Female Reproductive Stressors

Professor Thornton

Cancer of the Uterus

Endometrial Cancer

- Most frequently occurring reproductive organ cancer – 1/100 women in US has endometrial cancer
- Approx. 7,400 women will die of uterine cancer in US/2007 (ACS)
- Average age at diagnosis is 60 years with decreasing incidence after 70 years
- Asymptomatic in early development

Pathophysiology

- Adenocarcinoma is the most common type
- Slow growing tumor associated with menopause, arises from glandular part of the endometrium
- Initial growth occurs within the uterine cavity, followed by extension into the myometrium and cervix.
  - Spread by lymphatics, blood and intra-abdominal

Risk Factors for Endometrial Cancer

- At least 55 years, median age 60 years
- Exposure to estrogen (without the use of progesterone)
- Obesity (resulting in increased estrogen production and storage)
- Hyperestrogenism (early menarche, late menopause, dysfunctional uterine bleeding)
- Nulliparity
- Possibly use of Tamoxifen
- DM
- Family History of Uterine Cancer

Assessment

- History
  - Family hx of endometrial cancer
  - Hx of uterine ca, DM, HTN
  - Age
  - Race
  - Obesity
  - Childbearing status
  - Estrogen use

Assessment (cont’d)

- Clinical Manifestations;
  - Post-menopausal bleeding (primary symptom)
  - Watery, serosanguinous vaginal discharge
  - LBP, abdominal and pelvic pain
  - Enlarged uterus (advanced disease)
Late symptoms – signs of metastasis to peritoneal cavity, lungs, liver and bone

8 Diagnostic Assessment
- Pelvic Exam
  - May palpate mass, uterine polyp, enlarged uterus
- Radiology
  - Chest xray
  - Intravenous Pyelography (IVP)
  - Barium enema
  - CT of pelvis/abdomen/bone
- Blood tests
  - CA 125- tumor marker for ovarian involvement
- Biopsy
  - Dilation & Curettage (scraping of endometrium)
  - Endometrial biopsy

9 NON-SURGICAL INTERVENTIONS
- Radiation internal (IRT) and external
- Chemotherapy
  - Doxorubicin (Adriamycin)
  - Cisplatin
  - Cyclophosphamide (Cytoxan)
  - Used singularly or in combination

10 NON-SURGICAL INTERVENTIONS
- Other drug therapy
  - Estrogen dependent and palliative treatment
    - Medroxyprogesterone acetate (Depro-Provera)
  - Megestrol acetate (Megace)

11 SURGICAL INTERVENTIONS
- TAH-BSO – total abdominal hysterectomy and bilateral salpingo-oophorectomy
  - Prognosis good if found early
  - Usually Stage I tumors
- Radical hysterectomy with node dissection
  - Stage II and above

12 Cervical Cancer

13 Cervical Cancer - Overview
- Preinvasive cancer
  - Limited to cervix and usually originates in the transformation zone
- Invasive cancer
  - Found in the cervix and other pelvic structures
  - Metastasis is usually confined to the pelvis, but may spread through lymphs
Incidence/Prevalence

- Cervical cancer occurs in midlife
  - Half of women diagnosed between 35-55
- Most often in Hispanic women
- Estimates of non-invasive (in situ) is 4x more common than invasive
- 5 year survival rate for women with early invasive stage is 92%
- Screening is critical – 20% of women diagnosed are over 65 years, need to educate to continue Pap smears
- Nearly half of all women diagnosed with cervical cancer are found late and have mets locally or regionally.
- Venereal Disease-HPV-About half of all cervical cancers are caused by HPV 16 and 18. Vaccine approved June 8, 2006

RISK FACTORS FOR CANCER OF THE CERVIX

- Low economic status
- Hispanic, African American or Native American
- Early sexual activity (before age 18)
- Oral contraceptives
- Multiple pregnancies (multiparity)
- Multiple sexual partners
- Sex with uncircumcised males
- Women whose partners have history of penile or prostate Ca or previous partner with Ca of the cervix
- Exposure to DES

