 135 mg/m2 IV over 24 hrs
• Day 2: Cisplatin 100 mg/m2 intraperitoneal
• Day 8: Paclitaxel 60 mg/m2 intraperitoneal

Give IP chemo as quickly as possible in 2L warm NS; rotate positions Every 3 weeks for six cycles

Results: Improved OSS (15 mo.); increased side effects; decrease QOL

RN Consideration: Intraperitoneal Chemotherapy

Type and location
- Vascular or intraperitoneal
- Implanted by rib or over abdominal muscle; teach patient to “tense” muscle at time of access

Risk of Dislodgement
- Limit activity S/P access
- Access IP port when ready to treat

Port access
- Similar to vascular port access
- Non-coring needle, 19 ga., 1-1.5 in.

Ensuring placement
- Ability to flush
- Aspirate ascitic fluid (not blood)

IP fluids / Rotation
- Warm to body temperature
- Side to side; Trendelberg

Flush:
- ? Heparin to prevent fibrin form; not in blood vessel
- 20 ml NS flush, then 10 ml NS with 100 units hep/ml

Resources for Intraperitoneal (IP) Chemotherapy

Gynecologic Oncology Group (GOG) www.gog.org
- Has sample procedure for IP chemo administration

Clinical Journal of Oncology Nursing www-ons.org

Society of Gynecologic Nurse Oncologists www.sgno.org

Side Effect Management Ovarian Cancer

Side effects / toxicities depend on treatment and agent used

1) IV Chemotherapy: Myelosuppression, hypersensitivity, peripheral neuropathy, N/V, ototoxicity, alopecia, mucositis, high LFT, BUN, Cr

2) IP Chemotherapy: Dyspnea, shortness of breath, N/V, abdominal distension, bladder pressure, pain, electrolyte imbalance
   * Absorb 1 liter per 24 hours
   * Wear comfortable clothing / expandable waistline
   * Sit upright / walk
   * Continue anti-emetics / may require IVF hydration at home
   * S/SX to report: Fever, abdominal pain, N/V/D, port site infections

3) Monoclonal antibodies: Hypersensitivity, infusion reaction, fatigue

4) Surgery: Bowel ileus, peritonitis, infection, hemorrhage, fistulas

<table>
<thead>
<tr>
<th>Table 2. Postoperative Complications Reported Within One Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPLICATION</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>Wound infection, fever, and sepsis</td>
</tr>
<tr>
<td>Ileus, nausea, and vomiting</td>
</tr>
<tr>
<td>Other drug allergies and reactions</td>
</tr>
<tr>
<td>Pain</td>
</tr>
<tr>
<td>Fluid imbalance</td>
</tr>
<tr>
<td>Bleeding</td>
</tr>
<tr>
<td>Respiratory and cardiac</td>
</tr>
<tr>
<td>Thrombus</td>
</tr>
</tbody>
</table>

Note: Each participant could report more than one type of complication.

Side Effect Management Ovarian Cancer
Provide supportive management & patient / family education regarding advanced & metastatic disease complications such as:

- **Ascites** – May need paracentesis / drainage catheter
- **Intestinal obstruction** – Surgery for SBO; NG for decompression
- **Malnutrition** – Consult dietician; calorie count; PEG or J-tube for enteral feeding; PICC for parenteral feeding. Serum albumin labs
- **Lymphedema / impaired mobility / loss of function** – consult rehabilitation for PT, OT, lymphedema management
- **Pleural effusion / dyspnea** – Thoracentesis, pleurodesis, chest tube, chest drainage catheter, oxygen support
- **End of life e.g. pain, distress, DNR status** – Palliative care services
- **Sexual dysfunction** – BETTER model approach, endocrine, Look Good / Feel Better, I CAN Cope, Positive Image programs

Nursing Considerations of Sexual Health Needs in Gynecologic Malignancies

- Sexual dysfunction is the most common long-term consequence of cancer treatment; affects 50% of breast & ovarian cancer survivors; yet topic is often overlooked by health care providers
- WHO defines sexual health as state of physical, emotional, mental & social well-being RT sexuality, not absence disease / dysfunction
- 85% of women with cervical cancer + radiation lost interest in sex; 55% report dyspareunia; 45% had difficult in completing sexual intercourse & in attaining orgasm; 30% reported dissatisfaction.
Nursing Considerations of Sexual Health Needs in Gynecologic Malignancies

- Gynecologic surgeries causing dyspareunia: vulvectomy, pelvic exenteration, hysterectomy, & cervical cancer.
- Pelvic irradiation for cervical, endometrial, vulvar & vaginal cancer cause anatomical changes, e.g. vaginal narrowing / shortening.
- Pelvic irradiation, bilateral oophorectomy, & some chemo causes premature ovarian failure. Result? vaginal dryness & dyspareunia.
- Body image changes prevalent & distressing, e.g. vaginal discharge, fistula, ostomy, ostomy appliance / odor, loss of hair, vaginal changes
- Suggest dilators, water-soluble lubricants (Astroglide™), different positions / techniques (ACS book), more foreplay, sensate focus techniques. Try referring to endocrine, psychology, CSW, & chaplain.

