

## *Concepts in Screening for Cervical and Endometrial Cancer*

## Cervical Cancer: Screening

## Gynecologic Cancer: 2004

|                 | Incidence     | Deaths       |
|-----------------|---------------|--------------|
| • Endometrium   | 40,320        | 7,090        |
| • Ovary         | 25,580        | 16,090       |
| • <b>Cervix</b> | <b>10,520</b> | <b>3,900</b> |
| • vulva         | 3,970         | 850          |
| • Breast        | 215,990       | 40,110       |

## Cervical Cancer: Risk Factors

- Age at first intercourse (16 years or younger)
- Multiple sexual partners
- HPV infection or other STD's
- Presence of other genital tract neoplasia
- Smoking
- Immunodeficiency or HIV positivity
- Poor nutrition

## Cervical Cancer: Incidence

- 1950-1970 incidence and mortality fell by 70%
- 1970-1999 rates decreased by 40%

## Cervical Cytology (Pap test, smear)

- Within normal limits
- Precancer
  - Dysplasia
  - CIN
  - SIL
- Cancer

### Cervical Cancer: New Screening Technologies

- Liquid-based cytology (e.g. ThinPrep)
  - developed to improve the sensitivity of screening.
  - No optimal studies to determine sensitivity and specificity of liquid-based cytology.
  - Sensitivity higher but specificity lower.
  - HPV testing can be done
  - More expensive
  - ?reduces deaths of women from cervical cancer

### Cervical Cancer: Screening Interval

- Sawaya et. al., (2000)
  - 2,561 women with normal Pap test at baseline
  - Mean age 66.7 years
  - 110 - abnormal pap test within the next 2 years
  - No women had CIN 2-3 or invasive cancer

### Cervical Cancer: HPV Testing

- HPV DNA testing as a primary screening test
  - NOT FDA approved
  - Hybrid Capture 2 test - 13 HPV types associated with cervical cancer
  - Sensitivity of HC2 for CIN 2-3 is 84%.
  - Many women with transient HPV infection
- ASCUS/LSIL Triage Study (ALTS)
  - HPV testing most useful

### Cervical Cancer: HPV Testing

- ASCUS/LSIL Triage Study (ALTS)
  - ASCUS randomized to:
    1. Immediate colposcopy
    2. Triage-to-colposcopy based on HPV results from HC2 testing
    3. Conservative management
  - HPV testing most useful for ASCUS findings for triage to colposcopy

### Cervical Cancer: Screening Older Women

- Prevalence of CIN highest in women in 20's and 30's
- HSIL are rare in women older than 65 who have been previously screened.
- <1/1000 women 60 years or older at time of neg. Pap test had a new dx of CIN 3+ at repeat testing

### Cervical Cancer: After Hysterectomy

- Rate of vaginal lesions or vaginal cancer in pts s/p hysterectomy for benign disease: 1/1000 Pap tests
- No study has shown that screening for vaginal cancer reduces mortality from it.

Cervical Cytology (Pap test, smear)  
Screening Guideline: 2004

**First Screen**

Previous

- Should begin by the onset of sexual activity or by age 18, whichever occurs first

New

- Should begin by approximately 3 years after first sexual intercourse or by age, whichever occurs first

Cervical Cytology (Pap test, smear)  
Screening Guideline: 2004

**Women up to age 30**

Previous

- No distinction between age groups; i.e., annual cervical cytology screening

New

- Annual cervical cytology screening

Cervical Cytology (Pap test, smear)  
Screening Guideline: 2004

**Women age 30 and older**

Previous

- No distinction between age groups; i.e., annual cervical cytology screening

New

- Cervical cytology alone- if neg. x 3, then every 2-3 years.
- Cervical cytology and HClII- if neg x 1, then every 3 years.

Cervical Cytology (Pap test, smear)  
Screening Guideline: 2004

**S/P Hysterectomy**

For Benign Reasons

- Discontinue screening

For CIN 2 or 3

- Cervical cytology until neg x 3, then discontinue

Cervical Cytology (Pap test, smear)  
Screening Guideline: 2004

**When to discontinue**

Previous

- Medicare: every 2 years

New

- At age 70 in non-high-risk women

Cervical Cytology (Pap test, smear)  
Screening Guideline: 2004

- Begin annual cervical cytology screening 3 years after initiation of sexual intercourse, but no later than 21 years.
- Women younger than 20 years: Annual screening
- 30 years and older (3 consecutive neg. cytology): every 2-3 years except for:
  - History of CIN 2 or 3, cervical cancer
  - HIV positive or immunocompromised
  - Exposure to DES in utero

### Cervical Cytology (Pap test, smear) Screening Guideline: 2004

- 30 years or older: Combination of cervical screening and HPV DNA negative, then every 3 yrs.
- Women s/p hysterectomy with removal of cervix and who have no prior history of CIN 2 or 3 may discontinue screening. If positive history of CIN 2 or 3, wait until 3 consecutive negative smears and then may discontinue.