RISK FACTORS FOR CANCER OF THE CERVIX

- Venereal disease - **HPV
  - HPV 6 &11 found in genital warts.
  - venereal warts, Herpes Type II, Chlymydia Infection Cytomegalovirus
  - Venereal warts – Herpes Type II
  - HIV and or Immunosuppression
  - Nutritional deficiencies Vitamin A,C, folate and beta-carotine
  - Smoking- 29% attributable to smoking
  - Diabetes
  - Family history of cancer

RISK FACTORS FOR CANCER OF THE CERVIX

- Vaccine for HPV-16 Gardasil- (trade name Merck) targets four types of HPV (HPV 6, 11, 16, and 18). Two of those types -- HPV 16 and 18 -- are together responsible for 70% of cervical cancers. Gardasil was 100% effective against these two types.
- Some cervical cancers aren't caused by the types of HPV targeted by the vaccine. Vaccinated women would still need to get Pap tests to check for abnormalities in their cervical cells.

Prevention of Cervical Cancer

- Prevention of pre-cancerous changes
  - Avoid risk factors
  - HPV vaccine

- Detect and treat precancerous changes before development of cancer
  - Pap test

HPV Vaccine
ACIP Provisional Recommendations for the Use of Quadrivalent HPV Vaccine

Date of posting of provisional recommendations: August 14, 2006

Provisional recommendations for use of quadrivalent HPV vaccine:

• Routine vaccination with three doses of quadrivalent HPV vaccine is recommended for females 11-12 years of age. The vaccination series can be started in females as young as 9 years of age.
• Catch-up vaccination is recommended for females 13-26 years of age who have not been vaccinated previously or who have not completed the full vaccine series. Ideally, vaccine should be administered before potential exposure to HPV through sexual contact. More effective if given before exposure.
• Each dose of quadrivalent HPV vaccine is 0.5 mL, administered intramuscularly. Quadrivalent HPV vaccine is administered in a three dose schedule. The second and third doses should be administered 2 and 6 months after the first dose.
• At present, cervical cancer screening recommendations have not changed for females who receive quadrivalent HPV vaccine.

21 Papanicolaou Test (Pap Test)

- First developed in the 1940s.
- From 1955 to 1992, death from cervical cancer decreased 74%, largely due to the pap smear.
- 50% of women with advanced cancer cervical cancer at diagnosis have never had the test
- 10% haven't been screened in 5yrs before diagnosis
- Poor women, uninsured or underinsured, minority women and elderly women less likely to have regular pap smears.
- Educational outreach to this population

22 Pap Test

- IF YOU HAVE ABNORMAL BLEEDING, A WATERY DISCHARGE, OR FOUL WATERY DISCHARGE, YOU MUST HAVE A DIAGNOSTIC TEST TO RULE OUT CANCER. NEVER, NEVER, NEVER, EVER ACCEPT A NORMAL PAP TEST AS PROOF OF THERE BEING NO CANCER.
- At least 10 percent of women with an obvious visible palpable cervical cancer have a non-suspicious Pap test. This is because there is such a large amount of inflammation and necrosis associated with the cancer that all that is on the slide is this debris. The pathologist cannot see the cancer cells in the midst of all the debris.

23 To Improve Accuracy of Pap Test

- Try not to have the test during your period.
- Do not douche for 48 hours before the test.
- Do not have sex for 48 hours before the test.
- Do not use tampons, birth control foams, jellies or other vaginal creams or medicines for 48 hours before the test.

24 Perceived Benefits But Real Hazards of Douching

- Increased vaginal infections- possibly increasing risk of PID
- During pregnancy- lead to pre term labor
- False belief that douching after intercourse can prevent Pregnancy- may actually increase the risk by causing the sperm to enter the cervix.