PLISSIT
P = Permission
L = Limited Information given
S = Specific Suggestions
I = Intensive Therapy

BETTER
B = Bring up topic
E = Explain QOL concern (also sexual)
T = Tell resources
T = Timing may vary; ask anytime
E = Educate side effect
R = Record assessment / intervention

Qualitative Study (Ekwall, 2003) found 3 needs of women with cancer:
1) Getting optimal care, e.g. rapid cure, competent staff
2) Good communication, e.g. available, coordinated care
3) Self-image and sexuality

Cancer of the female genitalia affects women in a unique way. The uterus, vaginal & ovaries associated with femininity, motherhood, sexuality & self-image. Use “PLISSIT” or “BETTER” to assess concerns

National Comprehensive Cancer Network
Ovarian CA Surveillance & Follow-up Guidelines

Visits every 2-4 months for 2 years, then 3-6 months for 3 years, then annually after 5 years.
CA-125 or other tumor markers every visit if initially elevated.
CBC and chemistry profile as indicated
Physical exam including pelvic exam
Chest / abdominal / pelvic CT or PET as clinically indicated.
Chest X-ray as indicated. Consider family history evaluation.
Rising CA-125 with no previous chemotherapy? Work up, then treat as primary with chemotherapy.

Survivorship / Surveillance Issues for Ovarian CA (Ferrell, 2005; Oskay 2009)

- Ferrell et al. (2005) state women with ovarian CA see significant levels psychological distress: fear of future diagnostic tests & uncertainty were 2 of many issues interfering with QOL.
- Oskay et al. (2009) studied 699 women in gynecologic oncology practices in Germany & Australia who routinely draw serum CA-125 levels during follow-up. 59% women stated most important aspect of F/U is getting & knowing CA-125. Knowing your result creates higher anxiety levels compared to gyn exam or Pap test.
- Despite evidence CA-125 monitoring does not improve overall survival, participants believed objective of CA-125 monitoring & F/U care is early relapse detection & increased overall survival.
**Patient Resources for Ovarian Cancer**

- National Ovarian Cancer Coalition [www.ovarian.org](http://www.ovarian.org)
- Gilda’s Club [www.gildasclubseattle.org](http://www.gildasclubseattle.org)
- American Cancer Society (ACS) [www.acs.org](http://www.acs.org)
- National Coalition for Cancer Survivorship (NCCS) [www.canceradvocacy.org](http://www.canceradvocacy.org)
- National Comprehensive CA Network (NCCN) [www.nccn.org](http://www.nccn.org)
- Ovarian and Breast Cancer Alliance Phone: (206) 417-0823. Email: OvarianAndBreastCancerAllianceWA@comcast.net
- National Cancer Institute (NCI) [www.cancer.gov](http://www.cancer.gov)
- Coalition of Cancer Cooperative Groups [http://www.cancertrialshelp.org](http://www.cancertrialshelp.org)
- CancerNet [http://www.cancer.net/patient/Cancer+Types/Ovarian+Cancer](http://www.cancer.net/patient/Cancer+Types/Ovarian+Cancer)
- Coalition of Cancer Cooperative Groups [http://www.cancertrialshelp.org](http://www.cancertrialshelp.org)

**Ovarian Cancer References**

Etiology & Pathophysiology Cervical Cancer

- Cervical cancer risk closely linked to infection with certain types human papillomavirus (HPV) & to sexual practices (ACS, 2013)
- Research shows knowledge of risk factors for cervical cancer is low in women (Centers for Disease Control & Prevention, 2009; Lee, Fogg, & Menon, 2008; Pearlman et al., 1999; Steven, 2004).
- Primary prevention strategies exist for cervical cancer. Decline incidence & mortality from 1950s due to the widespread use of Pap test (ACS, 2011; Lawson et al., 2000). Pap is most successful screening test to detect cervical cancer (Markowitz et al., 2007).
- 70% cervical cancer preventable via HPV vaccine (Saraiya, 2007).