A 17-year-old woman is seen for gynecologic examination. She has never received a Pap test. She has been sexually active since last year. You would perform a Pap test:

- A. Now
- B. Next year
- C. 2 years from now
- D. At age 21

A 31-year-old woman is seen for an annual gynecologic examination. She underwent a total abdominal hysterectomy at age 26 for CIN and has had neg. Pap tests for the past 5 years. You would tell the patient that:

- A. She does not need Pap tests anymore.
- B. She should continue to receive a Pap test every year.
- C. She should receive a Pap test every 2 to 3 years.
- D. She should receive a Pap test and transvaginal sonogram every year.

### Endometrial Cancer: Screening

### Gynecologic Cancer: 2004

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### Endometrial Cancer: Incidence

- 1974 to present: mortality decreased by 26%
- 1973-1978: 15,000 excess cases - exogenous estrogen use

### Endometrial cancer: Risk factors

Increased exposure to unopposed estrogen

- Hormone replacement therapy
- Obesity
- Anovulatory cycles
- Estrogen-secreting tumors

### Endometrial cancer: Risk factors

- Age
- Nulliparity
- Late menopause
- Hypertension
- Diabetes
- Prior exposure to radiation
- Endometrial hyperplasia with atypia
- HNCCP Syndrome
- Tamoxifen use

### Endometrial Cancer: Screening

- No ideal method for outpt. sampling of endometrium
- No blood test with high sensitivity/specificity
- Mass screening not practical

### Endometrial Cancer: Pap Test and Screening

- Pap test insensitive for screening (Level of Evidence 5)
- Presence of endometrial cells in a Pap test from a postmenopausal woman

### Endometrial Cancer: Transvaginal ultrasound

- Efficacy in asymptomatic women unknown.
- Fleischer, et al., (2001)
  - 1926 women - transvaginal sono
    - 93 women: endometrial stripe > 6 mm
      - 42: endometrial aspiration: 1 adenoca
    - 1833 women: stripe <6 mm
      - 1750: aspiration: 5 abnormal

### Endometrial Cancer: Transvaginal ultrasound

Karlsson et al. (1995)

- 1,168 women with postmenopausal bleeding
  - 114 endometrial cancer
    - 100% with endometrial stripe > 5 mm
  - 112 endometrial hyperplasia
    - 95% with endometrial stripe > 5 mm

### Endometrial Cancer: Tamoxifen and TVS

- Use of 8mm stripe as threshold
- Subendothelial stromal hypertrophy
- Annual screening - 0.03% decrease in mortality

### Endometrial Cancer: Endometrial Sampling and Screening

- Alternative to D&C
- Access to endometrial cavity

### Endometrial Cancer: Screening

#### JUSTIFIED FOR:

- Postmenopausal women on unopposed exogenous estrogens
- Women with families with hereditary nonpolyposis colorectal cancer
- Premenopausal women with anovulatory cycles (PCOD)

### Endometrial cancer should be excluded in:

- Postmenopausal bleeding
- Postmenopausal women with pyometra
- Postmenopausal Pap smears with endometrial cells
- Perimenopausal women with intermenstrual bleeding or heavy periods
- Premenopausal women with abnormal bleeding, esp. if history of anovulation

A 65-year-old woman with a history of breast cancer has been on tamoxifen for the past 10 months. You would:

- A. Do nothing unless she develops vaginal bleeding.
- B. Perform an endometrial biopsy every year.
- C. Obtain a transvaginal sonogram once a year.
- D. Perform hysteroscopy, D&C every year.

Transvaginal sonogram of the above patient shows the endometrial stripe to be 6 mm, and cystic changes are also noted. You would:

- A. Do nothing.
- B. Perform hysteroscopy, D&C.
- C. Repeat sonogram in 6 weeks
- D. Repeat sonogram every 6 months during the duration of tamoxifen therapy