25 Pathophysiology

- Disorder is a progression from normal cervical cells → premalignant changes (dysplasia) → changes in function and ultimately transformation to cancer

- Cervical cancer Staged I-IV
DIAGNOSTIC EVALUATION

- History and Physical exam
  - Painless vaginal bleeding
  - Watery, blood-tinged discharge that may become foul smelling
  - Weight loss
  - Leg pain or unilateral swelling (late sign)
  - Flank or pelvic pain
  - Dysuria, hematuria

- Pap test
  - First screen approximately 3 years after first sexual intercourse or by age 21 (whichever comes first)
  - Annual Paps and cervical cytology up to age 30
    - ACS recommends yearly cytology and biannual Paps
  - The addition of testing for HPV has been recommended since 5/2002

AMERICAN CANCER SOCIETY GUIDELINES FOR EARLY DETECTION OF CERVICAL CANCER

- All women should begin cervical cancer testing (screening) about 3 years after they begin having vaginal intercourse, but no later than when they are 21 years old. Testing should be done every year with the regular Pap test or every 2 years using the newer liquid-based Pap test.

AMERICAN CANCER SOCIETY GUIDELINES FOR EARLY DETECTION OF CERVICAL CANCER

- Beginning at age 30, women who have had 3 normal Pap test results in a row may get tested every 2 to 3 years with either the conventional (regular) or liquid-based Pap test. Women who have certain risk factors such as diethylstilbestrol (DES) exposure before birth, HIV infection, or a weakened immune system due to organ transplant, chemotherapy, or chronic steroid use should continue to be tested yearly.
  - Another reasonable option for women over 30 is to get tested every 3 years (but not more frequently) with either the regular Pap test or liquid-based Pap test, plus the HPV DNA test (see below for more information on this test).

AMERICAN CANCER SOCIETY GUIDELINES FOR EARLY DETECTION OF CERVICAL CANCER

- Women 70 years of age or older who have had 3 or more normal Pap tests in a row and no abnormal Pap test results in the last 10 years may choose to stop having cervical cancer testing.
  - Women with a history of cervical cancer, DES exposure before birth, HIV infection, or a weakened immune system should continue to have testing as long as they are in good health.
  - Women who have had a total hysterectomy (removal of the uterus and cervix) may also choose to stop having cervical cancer testing, unless the surgery was done as a treatment for cervical cancer or precancer.

AMERICAN CANCER SOCIETY GUIDELINES FOR EARLY DETECTION OF CERVICAL CANCER

- Women who have had a hysterectomy without removal of the cervix (simple hysterectomy) should continue to follow the guidelines above.
  - Some women believe that they do not need exams by a health care professional once they have stopped having children. This is not correct. They should continue to follow American Cancer Society guidelines.
DIAGNOSTIC EVALUATION

- Pap Testing continued
- Women age 30 and older -- There are two acceptable screening options
- Using only cervical cytology test - if negative on 3 (done yearly) tests may be rescreened with cervical cytology newer liquid test alone every 2-3 yrs
- The combined use of a cervical cytology test and a genetic test that looks for human papillomavirus (HPV) – for high risk
- Once women test negative on both tests they should be rescreened – with the combined test q 3 yrs same for ACS
- If only one of the tests is negative more frequent screening.
- Combined testing is not appropriate for women under age 30 may have HPV that may clear up on its own

ASSESSMENT

Pap Testing continued
- If Hysterectomy –
  - Done for cervical cancer or pre-cancer continue testing
When to Discontinue Screening
- ACS- cessation of testing in non-high-risk women at age 70, and the USPSTF by age 65
- Limited studies of older women it is difficult to set an across-the-board upper age limit for cervical cancer screening
- Annual Exams Continue -- annual gynecologic examinations, including pelvic exams, are still recommended.

Classification of Pap Test - Cervical intraepithelial neoplasia (CIN)
- CIN I Mild and mild to moderate dysplasia
- CIN II Moderate and moderate to severe dysplasia
- CIN III severe dysplasia and carcinoma in situ

Colposcopy-and biopsy
- Cold Conization-larger sample needed – a cone shaped section of the cervix is removed- can be diagnostic or treatment
- Loop Electrocautery Excision Procedure (LEEP) uses a thin wire loop that acts like a scalpel. An electric current is passed through the loop, which cuts away a thin layer of the surface cells. Slouhing discharge for several weeks
  - Monitor for;
    - Heavy bleeding (more than your normal period)
    - Bleeding with clots
    - Severe abdominal pain
    - Fever (more than 100.4 degrees Fahrenheit)
    - Foul-smelling discharge