Anatomy of the Cervix
1. Lower portion of uterus (contiguous with upper portion vagina)
2. Composed of exocervix and endocervix
3. Surrounded by paracervical tissues rich in lymph nodes

Changes associated with cancer of the cervix
1. Cellular changes are on a continuum from pre-malignant changes, e.g. mild, moderate to severe cervical intraepithelial neoplasia (CIN) to carcinoma in situ (CIS) to invasive disease.
2. Most arise in transformation zone at squamocolumnar junction.
   a. Exophytic, fungating or cauliflower lesion outward from cervix.
   b. Excavating/ulcerative necrotic lesion replace cervix / upper vagina
   c. Endophytic lesions extend within cervical canal
3. Squamous carcinoma most common (90%); adenocarcinoma in young women - poorer prognosis; endocervical more aggressive
Human Papillomavirus (HPV) & Pathogenesis of Cervical Cancer

- Genital HPV sexually transmitted; most critical risk factor
- Are greater than 70 types (strains) of HPV
  - HPV 16, 18, 45 & 56 associated with 80% of invasive cervical neoplasms
- HPV DNA is found in > 90% pre-invasive & invasive lesions
  HPV transcriptional activity identified in cervical neoplasia
- HPV oncogenes mediate malignant transformation in mice

Natural History of Cervical Carcinogenesis

<table>
<thead>
<tr>
<th>Persistence (&gt; 1-2 yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection</td>
</tr>
<tr>
<td>Normal Cervix</td>
</tr>
</tbody>
</table>

CIN: Cervical intraepithelial neoplasia – precancerous. Graded I, II, & III. 40% CIN II regress after 2 yr (less with HPV16); 22% CIN II progress to CIS.


Cervical Cancer: Histology & Pre-invasive Changes

**Histology**
- 80 – 90% squamous cell
- 10 – 20% adenocarcinoma

**Pre-invasive or pre-malignant changes**
- No invasion of cervical stroma
- Squamous intraepithelial lesion (SIL)
  - Low grade (LSIL)
  - High grade (HSIL)
- Glandular tissue
  - Adenocarcinoma in situ (AIS)

Risk factors for Cervical Cancer

<table>
<thead>
<tr>
<th>Increased Risk</th>
<th>Decreased Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Papilloma Virus (HPV) infection</td>
<td>* Lifetime celibate</td>
</tr>
<tr>
<td>Lack of regular Pap tests</td>
<td>* Lifetime monogamous</td>
</tr>
<tr>
<td>Immunocompromised / HIV infection</td>
<td>* Male circumcision</td>
</tr>
<tr>
<td>In-utero diethylstilbestrol</td>
<td></td>
</tr>
<tr>
<td>Smoking (carcinogens concentrate cervical mucous)</td>
<td></td>
</tr>
<tr>
<td>Multiparous</td>
<td></td>
</tr>
<tr>
<td>Many sex partners / Birth control pills use</td>
<td></td>
</tr>
<tr>
<td>Male partner with high-risk sexual behavior</td>
<td></td>
</tr>
</tbody>
</table>
Screening Guidelines for Early Detection of Cervical Cancer (ACS, 2013)

• All women should begin cervical cancer screening at age 21. Women 21 to 29 need a Pap test every 3 years. HPV test not used to screen in this group (may be F/U for abnormal Pap).

• Beginning at age 30, preferred way to screen is with a Pap test combined with an HPV test every 5 yrs to continue until age 65.

• Women 30 to 65 may get tested q 3 years with just Pap test.

• If high risk from cervical cancer RT suppressed immune system (e.g. HIV infection, organ transplant, or long term steroid use) or DES exposure in utero may need to be screened more often & need to follow their health team’s recommendations.

• Women > 65 years who’ve had regular screening in previous 10 years should stop cervical cancer screening as long as haven’t had any serious pre-cancers (CIN2 or CIN3) in the last 20 years.

• Women with a history of CIN2 or CIN3 should continue to have tests for at least 20 years S/P the abnormality was found.

• Women who have had a total hysterectomy should stop screening for cervical pre-cancer (or cancer).

• Women who have had a hysterectomy without removal of the cervix (called a supra-cervical hysterectomy) should continue cervical cancer screening according to the guidelines above.

Screening Guidelines for Early Detection of Cervical Cancer (ACS, 2013)

• Women vaccinated against HPV still should follow guidelines

• Some incorrectly believe can stop cervical cancer screening once stop having children. Need to follow ACS guidelines.

• Although annual (every year) screening should not be done, women who have abnormal screening results may need to have a follow-up Pap test done in 6 months or a year.

• The ACS guidelines for early detection of cervical cancer do not apply to women who have been diagnosed with cervical cancer. These women should have follow-up testing as recommended by their healthcare team.

