Reflections on stopping screening
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Story from the Front Lines

A woman in her 60s presented to clinic to establish care. Prior to her appointment, her medical records from her previous physician were faxed over to the clinic. These included some progress notes, recent laboratory values, a current medication list, as well as preventative medicine documentation including pertinent cancer-screening tests. Her records indicated that approximately one year ago she was diagnosed with stage IV non-small cell lung cancer, metastatic to her liver and spine. A recent note from her oncologist discussed her palliative chemotherapy regimen.

Medical records indicated that she was recently referred for screening colonoscopy and mammography. Her mammogram was not yet performed, however, there was a screening colonoscopy report from 6 months prior that was normal apart from some hyperplastic polyps. At the time of her colonoscopy it was explained that she would not require any further cancer screenings. She inquired why she had received a colonoscopy, becoming visibly upset stating that she tolerated the prep poorly, and was "miserable for two days after the procedure because my stomach hurt."

Teachable Moment

Although there have been improvements in referrals for cancer screening, data indicates there is still significant underuse of appropriate cancer screening (1). As such, there have been campaigns designed to increase public awareness, along with trials looking at methods to improve uptake of cancer screening. These include electronic reminders and notifications of overdue cancer screening for patients. However, when deciding to initiate screening multiple factors should be assessed. These include age, risk factors, comorbidities, life expectancy, efficacy and appropriateness of the screening test, and patient preference. While potentially helpful, these EMR notifications have the potential to result in medical overuse via ordering of inappropriate tests and procedures. The "notification fatigue" that can come from too many alerts may result in the placement of unnecessary orders to clear the notification.

While multiple trials suggest underutilization of cancer screening, there is also data to suggest concurrent overutilization (1, 2, 3). Sima et al. (2010) performed a retrospective cohort analysis of cancer screening in individuals over 65 years old with advanced lung, colorectal, pancreatic, gastroesophageal or breast cancer with age-matched cancer-free controls. Median survival in the cohort studied was about 2 years. Among women with advanced cancer, 8.9% had at least one screening mammogram performed over the seven years of follow up (2). 1.7% of individuals with advanced cancer underwent a screening endoscopy (2). In 1996, the United States Preventative Task Force recommended not performing Papanicolaou (Pap) smears in women post-hysterectomy, however a 2002 study suggested that 69.1% of women without a uterus still had a Pap smear completed (3).

Regarding the time-to-benefit for cancer screening, although different cancers develop and progress at different rates, there is a significant lag time to benefit for cancer screening since patients are asymptomatic at the time of screening and screen detected tumors tend to be slower growing. For example, regarding colorectal cancer, data suggests that it takes 4.8 years after screening for one death to be prevented per 5000 screened and 10.3 years to prevent one death for every 1000 screened (4).

Finally, once the clinician feels inclined to suspend cancer screening, how should it be addressed with the patient? A recent study in JAMA addressed this (5). Interestingly, the study indicated that many patients felt that clinicians are poor predictors of life expectancy, and more important in the decision to discontinue screening was a trusting relationship with their physician. They responded better to direct statements such as “this test would not help you live longer”. This suggests that a patient-centered approach to cancer screening is critical in making these decisions, and would have likely benefited the patient in this case.

1. Yabroff, K. R., Klabunde, C. N., Yuan, G., et al. (2011). Are physicians' recommendations for colorectal cancer screening guideline-consistent? *Journal of General Internal Medicine,26*(2), 177-184.

2. Sima, C. S., Panageas, K. S., & Schrag, D. (2010). Cancer Screening Among Patients With Advanced Cancer. *Jama,304*(14), 1584-1591. doi:10.1001/jama.2010.1449

3. Sirovich, B., & Welch, G. (2004). Cervical Cancer Screening Among Women Without a Cervix. *Jama, 292*(13), 2990-2993. doi:10.1001/jama.292.13.1550-a

4. Lee, S., Bascardin, J., & Stijacic-Cenzer, I. et al. (2013). Time lag to benefit after screening for breast and colorectal cancer: meta-analysis of survival data from the United States, Sweden, United Kingdom, and Denmark. *BMJ, 24*(3), 235-237. doi:10.1016/j.breastdis.2013.07.040

5. Schoenborn, N. L., Lee, K., Pollack, C. E., et al. (2017). Older Adults' Views and Communication Preferences About Cancer Screening Cessation. *JAMA Internal Medicine*. Epub ahead of print. doi:10.1001/jamainternmed.2017.1778