Ct scan
- Lymphangiography
- MRI
- D&C
- Laporoscopy
ASSESSMENT
- Early can be asymptomatic-
- Abnormal Pap
- Leukorrhea- watery discharge - progresses to dark and foul smelling
- Irregular bleeding-
- Later- Mets- pain in back and legs, extreme emaciation and anemia, irregular fever due to secondary infection and abscess in ulcerating mass

INTERVENTIONS
- Laser –
  - Small amt of bleeding
  - Slight vaginal discharge
  - Heals in 6-12 weeks
- Cryotherapy- freezing
  - Slight cramping
  - Heavy watery discharge for several weeks
  - No intercourse
  - No tampons

INTERVENTIONS
- Radiation
  - Intracavity and external beam in combination shrink the tumor and increase effectiveness
- Chemotherapy
  - Generally not effective reserved for unresectable tumors or extensive mets
  - Cisplatin and 5 FU

SURGICAL INTERVENTIONS
- Conization- small section removed
  - Complications
    - Hemorrhage
    - Uterine perforation
    - Incompetent cervix
    - Preterm labor for future pregnancies

SURGICAL INTERVENTIONS
- Hysterectomy- removal of uterus-
  - Total Hysterectomy- uterus and cervix
  - Panhysterectomy- (TAH BSO) (total abdominal hysterectomy- bilateral salpingo-oophorectomy-uterus, cervix, fallopian tubes and ovaries)
  - Radical- abdominal (Wertheim) - uterus, adnexa, proximal vagina and bilateral lymph nodes
**SURGICAL INTERVENTIONS**
- Radical Vaginal Hysterectomy- (Schauta)- uterus, adnexa (adnexa-“appendages” of the uterus, namely the ovaries, Fallopian tubes and ligaments that hold the uterus in place and proximal vagina
- Pelvic exenteration- radical hysterectomy, total vaginectomy, removal of bladder with diversion and resection of bowel with colostomy

**Pelvic Exenteration**

**SURGICAL INTERVENTIONS**
- Vaginal reconstruction
  - Several methods for vaginal and pelvic reconstruction have been described. An omental flap can be accomplished, generally with minimal morbidity, and serves to carpet the raw exposed surfaces of the exenterated pelvis. Myocutaneous grafts, including rectus and gracilis muscle flaps, can be brought into the pelvis and perineum to create pelvic support and a neovagina. Split-thickness skin grafts have also been used to create neovaginas.

**INTERVENTIONS**
- Post OP Assessments
  - Cardiovascular Complications
    - Hemorrhage, shock, DVT and PE
  - Pulmonary
    - Atelectasis and Pneumonia
  - Fluid and Electrolyte
    - Metabolic acidosis or alkalosis and dehydration

**INTERVENTIONS**
- Renal and Urinary complications
- GI- paralytic ileus
- Pain
- Wound infection, dehiscence or evisceration
- Body Image Distrubance

**Ovarian Cancer**

**Ovarian Cancer (A&P Review)**

**Ovarian Cancer Overview**
- Ovarian Ca is the leading cause of death from female reproductive organ malignancies –
ranks 5th in cancer deaths among women (ACS)
- 76% of women with ovarian cancer survive 1 year after diagnosis and 5 years after diagnosis 45% survival rate (ACS)
- Ovarian cancers often metastasize – survival rate with no metastasis for 5 years increases to 93% (ACS)

52 CANCER OF THE OVARY
Risk Factors
- Over 40 – most develop after menopause
- Family history of ovarian cancer
- Nulliparity
- History of infertility
- Birth for the first time over age 30
- Exposure to talc or asbestos
- Endometriosis, and pelvic inflammatory disease

53 CANCER OF THE OVARY
Risk Factors
- History of heavy menstrual bleeding and dysmenorrhea
- North American or Northern European decent
- Personal history of endometrial, colon, or breast cancer
- Obesity especially with high intake of animal fats
- Use of ovulation-stimulating medications for infertility and did not get pregnant
- Post menopausal – over menopause over age 50

54 Pathophysiology
- Three major theories about causes of Ovarian Cancer
  1) Incessant- ovulation- epithelium of ovary mutate with each ovulation- repeated cycles without break in the cycle as in pregnancy increases the chance of mutation (Nulliparity- Use of ovulation- stimulating)