Human Papillomavirus (HPV) Vaccine

2 Vaccines: Cervarix & Gardasil

• Cervarix (bivalent) – HPV 16 & 18. For girls / women 10-25 yrs. Indication is for prophylaxis of cervical cancer.

• Gardasil (quadrivalent) – HPV 6, 11, 16 & 18

CDC Advisory Committee on Immunization Practices (ACIP)

• 9 – 10 years: Per MD

• 11-12 years: Recommend immunization

• 13-26 years: If not previously vaccinated

• 9 yrs to 26 yrs (male & female).

• Recommended as prophylaxis for cervical CA, genital warts, malignancies of vagina & vulva.

• Can receive if patient previously had a abnormal Pap, the HPV test is positive, and/or history of genital warts. Rationale? Patient may not have been exposed to all 4 types

• Immunity is believed to last 5 to 9.5 years
Presenting Sign / Symptom Cervical Cancer

Early signs / symptoms:
- Most asymptomatic until disease is advanced
- May have a thin, watery discharge
- Painless, intermittent, post-coital / intramenstrual vaginal bleed
- Increase in menstrual length / flow

Late signs / symptoms:
- Pelvic pain / referred pain to flank or leg; lower extremity edema
- Urinary symptoms: dysuria, urine retention/frequency/ blood
- Bowel symptoms may include: rectal bleeding, constipation, or bowel obstruction

Labs: elevated BUN and/or Cr, decreased Hgb /Hct, increased WBC

Diagnostic Workup for Cervical Cancer
- Colposcopy (cervix exam under magnification S/P apply of acetic acid) to evaluate cervix after abnormal Pap.
- HPV DNA testing for high-risk HPV types if Pap abnormal
- Cervical biopsy if colposcopy shows abnormal cells
- Endocervical curettage is done when can’t see upper limits cervix abnormalities or canal transformation zone not seen
- Cone biopsy or loop electrosurgical excision procedure (LEEP) obtains larger tissue wedge & to r/o invasive cancer

Clinical Staging / Grading for Cervical Cancer

Evaluation of extent of disease (requires anesthesia):
1) Cystoscopy, intravenous pyelogram, sigmoidoscopy, proctoscopy, or barium enema to R/O disease extension to bladder, rectum
2) Abdominal pelvic CT, US, MRI, PET : see extent local lesion, LN metastasis
3) Chest X-ray to R/O lung metastasis

Bethesda System Categories:
1) Negative for intraepithelial lesion or malignancy
2) Epithelial cell abnormalities, e.g. atypical squamous, squamous intraepithelial lesions, squamous cell carcinoma, or atypical glandular cells
3) Other malignant neoplasms (melanoma, sarcoma, lymphoma)

Cervical intraepithelial neoplasia (CIN) determined by biopsy:
1) CIN 1 (mild dysplasia)
2) CIN 2 (moderate dysplasia)
3) CIN 3 (severe dysplasia & CIS)
4) Squamous cell cervical CA

### Classification of Squamous Cell Abnormalities

<table>
<thead>
<tr>
<th>Description</th>
<th>CIN Grading</th>
<th>Bethesda System (1)</th>
<th>Class (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Normal</td>
<td>Normal</td>
<td>Class I</td>
</tr>
<tr>
<td>Aplasia w/HPV</td>
<td>Aplasia</td>
<td>AGCCL (3)</td>
<td>Class II</td>
</tr>
<tr>
<td>HPV</td>
<td>HPV</td>
<td>Low-Grade SIL (1)</td>
<td>Class II</td>
</tr>
<tr>
<td>Aplasia w/HPV</td>
<td>Aplasia</td>
<td>Low-Grade SIL (1)</td>
<td>Class II</td>
</tr>
<tr>
<td>Mild Dysplasia</td>
<td>CIN I</td>
<td>Low-Grade SIL</td>
<td>Class III</td>
</tr>
<tr>
<td>Moderate Dysplasia</td>
<td>CIN II</td>
<td>High-Grade SIL</td>
<td>Class III</td>
</tr>
<tr>
<td>Severe Dysplasia</td>
<td>CIN III</td>
<td>High-Grade SIL</td>
<td>Class III</td>
</tr>
<tr>
<td>Carcinoma in situ</td>
<td>CIS</td>
<td>High-Grade SIL</td>
<td>Class IV</td>
</tr>
<tr>
<td>Invasive Cancer</td>
<td>Invasive Cancer</td>
<td>Invasive Cancer</td>
<td>Class V</td>
</tr>
</tbody>
</table>
FIGO Staging Cervical Cancer

