Ovarian Cancer Screening: A Look at the Evidence

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In 2005, more than 22,000 American women were diagnosed with ovarian cancer and 16,000 women died from the disease. The five-year relative survival rate for stage III and IV disease is 31%, and the five-year relative survival rate for stage I is 95%. Early diagnosis should lower the fatality rate. Unfortunately, early diagnosis is difficult because of the physically inaccessible location of the ovaries, the lack of specific symptoms in early disease, and the limited understanding of ovarian oncogenesis. Screening tests for ovarian cancer need high sensitivity and specificity to be useful because of the low prevalence of undiagnosed ovarian cancer. Because currently available screening tests do not achieve high levels of sensitivity and specificity, screening is not recommended for the general population. The theoretical advantage of screening is much higher for women at high risk (such as those with a strong family history of ovarian cancer and those with BRCA 1 or BRCA 2 mutations). However, even for women at high risk, no prospective studies have shown benefits of screening. The public health challenge is that 90% of ovarian cancer occurs in women who are not in an identifiable high-risk group, and most women are diagnosed with advanced-stage disease. Currently available tests (CA-125, transvaginal ultrasound, or a combination of both) lack the sensitivity and specificity to be useful in screening the general population. Ongoing clinical trials are assessing whether new tumor markers, including those generated by proteomic and genomic studies, will prove useful.

At a Glance

✦ Most ovarian cancer is diagnosed at stage III or IV in women who are not identified as being at high risk for the disease.
✦ Early diagnosis is difficult because of the inaccessibility of the ovaries for screening and the vague symptoms of early-stage disease.
✦ Screening is not recommended for the general population because of the high number of false negatives and false positives generated by currently available tests. However, new tumor markers and proteomic analysis are being studied for ovarian cancer screening.

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