55 Pathophysiology
- Pituitary-gonadotropin hypothesis- overstimulation by the gonadotropins might trigger proliferation and malignant changes.
- Inflammation theory- monthly ovulation possible cause of chronic inflammation and mutation that lead to Cancer.
  Martin, Virginia, Nursing 2005, Vol 35, No 4, pps 36-42

56 Possible Protective Factors
- History of oral contraceptive use
- Giving birth before age 25
- Tubal ligation,
- Breast feeding
- Hysterectomy

57)

ASSESSMENT

DIAGNOSIS TESTING;
- No specific tests
- Pelvic exam
- CA125 antigen- can be elevated in endometriosis, pregnancy, liver disease, or fibroids. Only 50% of women with stage 1 have elevated levels. Not recommended as a screening tool

58)

ASSESSMENT

- Lysophosphatidic acid (LPA) Plasma LPA levels may represent a potential biomarker for ovarian cancer and other gynecologic cancers. LPA stimulates the growth of ovarian cancer cells- may be more specific than CA 125- more tests needed

59)

ASSESSMENT

- Real time vaginal ultrasonography- color enhanced by computer if possible
- Pap smear abnormal
- Ultrasound, CT scan
- Other tests to rule out mets

60)

ASSESSMENT

Ovarian Tumors
- Serous adenocarcinoma most common type and grows rapidly, spreads quickly and often bilateral
- Cause unknown- familial association
- Hormonal association, decreased incidence in oral contraceptive use

61)

ASSESSMENT

CLINICAL MANIFESTATIONS
- Early Stages:
  - Irregular menstruation, menorrhagia
  - Persistent GI symptoms- bloating, early satiety, abdominal pain, indigestion
  - Increasing abdominal girth
  - Change in bowel and bladder habits

62)

ASSESSMENT

- Ascites- causes- channels that drain fluids are blocked by the cancer or cancer cells prevent the absorption of peritoneal fluid. Catheters placed to remove fluid at intervals.
- DVT- hypercoagulability
- Malnutrition
- Lymphedema- tumor block lymphatic drainage
- Pleural effusions- plural fluid production exceeds removal- tumor invades the thoracic duct or ascites weeps through the diaphragm- tunneled indwelling pleural catheter.
INTERVENTIONS
Chemotherapy;
- Standard First line- Cisplatin (platinol) or carboplatin (Paraplatin), with Taxol or Cytoxan.
- Cisplatin and Adriamycin, alkeran and -Interferon
- Interleukins-antitumor activities
- hormone regulation- Tamoxifen, intraperitoneal implants

Additional drug therapy;
- Hexalen (Altretamine)- management of ovarian cancer unresponsive to other agents
- Hycamitin (topotecan)- New drug
- VePesid (Etoposide)
- Thiotepa, 5 FU, and Ifex (Ifosfamide)
- Neupogen

Intra peritoneal chemo
Radiation external
- Alone or in combination with Chemo
Surgical
- TAH-BSO

NURSING CARE FOR HYSTERECTOMY
Pre Op-
- Psychological preparation
- Physical preparation
Post Op-
- post surgical care -
- Prevention of venous stasis and embolism-
- Assess urinary and bowel functions
- Monitor vaginal discharge-
- Shower instead of bath
- Avoid straining, lifting, sexual intercourse or driving until permitted by physician

Prevention Strategies
- Teach women to report signs and symptoms and to report "insignificant symptoms"
- Prophylactic bilateral oophorectomy in high risk women who are finished childbearing
- Use of oral contraceptives and other drugs such as Aspirin and acetaminophen: (Some studies have shown that both aspirin and acetaminophen (Tylenol) reduce the risk of ovarian cancer. But there is some doubt about this. Women should not take these drugs simply to prevent this cancer. More research is needed. American Cancer society March 06)
- synthetic retinoid, fenretinide (A synthetic retinoid that is used orally as a chemopreventive against prostate cancer and in women at risk of developing contralateral breast cancer. It is also effective as an antineoplastic agent. Medical Dictionary on Line.) Mentioned in Nursing 2005 for ovarian cancer