ISSUE 11

The Bottom Line

Vaughan Endoscopy Clinic (VEC) is a **state of the art** out-of-hospital endoscopy clinic providing **Screening colonoscopy and endoscopy** for the work up of mild gastrointestinal disorders. It is staffed by **gastroenterologists.**

In addition to the endoscopic services, they will provide all the necessary **GI follow-up** and make all the appropriate referrals required due to findings at the endoscopy.

The Medical Director has been an active participant at the CPSO in the development of **standards for out-of-hospital clinics**, all of which VEC adheres to.

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In addition to high quality and convenient access to endoscopy, the doctors at VEC will provide you with supplemental practical GI advice through this periodic newsletter. This article is written by Dr. David Kreaden (a gastroenterologist from Humber River Regional Hospital).

Colon Cancer Screening and Surveillance in the Elderly Patient

As we know colon cancer is common and is the third most common cancer diagnosed in both men and women and the third leading cause of cancer related deaths. It is well-established that screening program saves lives but has not focused on or included older patient populations. We are frequently faced with deciding whether elderly patients who have never been screened before should undergo screening colonoscopy and when we should stop doing surveillance procedures in those who had previously demonstrated benign or malignant neoplasia.

Colorectal cancer doubles each successive decade between ages 40 and 80. The elderly defined by WHO as ≥ 65 are disproportionately affected by colorectal cancer. In addition to the rise of colorectal cancer rates there is of course an increase in the amount of comorbidity patients develop as they get older which may counter the benefits of screening and cancer prevention. In fact, the United States Preventive Services Task Force recommends **against screening in patients >75**.

Therefore, there are a number questions one has to ask in considering the elderly patient for screening or surveillance colonoscopy.

So what is the incidence and prevalence of cancer and adenomas in elderly patients and does age play a factor?

As mentioned the incidence rate increases steadily with age. The elderly constitute the greatest proportion of new diagnosis of colon cancer with 24.4% of new cancers diagnosed in persons 64-74 years; 26.8% – 75-84 years and 12.2% in persons >85 years or in other words greater than 60% of cancers are diagnosed in those 64 years of age and older. The prevalence of adenomas also rises as expected after age 65 and continues to escalate sharply. In addition observations from both autopsy and colonoscopy suggest that older patients have higher predominance of right-sided adenomas and may have larger adenomas.

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Does increasing age influence recurrence of new polyps or cancer detected after screening colonoscopy and should surveillance recommendations be tailored by age? Studies would suggest that the elderly are not at a significantly increased risk for recurrence of either new adenomas or colon cancer after previous screening colonoscopy.

At what age does screening cease to provide an important potential extension in life expectancy and therefore should not be offered?

Here we have to consider a number of counterbalancing issues. We know that colorectal cancer increases with age. We also know that mortality due to comorbidities, risk associated with screening and natural life expectancy play a much greater role in older age groups. In one study Inadomi and Sonnenberg illustrated that screening colonoscopy resulted in a significantly shorter extension of life in elderly patients (70-74 years) versus younger patients (50-54 years).Lin et al. demonstrated a 6.5 fold difference between mean extension of life expectancy in patients ≥ 80 versus younger patients (50-54) and in the study absolute extension of life expectancy was only .13 versus .85 years respectively for each group. This would confirm what common sense would suggest that the net benefit of colonoscopy screening as measured by extension of life expectancy diminishes with age given the above factors.

Decreasing the age at which a patient stop screening has been shown on several occasions to result in **minimal reductions** in life years gained. In addition, many of the assumptions and models are based on average life expectancy of around 78 years which may not be valid in certain populations.

While published guidelines have addressed acceptable screening methods and intervals, few have addressed when to discontinue CRC screening and particularly colonoscopy. However, in 2008 the United States Preventative Services Task Force recommended against routine colorectal cancer screening in patients aged 76-85 but cautioned that individual considerations such as health status of the patient should favor into this decision. Furthermore it was also recommended against any screening in patients older than 85 regardless of health status and this recommendation is based on risks of screening likely outweighing potential benefits in majority of patients ≥ 85.