Treatment of Pre-Malignant Cervical Lesions

- Diagnosis
  - Pap smear, colposcopy, biopsy

- Treatment of Squamous intraepithelial lesion (SIL)
  - Loop Electrosurgical Excision Procedure (LEEP)
  - Laser therapy / Cautery
  - Cryotherapy
  - Conization: removes cone shape tissue under anesthesia. May cause infertility, cervical incompetence / stenosis
  - Hysterectomy: for HSIL if completed child-bearing

- Follow-up: Every 3 month X 1 yr, then every 6 months

Usual Therapy for Cervical Cancer

Invasive disease: Surgery and/or radiation

- Depends on age, KPS, tumor volume & desire to keep ovaries

Surgery:

- Radical tracheectomy (cervical amputation) to keep fertility;
- Radical hysterectomy & pelvic lymphadenectomy, para-aortic LND
- Bilateral salpingo-oophorectomy in post-menopausal women or those > 40 yrs who don’t want children

Radiation:

- Combine external XRT & either high-dose conventional (inpt. basis) brachytherapy implant OR high-dose brachytherapy implants (outpt.)
- Radiosensitize with cisplatin (40 mg/m2) weekly during XRT
- Advance / early disease (+ LN, + margin) radiation, chemo, & surgery

Usual Therapy: Recurrent Cervical Cancer

Central recurrence only: anterior, posterior, or total pelvic exenteration.

- Triad of unilateral leg edema, sciatic pain, and ureteral obstruction indicates recurrent / unresectable disease
- Extensive pre-op work-up is done to r/o extrapelvic disease
- Initial pelvic sidewall biopsies / lymph node evaluation / frozen sections to r/o metastatic disease (intraoperatively)
- Total pelvic exenteration: take all pelvic viscera; colostomy; ileostomy

Unresectable or disseminated disease: chemotherapy (palliative only).

- Agents used include: Cisplatin, paclitaxel, fluorouracil, methotrexate, ifosfamide, cyclophosphamide, gemcitabine, topotecan, vinorelbine

- Poor response rates seen with chemotherapy
Total Pelvic Exenteration

Figure 1: The empty pelvis as seen after the urinary bladder, uterus with the parametrium, parapectos, upper 1/2 vagina & adnexa, and the rectum are removed. The pubic bone anteriorly, the levator ani inferriorly and the iliac vessels and the pelvic wall laterally show that a good loco-regional clearance has been achieved.

Figure at right: Anterior Pelvic Exenteration

http://www.bing.com/images/search?q=pelvic+exenteration
&view=detail&id=1D9CC45AFF6789FB50F741385CC317FA4E0A40A&first=0&FORM=IDFRIR

Prognostic factors for Cervical Cancer

- No overall change in survival rate has occurred for patients with invasive cervical cancer, although mortality rate has decreased because of decreased incidence.
- Prognosis is related to stage of disease.
- 35% of women have recurrent disease within 3 years of initial therapy
- Cause of death associated most often with uremia, infection or hemorrhage

What’s New in Cervical Research

- **(Cervical) Combination Therapy:** 5 NCI-sponsored clinical trials showed patients with advanced cervical cancer treated with CDDP-based combination chemotherapy together with radiation survive significantly longer than those receiving radiation therapy alone. Risk of death decreased by 30% - 50% with concurrent chemo / rad.

- **GOG 20 Trial** - 452 patients with pre-treated, metastatic, recurrent or persistent cervical cancer (2009-2012).

  - Women with metastatic or recurrent cervical cancer had significantly prolonged survival when bevacizumab was added to topotecan / CDDP chemotherapy in a Phase III trial.
  - Median OSS 17 months for women receiving the combination, compared to 13.3 months for women receiving chemo alone.
  - Adverse events: bleeding, GI fistula, & venous thromboembolism (ASCO, 2013, Z. Chustecka, Chicago, IL)

Side Effect Management Cervical Cancer

**Surgery Treatment**

- Radical hysterectomy
  - Uterus, upper 1/3rd of vagina, uterosacral & uterovesical ligaments, parametria, pelvic node lymphadenectomy

**Complications**

- Ureteral fistulas / Bladder dysfunction
- Pulmonary embolus
- Pelvic infection / Hemorrhage
- Bowel obstruction / Rectovaginal fistula
Side Effect Management Cervical Cancer

Radiation Therapy
• Complication rates
  - Stage I and IIA 3-5%
  - Stage IIB and III 10-15%

Complications include:
• Vaginal stenosis
• Sigmoid perforation or stricture
• Rectal ulcer
• Pelvic hemorrhage / abscess

Sexual dysfunction: Vaginal epithelium thinning, atrophy, stenosis, dryness. Instruct on vaginal dilators, water lubricants, foreplay

