

## Clinical Pathology Selected Abstracts, 2/14

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### **Comorbidity-adjusted life expectancy: a new tool to aid cancer screening strategies**

Controversy surrounds how best to use cancer screening tests in the elderly and at what age to stop screening. The benefits of early cancer diagnosis and treatment decline with age because many elderly people are more likely to die of a comorbid condition or other cause than of cancer. This impacts the survival benefits of early cancer detection. One must also consider the harms of screening, including complications of further testing and treatment for a disease that may not be symptomatic in a patient's lifetime. Many guidelines recommend cancer screening with consideration of health status and life expectancy in the elderly. The authors conducted a study to estimate the life expectancy for elderly people without a history of cancer but taking into account comorbid conditions. They used a population-based cohort of Medicare beneficiaries aged 66 years or older between 1992 and 2005 who did not have a history of cancer. Survival probabilities were estimated by comorbidity group for the three most prevalent conditions: diabetes, chronic obstructive pulmonary disease, and congestive heart failure. Comorbidity-adjusted life expectancy was calculated based on comparisons of survival models with U.S. life tables. Results showed that people with higher levels of comorbidity had shorter life expectancies, while those with no comorbid conditions had favorable life expectancies. The estimated life expectancy at age 75 was three years longer for people without comorbid conditions. The authors concluded that life expectancy varied based on comorbid status in elderly people, and this may be used as a tool to help physicians establish individualized cancer screening for the elderly. However, they noted the importance of discussing with patients the complex decision of whether to continue or stop screening.

Cho H, Klabunde CN, Yabroff KR, et al. Comorbidity-adjusted life expectancy: a new tool to inform recommendations for optimal screening strategies. *Ann Intern Med.* 2013; 159:667-676.

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### **Melanoma epidemic: analysis of six decades of data from a tumor registry**

Melanoma is an increasingly common form of fatal skin cancer that leads to approximately 50,000 annual deaths worldwide. Understanding the long-term trends in the increase in incidence and mortality is important for predicting resources for future health services and creating cancer-control screening strategies to decrease the incidence and severity of the cancer. The authors conducted a study to assess long-term trends in the incidence and mortality of melanoma in a state with complete and consistent registration. They used data from the Connecticut Tumor Registry from 1950 to 2007 to determine trends in invasive melanoma, in situ melanoma, tumor thickness, mortality, and mortality to incidence in Connecticut residents diagnosed with invasive melanoma and who died of melanoma. The authors identified 19,973 malignant melanomas diagnosed in white Connecticut residents between the ages of 20 and 84 years. They noted that in the initial period of 1950 to 1954, a diagnosis of invasive melanoma was rare, with 1.9 cases per 100,000 for men and 2.6 per 100,000 for women. However, between 1950 and 2007, the overall incidence rate rose more than 17-fold in men and more than nine-fold in women. This trend was even more pronounced in middle-aged and older people, and this was most evident for women older than 40 years. The rate of in situ melanoma also increased over time as did the rate of mortality for men at age 55, with the largest increase in men older than 65 years. The authors concluded that these results support a need for a nationally coordinated effort to strengthen and promote the primary prevention and early detection of melanoma. The increase in young women, specifically, suggests a need for better education and passage of sun-protection policies, as well as restrictions on tanning bed use in youths. Middle-aged and older

men, who are also a high-risk population, should receive education and early screening.

Geller AC, Clapp RW, Sober AJ, et al. Melanoma epidemic: an analysis of six decades of data from the Connecticut Tumor Registry [published online ahead of print September 16, 2013]. *J Clin Oncol*. doi:10.1200/JCO.2012. 47.3728.

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## **Voided midstream urine culture and acute cystitis in premenopausal women**

Urinary tract infection is diagnosed by the presence of bladder bacteriuria and is a commonly encountered health problem in the outpatient setting. The ideal specimen for testing is urine collected by suprapubic aspiration or catheter. However, these techniques are rarely performed due to discomfort, inconvenience, and the potential for adverse complications. The most common way to collect samples for bacterial testing and antimicrobial susceptibility is from the midstream portion of voided urine. However, this method causes difficulties in distinguishing if the bacteriuria originates from the bladder or is a periurethra contaminant. The authors conducted a study in which they performed a paired comparison of specimens of midstream urine and urine collected by a urethral catheter in women with episodes of cystitis. They collected urine from women who were 18 to 49 years old using the two methods and compared microbial species and colony counts in the paired specimens. The authors compared the positive predictive values and negative predictive values of organisms grown in midstream urine with those of the organisms in catheter urine. The results showed that cultures were positive in 70 percent of catheter specimens and 78 percent of midstream specimens. The presence of *Escherichia coli* in midstream urine was highly predictive of bladder bacteriuria, even at very low colony counts. However, enterococci and group B streptococci were not predictive of bladder bacteriuria at any colony count. Of interest, in the 41 episodes in which enterococci or group B streptococci, or both, were found in midstream urine, *E. coli* grew from the catheter urine cultures in 61 percent. The authors concluded that cultures of voided midstream urine with acute uncomplicated cystitis showed evidence of a very low positive predictive value for enterococci and group B streptococci but a high positive predictive value for *E. coli*. Their findings indicated that enterococci and group B streptococci only rarely cause acute uncomplicated cystitis. The results of this study may help guide treatment of patients with low-quantity or mixed *E. coli* infections.

Hooton TM, Roberts PL, Cox ME, et al. Voided midstream urine culture and acute cystitis in premenopausal women. *N Engl J Med*. 2013; 369:1883-1891.

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