Do a patient's co morbid medical conditions influence the benefit from CRC screening in the elderly and should this be used in the decision to screen?

Naturally comorbidity increases with advancing age and figure in significantly in the decision as to whether patients should undergo screening. Examples include MI, heart failure, CVA, dementia etc. Two retrospective studies yield similar conclusions in that comorbidity conditions reduce benefit of screening. In the first study, Kahi retrospectively examined a group of VA patients >75 who had underwent colonoscopy and followed for five years. In their cohort of 404 patients a small number of eight patients (2%) were diagnosed with colorectal cancer. In their study, majority of patients overwhelmingly passed away from other illnesses such as cardiovascular and pulmonary disease as well as non--GI malignancies. Only a small fraction died as a result of colorectal cancer. Only **age and severity of comorbidity** were predictive of mortality in patients who had undergone colonoscopy. In a second study, Gross et al. examined 35,755 **early-stage colorectal cancer** patients and found reduction in life expectancy of 60% in men and 70% in women (at 67 years) in patients with three chronic medical conditions compared with patients with no chronic conditions. These data imply that survival, even with early diagnosis of colorectal cancer is more strongly associated with the number of coexisting illnesses rather than age. They also demonstrated that patients with a greater burden of chronic disease had poor survival after CRC cancer therapy.

Both the studies demonstrated that burden and severity of comorbidity decreases the net benefit from screening. In other words, comorbidity is associated with decreased survival after treatment of CRC, even when CRC detected early by screening; secondly patients with more severe comorbidity succumbed to other diseases other than CRC even in the setting of screening.

Does age have an important role in adverse events in patients who undergo colonoscopy and are some adverse events more likely than others in the elderly?

A recent systematic review examined all available data on the elderly and colonoscopy complications. There combined adverse event rate defined by endpoint of perforation, bleeding and CV/pulmonary events for patients >65 was 25.9/1000 colonoscopies and 34.8/1000 colonoscopies for patients ≥ 80 and these rates are higher than what is reported for all patients undergoing colonoscopy. In addition the authors found 80-year-olds had a 70% greater risk of experiencing an adverse event versus younger patients. Concerning colonic perforation for example the risk has consistently been shown to be influenced by age and individuals >65 have a 30% higher risk of developing a perforation versus younger patients. Possible explanations include greater prevalence of diverticulosis, more tortuous colons, and higher rates of CRC resulting in obstruction and greater detection of polyps that require therapeutic intervention. Age is also a factor in post-polypectomy bleeds with older patients having more severe post-polypectomy bleeding and greater blood transfusion requirements. It would also appear that cardiovascular and pulmonary adverse outcomes were greater in older patients.

In summary, decisions about CRC screening and surveillance in older patients are difficult and challenging. Clearly, advancing age is associated with both CRC and adenomas necessitating the need for screening in older patients. However, after screening colonoscopy the detection of recurrent CRC and adenomas is unaffected by age suggesting that current guidelines for surveillance do not need alteration based on age.

Controversy develops as to **when to stop screening and surveillance in older patients**. At certain ages it appears that the risks and increased resources used outweigh potential benefits to the older patient. Furthermore, comorbid medical conditions of which older patients have a higher burden have an important role in CRC screening as patients with more severe and greater comorbidity have less benefit from screening.

Bibliography:

1. Day, Walter, Velayos; AJG 2011; 106:1197-1206.
2. US Preventive Services Task Force. Screening for colorectal cancer. Ann Intern Med 2008; 149:627-37.

The bottom line is:

Some recommendations exist against routine colorectal cancer screening in patients > 75 years old. Older patients are at greater risk with respect to perforation, bleeding and cardiovascular/pulmonary complications and their increase in comorbidities may counter the benefits of screening and cancer prevention. So, the decision to screen and continue surveillance in elderly patients must be guided by individual considerations involving balancing the risks of adenoma – colorectal cancer evolution and the underlying comorbidities and risks of the procedure at any given age.

Our newsletters are posted on our website (www.vaughanendoscopy.com) thus your patients are able to download a copy for reference. Other GI topics of interest are published periodically.