Nursing Considerations for Cervical Cancer

Surgery (Post-Op)
• Inability to void, urine retention, suprapublic catheter, constipation, vaginal shortening, manage urine / stool diversion with pelvic exenteration (if intended to cure); robotic surgery
• Bowel pattern changes, e.g. constipation, obstruction, fistulas
• Bladder pattern changes, e.g. recurrent UTIs, fistula formation

Radiation Therapy
• Bladder pattern changes: retention, cystitis, vesicovaginal fistulas
• Bowel changes: diarrhea, SBO, rectal ulcers, rectovaginal fistula
• Evaluate changes in vaginal tissues, e.g atrophy, stenosis, dryness
• Assess fatigue, suggest strategies to manage, e.g. exercise, set priorities, ensure Hgb / Hct adequate, and make a “bucket list”

Nursing Considerations for Cervical Cancer

Chemotherapy (Platinum-based)
• Monitor & treat: Myelosuppression, infection, bleeding, HSR, peripheral neuropathy, ototoxicity, delayed N/V, Mg wasting, electrolyte replacement, renal / liver dysfunction

Recurrent disease
• Assess for history of vaginal bleeding
• Evaluate lower extremities edema
• Evaluate occurrence new pain, especially in hips / low back
• Assess for changes in appetite with weight loss

Survivorship / Surveillance Issues for Cervical Cancer

• Regular Pap tests & effective early stage treatment are responsible for a remarkable improvement in U.S. cervical cancer survival rates
• Treatment at earliest stages of cervical cancer improves the 5 year survival rate by 92%, while overall 5 year survival rate is 72%.
• In developing countries, cervical cancer survival rates are exactly opposite. World-wide estimates 473,000 new cases detected yearly & 253,500 deaths reported. 80% in developing countries.
• In U.S., cervical cancer is 8th most deadly cancer, but worldwide it is 5th. In parts of Latin America & Caribbean, more women die from cervical cancer than from childbirth.
NCCN Surveillance Recommendations

- Interval H & P
- Cervical / vaginal cytology every 3 – 6 months for 2 years, then every 6-12 months for 3-5 years, then annually
- Chest x-ray annually for 5 years
- CBC, BUN, CR every 6 months (optional)
- PET-CT scan as clinically indicated
- Recommend use vaginal dilator after radiation therapy
- Patient education regarding symptoms
- If find persistent / recurrent disease, need more imaging, possible surgical exploration, then follow treatment algorithms for relapse (chemotherapy, radiation therapy, hormone therapy)

Patient Resources for Cervical Cancer

- Association of Reproductive Health Professionals [www.arhp.org](http://www.arhp.org)
- Oncolink [www.oncolink.org](http://www.oncolink.org)
- Coalition of Cancer Cooperative Groups [http://www.cancertrialshelp.org](http://www.cancertrialshelp.org)
- National Coalition for Cancer Survivorship (NCCS) [www.canceradvocacy.org](http://www.canceradvocacy.org)
- National Comprehensive Cancer Network (NCCN) [www.nccn.org](http://www.nccn.org)
- National Cancer Institute (NCI) [www.cancer.gov](http://www.cancer.gov)

Cervical Cancer References


Cervical Cancer References

Etiology / Pathophysiology Endometrial CA

- Endometrial cancer refers to several types of malignancies that arise from endometrium (uterine lining).

- Most common subtype, endometrioid adenocarcinoma, typically occurs within few decades of menopause. Linked with obesity, excess estrogen exposure; frequently develops with endometrial hyperplasia; vaginal bleeding is most common presentation.

- Endometrial cancer is 3rd most common cause of gynecologic cancer death (behind ovarian & cervical). Treat with a TAH-BSO.

- Endometrial cancer sometimes referred to as uterine cancer. But different cancers may develop not only from endometrium itself but also from other uterine tissues, e.g. cervical cancer, sarcoma of myometrium, and trophoblastic disease.

Endometrial Cancer Case Study

Anatomy of the endometrium

- Composes inner layer of 3 layers of uterus (other layers are myometrium and parietal peritoneum).

- Has a highly vascular mucous membrane lining

- Primary functions of the endometrium: to provide vascular & nutrient supply for developing fetus

- Respond to changes estrogen / progesterone levels

- Most endometrial cancers are adenocarcinomas; they originate from a single layer of epithelial cells that line the endometrium to form glands.

Changes associated with cancer of the endometrium

- Abnormal production & metabolism of endogenous estrogen

- Atypical hyperplasia may progress to invasive cancer.

