Colorectal Cancer and the Elderly

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KEYWORDS

• Colorectal cancer • Colonoscopy • Screening • Surveillance • Elderly • Very elderly • Adverse events • Quality

KEY POINTS

- Colorectal cancer and adenomas are common in the elderly.
- Colorectal cancer screening can be beneficial to patients, but at some ages and under certain circumstances the harm of screening outweighs the benefits.
- Increasing adverse events, poorer bowel preparation, and more numerous incomplete examinations are observed in older patients undergoing colonoscopy for diagnostic, screening, and surveillance purposes.
- Decisions regarding screening, surveillance, and treatment of colorectal cancer require a multidisciplinary approach that accounts not only for the patient's age, but their health status, preferences, and functional status.

INTRODUCTION

Colorectal cancer is the third leading cancer diagnosed and cause of cancer-related deaths in the United States. In 2013, nearly 143,000 people will be diagnosed with colorectal cancer, 51,000 of whom will die of the disease.[1] Age is an important risk factor in the development of colorectal cancer, with its incidence doubling each successive decade between the ages of 40 and 80 years.[2]

Colorectal cancer disproportionately affects the elderly, necessitating the need for screening and surveillance in this group. However, screening and surveillance decisions in the elderly can be challenging. For example, the definition of elderly based on age alone may not properly capture the appropriateness of screening in an individual. The World Health Organization defines elderly as persons older than 65, yet it is well known that persons of this age are a heterogeneous group, ranging from people of sound health with a long life expectancy to those with multiple comorbid medical conditions, declining cognitive function, and impaired functional status.

Funding: None.
Conflicts of Interest: None.
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Clin Geriatr Med 30 (2014) 117–131
http://dx.doi.org/10.1016/j.cger.2013.10.004 geriatric.theclinics.com
0749-0690/14/$ – see front matter

This review addresses several of the complexities and challenges in colorectal cancer screening and surveillance in this rapidly growing and heterogeneous population. First, the authors review the epidemiology and clinical presentation of colorectal cancer in the elderly, and how it differs from that in younger patients. Second, the efficacy of screening modalities and the safety of colonoscopy in the elderly are reviewed. Lastly, data regarding when not to screen a patient based on age is discussed.

EPIDEMIOLOGY

Colorectal cancer is common in the elderly and steadily becomes more frequent as one ages. Approximately 90% of new colorectal cancers are diagnosed in patients older than 50 years (**Fig. 1**).[1] The median age of patients diagnosed with colorectal cancer in the United States is 69 years. Under the age of 65 the incidence of colon cancer is low, at 11.4 per 100,000 persons, but this increases exponentially to 176.1 per 100,000 persons in people older than 65, a trend that is mirrored between both sexes and all racial backgrounds with respect to age.[1] Similar observations are noted with regards to rectal cancer (**Fig. 2**).

Precancerous adenomatous polyps and advanced adenomatous polyps (polyp size $\geq$10 mm, villous/tubulovillous histologic features, high-grade dysplasia) all have an increased prevalence and incidence in relation to age.[3–5] Prevalence of adenoma and advanced adenoma in persons 70 to 75 years of age double that of persons 40 to 49 years old (**Box 1**).[3,6,7]

Age seems to play a role in several other factors related to polyps. Larger-sized polyps and more right-sided polyps are found in older patients.[8] Moreover, older men have a greater prevalence of adenomatous polyps than older women.

The presentation of colorectal cancer is similar in younger and older patients, although there is a greater detection of proximal cancer in older patients[5] and older patients may be less likely to present with no symptoms.[9,10] Although no one presenting symptom predominates in elderly patients, it should be recognized that elderly patients may have a more subtle presentation, such as vague abdominal pain or a new anemia. Such symptoms cannot be attributed to other causes, and deserve a thorough cancer evaluation in the elderly (**Box 2**).

The recurrence of adenomas and colorectal cancer after diagnosis during colonoscopy does not seem to be influenced by age. Numerous studies have consistently demonstrated that adenomatous polyp recurrence is not affected by patients' age,[11–13] with only one study showing a slight increase in polyp recurrence with age.[14] Instead other factors such an index polyp size (polyp $\geq$1 cm),[12] number of

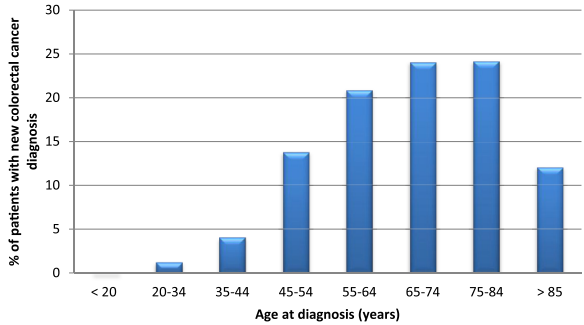

Fig. 1. Distribution of patients with colorectal cancer stratified by age.