Putting Prevention into Practice

An Evidence-Based Approach

Screening for Cervical Cancer

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Case Study

P.J., a 48-year-old woman, presents to your office for a well-woman examination. She has been married for eight years, has no history of sexually transmitted diseases, and has nothing remarkable in her medical history. She asks whether you will be performing a Papanicolaou (Pap) smear during today's visit. In her record, you note that she had a human papillomavirus (HPV) test and a Pap smear three years ago, both of which were negative. P.J. states that her 19-year-old daughter recently became sexually active and wonders whether she should schedule a Pap smear for her daughter.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF), how should you respond to P.J.'s request for herself and her daughter?

- ☐ A. You should perform a Pap smear on P.J. at this appointment and schedule an appointment for a Pap smear for her daughter next week.
- ☐ B. You should suggest that P.J. have an HPV test instead and that her daughter does the same.
- ☐ C. You should tell P.J. she can wait another two years and get an HPV test alone or in combination with the Pap smear and that her daughter should have her first Pap smear at 21 years of age.
- ☐ D. You should tell P.J. she should get her Pap smear today and that her daughter should get an HPV test soon.

2. Which of the following harms are associated with screening for cervical cancer?

- ☐ A. Vaginal bleeding, pain, and infection from colposcopy and cervical biopsy.
- ☐ B. Increased risk of hysterectomy.
- ☐ C. Increased risk of cervical incompetence and risk of preterm labor resulting from treatments for precancerous lesions or cancer.
- ☐ D. Short-term increase in distress.

3. According to the USPSTF recommendation, when should P.J. stop being screened for cervical cancer?

- ☐ A. After 70 years of age unless she reports a new sex partner.
- ☐ B. At 65 years of age if she has had two or three consecutive negative screens in the previous five to 10 years.
- ☐ C. Anytime.
- ☐ D. At 55 years of age.

Answers appear on the following page.

See related U.S. Preventive Services Task Force Recommendation Statement at https://www.aafp.org/afp/2019/0215/od1.html.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and supporting documents on the USPSTF website (https://www.uspreventiveservicestaskforce.org). The practice recommendations in this activity are available at https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/cervical-cancer-screening2.

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CME **This clinical content** conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 223.

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Answers

1. The correct answer is C. The USPSTF recommends screening for cervical cancer every three years with cervical cytology alone, every five years with high-risk HPV (hrHPV) testing alone, or every five years with hrHPV testing in combination with cytology (cotesting) in women 30 to 65 years of age.[1] Screening more frequently than every three years with cytology alone confers little additional benefit, with a large increase in harms, including additional procedures and assessment and treatment of transient lesions. Evidence from randomized clinical trials, observational studies, and modeling studies suggests that a five-year screening interval for primary hrHPV testing alone or cotesting offers the best balance of benefits and harms.[2,3] The USPSTF recommends screening for cervical cancer every three years with cervical cytology alone in women 21 to 29 years of age. Screening women younger than 21 years does not reduce cervical cancer incidence or mortality. Cervical cancer is rare in patients younger than 21 years; screening in this age group, regardless of sexual history, leads to more harms than benefits because abnormal test results are likely to resolve on their own.

2. The correct answers are A, C, and D. Although follow-up tests and colposcopies are essential to detection of cancer, they represent a burden and risk to patients and are a proxy measure for downstream harms. Therefore, screening strategies that minimize the number of tests and colposcopies per each cancer case averted are desirable. Screening with cervical cytology and hrHPV testing can lead to harms, including more frequent follow-up testing and invasive diagnostic procedures (e.g., colposcopy, cervical biopsy), as well as unnecessary treatment in women with false-positive results. Evidence from randomized clinical trials and observational studies indicates that harms from diagnostic procedures include vaginal bleeding, pain, and infection.[2] Abnormal screening test results are also associated with psychological harms, including distress.[1] Primary hrHPV testing has been found to result in high rates of positive tests in women younger than 30 years of age, in which HPV infections are likely to resolve spontaneously. The high frequency of transient HPV infection among women younger than 30 years can lead to unnecessary follow-up diagnostic and treatment interventions with potential for harm. Evidence from observational studies indicates that certain treatments for precancerous lesions (e.g., cold conization, loop excision) are associated with subsequent adverse pregnancy outcomes, such as preterm delivery and related complications.[2]

3. The correct answer is B. Evidence from randomized clinical trials and decision modeling studies suggests that screening beyond 65 years of age in women with adequate screening history would not have significant benefit.[2,3] The current guidelines by the American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology define adequate screening as three consecutive negative cytology results or two consecutive negative hrHPV results within 10 years before stopping screening, with the most recent test performed within five years.[4] The decision to stop screening at 65 years of age should be made only after confirming that the patient has received prior adequate screening.

The views expressed in this work are those of the authors and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the U.S. government.

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