Subtypes of Endometrial Carcinomas:

1) Endometrioid (common). Cancer cell growth pattern resembles normal endometrium (e.g. low-grade). May present as high grade.

2) Papillary serous carcinoma (more aggressive)

3) Clear cell endometrial carcinomas (also more aggressive)

Two Pathogenetic Groups for Endometrial:

- **Type I**: These occur most commonly in pre-and-perimenopausal women, often with a h/o of unopposed estrogen exposure and/or endometrial hyperplasia. Often minimally invasive into underlying uterine wall, low-grade endometrioid type, with good prognosis.

- **Type II**: Occur older, post-menopausal women, > African-Americans, not associated increased estrogen exposure, have poorer prognosis.

  1) High-grade endometrioid cancer

  2) Papillary serous carcinoma

  3) Clear cell carcinoma.
Risk Factors for Type I Endometrial Cancer

- Obesity
- High levels of estrogen long-term and/or inadequate progesterone
- Nulliparity / infertility
- Early menarche / late menopause
- Endometrial polyps or other benign uterine growths of the uterine lining
- High intake of animal fat
- Pelvic radiation therapy
- Family history: Colon/Endometrial CA

Presenting Signs and Symptoms of Endometrial Cancer

**Bleeding:**
- Vaginal bleeding and/or spotting in post-menopausal women.
- Abnormal uterine bleeding or abnormal menstrual periods.
- Bleeding between normal periods in premenopausal women.
- Women > 40: extremely long, heavy, or frequent bleeding episodes
- Anemia from chronic blood loss; may occur if woman ignores symptoms of prolonged / frequent abnormal menstrual bleeding.

**Other:**
- Lower abdominal pain or pelvic cramping.
- Thin white or clear vaginal discharge in postmenopausal women.
- Pelvic exam often normal in early stage endometrial cancer. Changes in size, shape, or uterine consistency or regional structures seen in advanced disease

Diagnostic Workup for Endometrial Cancer

**Clinical evaluation**
- Routine screening of asymptomatic women is not indicated, since the disease is highly curable in its early stages.
- Pap smear may be either normal or show abnormal cellular changes. Pap smear screens cervical, not endometrial, cancer
- Office endometrial biopsy traditional diagnostic method. Endometrial & endocervical tissue sampled (10% false negative rate)
- If endometrial biopsy does not yield sufficient diagnostic material, fractional dilation & curettage necessary to diagnose.
- Persistent symptoms should be worked up with endocervical curettage, hysteroscopy, TVUS, and CA-125.

**Diagnostic Workup for Endometrial Cancer**

- Hysteroscopy allows direct visualization of uterine cavity and can be used to detect the presence of lesions or tumors. MD may get cell sample with minimal damage to endometrial lining.
- Endometrial biopsy or aspiration may assist the diagnosis.
- Transvaginal ultrasound to evaluate endometrial thickness in bleeding postmenopausal women used to rule out endometrial CA
- Research shows p53 antibody identify high-risk endometrial CA (70% sensitivity, 64% specificity and 95% positive predictive value)
**Diagnostic Workup for Endometrial Cancer**

- Newly-diagnosed endometrial cancer patients don’t routinely have imaging studies, e.g. CT scan, to evaluate extent of disease (low yield)
- Pre-op evaluation: Complete medical H & P, pelvic & rectal exam, stool guaiac, chest X-ray, CBC, chemistry panel, LFT
- Colonoscopy recommended if stool is guaiac + or woman has + symptoms. Common etiologies in endometrial, colon
- CA-125 is sometimes drawn to predict advanced stage disease. D & C, Pipelle biopsy curettage 65-70% positive predictive value.
- Most critical: hysteroscopy (90-95% positive predictive value)

**Updated 2010 FIGO Classification and Staging of Endometrial Carcinoma**

- **Stage IA** Tumor confined to the uterus, no or < ½ myometrial invasion
- **Stage IB** Tumor confined to the uterus, > ½ myometrial invasion
- **Stage II** Cervical stromal invasion, but not beyond uterus
- **Stage IIIA** Tumor invades serosa or adnexa
- **Stage IIIB** Vaginal and/or parametrial involvement
- **Stage IIIIC1** Pelvic lymph node involvement
- **Stage IIIIC2** Para-aortic lymph node involvement, with or without pelvic lymph node involvement
- **Stage IVA** Tumor invasion bladder and/or bowel mucosa
- **Stage IVB** Distant metastases including abdominal metastases and/or inguinal lymph nodes

