Beyond the Pap Smear: A Novel Approach to Cervical Cancer Screening

What is the optimal approach to cervical cancer screening?

What has long been the “state of the art” for cervical cancer screening in primary care? Everyone would appropriately answer the Pap smear, of course. Has it worked? Despite false-positive and false-negative results, it has decreased the incidence of and mortality consequent to cervical carcinoma.

Things may be changing, however. Today, it is known that human papillomavirus (HPV) is “obligatory” to the development of cervical cancer.1 Testing for HPV combined with cervical cytology has already been approved as an alternative to the Pap smear alone in women older than 30 years. Two tests for HPV are used: a first-generation assay for HPV of any type and a Cobas test for HPV 16 and 18 individually and then, in addition, other high-risk strains collectively.2

THE CASE FOR LONGER SCREENING INTERVALS

The authors of the prospective study3 hypothesized that it may be safe to extend screening intervals to 3 years in women who test negative for HPV with a concurrent normal Pap smear and that co-testing (that is, Pap plus HPV) might identify women at high risk for cervical cancer or cervical intraepithelial neoplasia grade 3 (CIN3) over a duration of 5 years. The preceding HPV story has already proven that a positive assay for either HPV 16 or HPV 18 is associated with high-grade CIN with a 93% sensitivity compared with cytology’s success rate of only 53.3% in the same clinical setting.2

In the new study, in 315,061 women who tested negative for HPV, the 5-year cumulative incidence of cancer was 3.8 per 100,000 per year, which is higher than the 3.2 figure for women with negative HPV and cytology tests, and half the cancer risk (7.5) of those women who had negative Pap smears only.2 Abnormal cytology plus a positive HPV test—compared with an abnormal cytology with a negative HPV test (n = 16,757)—increased the likelihood of CIN3 or a worse lesion significantly (12.1% versus 5.9%; P < .0001).

LESSONS LEARNED FROM THIS STUDY

What have the authors and commentators surmised from this large and well-designed study?

• “For women ages 30 years and older in routine clinical practice who are negative by co-testing (that is for both HPV and cytology), 3-year screening intervals were safe because a single negative test for HPV was sufficient to reassure against cervical cancer over 5 years.”3

• “Incorporating HPV testing with cytology also resulted in earlier identification of women at high risk of cervical cancer, especially adenocarcinoma.”3

• Time and further studies will tell, but “testing for HPV without adjunctive cytology might be sufficiently sensitive for primary screening for cervical cancer.”3

• The DNA test for the cancer-causing HPV strains (16 and 18) identifies high-grade cervical lesions better than cytology.2

• Co-testing with HPV plus cytology, versus HPV alone, increased negative predictive values slightly (from 99.5% to 99.7%), but also substantially increased the likelihood of a positive screen leading to colposcopy (35%).2

• “Guidelines for cervical cancer screening have to be changed in the near future” (in light of the study’s results).3

Although cost-effectiveness data were not available, there will most likely be a change in how primary care practitioners screen for cervical cancer. HPV assays will probably replace or assist the predictive value of cytology.

REFERENCES:


Dr Rutecki reports that he has no relevant financial relationships to disclose.

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Dr Rutecki invites your comments. You are welcome to visit our official Web site, www.Consultant360.com, and post your comments and questions.

The Editors