Concepts in Screening for Cervical and Endometrial Cancer

Cervical Cancer: Screening

Gynecologic Cancer: 2004

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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 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 negative 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

**Women up to age 30**
- **Previous**
  - No distinction between age groups; i.e., annual cervical cytology screening
- **New**
  - Annual cervical cytology screening

**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 HCII- if neg x 1, then every 3 years.

**S/P Hysterectomy**
- **For Benign Reasons**
  - Discontinue screening
- **For CIN 2 or 3**
  - Cervical cytology until neg x 3, then discontinue

**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**

**For CIN 2 or 3**
- 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

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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

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<td>• Hormone replacement therapy</td>
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<tr>
<td>• Obesity</td>
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<td>• Anovulatory cycles</td>
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<td>• Estrogen-secreting tumors</td>
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### 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 adenocarcinoma |
| • 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.