Editorials

Screening and Surveillance for Colorectal Cancer: Avoiding the Pitfalls of Overscreening

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Several years ago, my father-in-law, then 90 years of age, was contacted by his gastroenterologist, who told him it was time for his next colonoscopy. He had a small, benign polyp removed a few years earlier, but he had no high-risk indications. My wife (a registered nurse) and I both advised him against the procedure, but he did not want to question his gastroenterologist's advice. He had the examination one morning and developed increasing abdominal pain by the afternoon. That night, he was taken to the emergency department, where he was found to have fever and low blood pressure, and he was admitted to the hospital. He had a rough time the first 24 hours but recovered after several days of treatment with antibiotics. Luckily, he managed to survive his screening procedure.

Although much has been written about the need to encourage colonoscopy in underscreened populations, overscreening for colorectal cancer is now recognized as a problem that can lead to harm. Overscreening joins its counterparts of overdiagnosis and overtreatment, adding up to millions of unnecessary interventions every year in the United States. Some of these may seem innocuous, but inappropriately put patients at risk, such as antibiotic prescriptions for upper respiratory tract infections, whereas others can cause lasting harm and even death, as outlined in a landmark Institute of Medicine report.[1] Screening for colorectal cancer, a topic reviewed in this issue of *American Family Physician*,[2] is one of many interventions affected by overscreening.

In brief, overscreening refers to screening interventions performed at intervals or ages above or below those that are generally recommended. This problem does not usually stem from lack of evidence or guidelines. Screening for colorectal cancer has a long history of multispecialty guidance; there is widespread consensus on when to screen, whom to screen, how often to screen, and how often to perform follow-up surveillance colonoscopy once an abnormality has been found.[3] We also have guidance about when to stop screening.[4,5] However, these national multispecialty guidelines are regularly not followed in clinical practice.

One survey of approximately 75,000 Medicare beneficiaries concluded that almost one in four colonoscopies was potentially inappropriate, and nearly one in five was probably inappropriate. There was wide geographic variation, as well as practice variation among the nearly 800 colonoscopists studied.[6] Another survey involving 10 primary care practices showed that gastroenterologists' recommendations for follow-up colonoscopy were inconsistent with contemporaneous guidelines 60% of the time.[7]

One might argue that surveillance colonoscopy (follow-up after detection of an abnormality, such as cancer or polyp) should be given more weight than screening colonoscopy in asymptomatic persons. Maybe my father-in-law's previous polyp mattered? Probably not. A study of surveillance colonoscopy in 4,834 patients 75 years and older showed a very low incidence of colorectal cancer detection (N = 5), and a substantial rate of postprocedure hospitalization (N = 527). The incidence of colorectal cancer among older patients undergoing surveillance colonoscopy was only 0.24 per 1,000 person-years. The authors concluded that age and comorbid illness should be taken into consideration before routinely recommending surveillance colonoscopy in older patients.[8] Yet, this commonsense recommendation is often not followed. In an analysis of more than 27,000 individuals 65 years and older, there was a high incidence of cancer screening, including colorectal screening, in those with limited life expectancy, and such screening was deemed unlikely to provide net benefit.[9]

Overscreening can exact a toll in morbidity, mortality, and/or cost, especially among older individuals. A modeling study of more intensive colonoscopy screening in Medicare beneficiaries projected outcomes when surveillance colonoscopy was performed more often than recommended (interval of three to five years instead of 10 years) and later than recommended (at 85 to 95 years of age instead of 75 years). All scenarios resulted in a net loss of quality-adjusted life-years (QALYs), with one exception: shortening the screening interval from 10 to five years resulted in less than one (0.7) QALY gained per 1,000 beneficiaries. However, this modest gain required more than 900 additional colonoscopies and more than $700,000 per additional QALY gained.[10]

To combat the problems of overscreening, overdiagnosis, and overtreatment, *AFP* is joining with other medical journals and organizations to foster best practices, and to prompt primary care and subspecialty physicians to choose more wisely when considering nonbeneficial ▶

interventions, such as recommending colonoscopies for 90-year-olds.[11] For example, we have created a customized search tool to highlight recommendations from the Choosing Wisely campaign geared toward primary care.[12,13] We are also publishing a series of editorials on overscreening, overdiagnosis, and overtreatment.[14-16] We welcome suggestions from readers about ways we can help improve care, reduce harm, and promote better outcomes for patients.

EDITOR'S NOTE: Dr. Siwek is editor of *AFP*.

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