**Usual Therapy for Endometrial Cancer**

- **Surgery** is primary treatment if patient is surgical candidate
  - Surgical staging includes maximal debulking & TAH-BSO, pelvic and para-aortic lymph node dissection
- **Radiation therapy**
  - Adjuvant treatment based on grade and risk factors
    - Risk factors: > 60 yrs, + LN, tumor size, lower uterine involvement, myometrial invasion
  - Radiation is option if unable to undergo surgery.
    - Vaginal brachytherapy - Pelvic radiation
- **Chemotherapy**
  - For Stage III (outside uterus) & Stage IV

**Endometrial Cancer: Recurrence/Metastatic Disease**

- **Radiation Therapy**
  - Intra-operative, brachytherapy, external beam (see prior treatment)
- **Surgery**
  - Pelvic exenteration (See cervical cancer notes for nursing care)
- **Hormonal Therapy**
  - Tumors with positive estrogen & progesterone receptors
  - Progestational agents
    - Megestrol, medroxyprogesterone acetate
    - Tamoxifen (increase progesterone receptor expression)
    - Aromatase inhibitors
- **Chemotherapy**
  - Platinum, Paclitaxel, Doxorubicin
Prognostic factors for Endometrial Cancer

- While endometrial cancers are 40% more common in Caucasian women, an African American woman who is diagnosed with uterine cancer is twice as likely to die, related to higher frequency of aggressive subtypes and possible delay in diagnosis.

- 5 yr survival rates for endometrial cancer S/P appropriate treatment:
  - Stage I-A 90%
  - Stage I-B 88%
  - Stage I-C 75%
  - Stage II 69%
  - Stage III-A 58%
  - Stage III-B 50%
  - Stage III-C 47%
  - Stage IV-A 17%
  - Stage IV-B 15%

Side Effect Management for Endometrial Cancer

Hormonal Therapy, e.g. Megace, medroxyprogesterone acetate

- Fluid retention, weight gain, dyspnea & thromboembolic events

Chemotherapy, e.g. Cisplatin, Carboplatin, Adriamycin, Epirubicin, Taxol

- Grade 3 / 4 myelosuppression & GI toxicity (N/V/D)
- Peripheral neuropathy, CHF, alopecia, HSR reaction

Surgical Issues / Complications

- Inability to void, urine retention, suprapubic catheter, constipation, vaginal shortening, urinary/stool diversion mgt. (pelvic exenteration)
- Bowel pattern changes, e.g. constipation, obstruction, fistulas
- Bladder pattern changes, e.g. recurrent UTIs, fistula formation

Survivorship / Surveillance Issues for Endometrial Cancer

- Risk of recurrence: Greatest within 1st 3 years (68-100%)
  - Local: Vaginal vault, pelvis (40%)
  - Distant: Upper abdomen, lung (60%).

- Follow-up
  - Physical exam every 3-6 months for 2 yrs, then 6 mo or annually
  - Vaginal cytology
  - CXR
  - CA-125 (controversial)
  - 70% of recurrences are associated with symptoms

- RN Education to include signs / symptoms of recurrence:
  - Vaginal bleeding
  - Decreased appetite
  - Weight loss
  - Pain (pelvis, hip, back)
  - Cough / SOB
  - Edema found in abdomen, LEs

Endometrial Cancer References

**Patient Resources for Endometrial Cancer**

- Association of Reproductive Health Professionals [www.arhp.org](http://www.arhp.org)
- Oncolink [www.oncolink.org](http://www.oncolink.org)
- Coalition of Cancer Cooperative Groups [http://www.cancertrialshelp.org](http://www.cancertrialshelp.org)
- National Coalition for Cancer Survivorship (NCCS) [www.canceradvocacy.org](http://www.canceradvocacy.org)
- National Comprehensive Cancer Network (NCCN) [www.nccn.org](http://www.nccn.org)
- National Cancer Institute (NCI) [www.cancer.gov](http://www.cancer.gov)

**“Clinical Pearls” for Gynecologic Malignancies**

- HPV vaccination is critical for prophylaxis for cervical cancer and to prevent genital condylomata (genital warts)
- Cervical cancer screening with Pap is key, leading to cure with early detection. Nurses need to familiar with ACS screening guidelines
- Persistent lower GI & pelvic symptoms: send women to MD to r/o ovarian or colon cancer. BRCA 1, BRCA 2 mutations seen in ovarian.
- Unexplained bleeding in post-menopausal women should always be worked up to rule out endometrial cancer.
- Quality of life is impacted in physical, spiritual, psychological & social domains by a gynecologic cancer diagnosis. Management of treatment side effects (surgery, chemotherapy, biotherapy, targeted therapy, radiation therapy & hormone treatment modalities)
- RNs to address client sexual health needs posed by gynecologic CA.