

SAFETY AND EFFICACY OF COLONOSCOPY IN THE ELDERLY: EXPERIENCE IN AN INNER-CITY COMMUNITY HOSPITAL SERVING AFRICAN AMERICAN AND HISPANIC PATIENTS

Data regarding safety and efficacy of colonoscopy in elderly African American and Hispanic patients is scarce. We designed our study to determine the safety and efficacy of colonoscopy in this population. We retrospectively reviewed records of 1530 patients, who underwent colonoscopy over a nine-year period. The population included the elderly group (age >65 years) comprising 780 patients and control group (aged ≤65 years) comprising 750 patients. Data about cancer prevalence, complications and 30 day mortality were abstracted. The median age was 77 years (range 66–101, 61% females) for the elderly group and 57 years (range 18–65, 51% females) for controls. The elderly group required lower doses of medications for conscious sedation ($P < .0001$). The crude completion rate was lower for the elderly group (79.5% vs 89.7%), however the adjusted completion rate was similar in both groups (90.3% elderly vs 90.9% control). There was no significant difference in outcome between the two ethnic groups. Diagnostic yield was higher in the elderly group (69% vs 49%, $P < .0001$), with a significantly higher rate of cancer detection (7.9% vs 1.8%, $P < .0001$). There was no statistical difference in complication rate between the two groups ($P = .35$). There were 2 deaths within 30 days of colonoscopy: one in the elderly group, and one in the control group. Our results suggest that colonoscopy in our elderly patients was safe and effective and resulted in a high diagnostic yield. Therefore, old age alone should not deter colonoscopic evaluation when indicated. (*Ethn Dis.* 2011;21(4):412–414)

Key Words: Colonoscopy, Elderly, Cancer, African American, Hispanic

From the Department of Internal Medicine, Charles Drew University of Medicine and Science, Los Angeles, California.

Address correspondence to Abbasi J. Akhtar, MD, MRCP (UK), FACC; Professor of Medicine; Department of Internal Medicine, Division of Gastroenterology; Charles Drew University of Medicine and Science / MLKMACC; 12021 Wilmington Ave; Los Angeles, CA 90059; 310.668.4207; abbasiakhtar@cdrewu.edu

Abbasi J. Akhtar, MD, MRCP (UK), FACC;
Manmeet S. Padda, MD, MSCR

INTRODUCTION

The elderly are one of the most rapidly growing population groups in the United States. Advanced age is a major risk factor for harboring colorectal cancer. Risk of colorectal cancer is 17 times higher in patients aged >65 years as compared to younger patients.¹ The prevalence of variety of gastrointestinal disorders is higher in the older adults. There is no clear consensus among the gastroenterology societies about the cut-off age after which colonoscopy should not be offered as diagnostic modality. Several authors have reported that advanced age is an independent risk factor for complications related to colonoscopy.^{2,3} But others have disputed this data and have reported that colonoscopy in elderly patients is safe and does detect more significant lesions in the symptomatic patients.^{4–9} Risk of colonoscopy is usually attributed to bowel preparation (dehydration, electrolyte imbalance, aspiration), anesthesia (hypoxia, hypotension, cardiopulmonary complications) and to the procedure itself (perforation, bleeding, and infection). However, there is also lack of enthusiasm and concern about the risk benefit ratio, among clinicians for colonoscopy in the elderly population in general, and in the underserved minority population in particular. It is also well known from clinical experience that colonoscopies are technically difficult in elderly patients (due to diverticulosis, sharp angulations and relative inability to hold the air) and have higher failure rates in comparison to younger patients. Previous studies performed in African American elderly patients had shown lower likelihood of significant findings in average risk elderly patients.¹⁰ On the contrary the recent

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guidelines have been updated to start colonoscopy in African American population at the age of 45 years; hence elderly African American patients may harbor more malignant lesions.¹¹ Our hypothesis was that colonoscopy is safe and valuable in our elderly African American and Hispanic patients. To analyze our hypothesis we performed the retrospective study in our inner city population and compared the outcome of colonoscopy in our elderly patients in comparison to their younger counterparts.

METHODS

A retrospective review of medical records of 1530 patients, who underwent colonoscopy over a nine year period, was performed. Patients were stratified in two groups: >65 years and ≤65 years of age. The elderly group (age >65 years) comprised a total 780 patients (African American 443, and Hispanics 337) and the control group (age ≤65 year) comprised a total 750 patients (African American 413, and Hispanic 337). The data abstracted included demographics, indication(s) for colonoscopy, findings (including prevalence of cancer), complications and 30-day mortality. In our inner city hospital common indications for colo-

noscopy in the elderly patients included: gastrointestinal bleeding, fecal occult blood, iron deficiency anemia, unexplained weight loss and a change in bowel habits and screening for colorectal cancer.

Polyethylene glycol lavage solution and clear liquid diet was used for bowel preparation in all cases. The colonoscopy exam was performed by the fellows in training supervised by a gastroenterology attending or by the gastroenterology attending himself. For the conscious sedation, medications were given in incremental doses and consisted of Demerol® (meperidine), Versed® (midazolam) and/or Benadryl® (diphenhydramine). The dose and type of medications administered were at the discretion of the attending endoscopist. Patients were continuously monitored by a registered nurse and endoscopists during the procedure using a pulse oximeter, electrocardiographic monitor and an automatic blood pressure recording device. Supplemental oxygen was given via nasal cannula during the procedure. Selection of adult and/or pediatric colonoscope for the examination was made at the discretion of the attending physician and difficulty encountered during the procedure.

Data was also collected about the total dose of the medications used for conscious sedation during the procedures and the extent of the examination (whether the scope was advanced up to cecum, ileum, anastomosis). The study was considered complete when the cecum, or surgical anastomosis was adequately visualized by the qualified endoscopists. Colonoscopic findings and the results of histopathological examination of the retrieved specimens during the procedures were recorded. The findings of the exam were recorded immediately after the procedure by the trainee or the attending physician. Colonoscopy findings such as active bleeding, arteriovenous malformation, polyps, malignant lesions, signs of chronic inflammatory bowel disease,

etc were considered significant. The data was analyzed by using Student's *t* test and $P < .05$ was considered statistically significant.

RESULTS

The median age was 77 years (range 66-101, 61% females) for the elderly group and 57 years (range 18-65, 51% females) for controls. The elderly group required lower doses of medications for conscious sedation ($P < .0001$). The crude completion rate was lower for the elderly group (79.5% vs 89.7%), however adjusted completion rate was similar in both groups (90.3% elderly, vs 90.9% control). There was no significant difference in outcome between the two ethnic groups. Diagnostic yield was higher in the elderly group (69% vs 49%, $P < .0001$), with a significantly higher rate of cancer detection (7.9% vs 1.8%, $P < .0001$). Of 62 patients in the elderly group with colonic cancer, 38 (61%), had a curative resection. There was no statistical difference in complication rate between the two groups ($P = .35$). There were 2 deaths within 30 days of colonoscopy: one in the elderly group (post-surgical sepsis), and one in the control group (disseminated malignancy). There were no statistically significant immediate post-procedure complications in both groups.

DISCUSSION

Elderly patients comprise a significant proportion of the hospitalized patients. Due to increased prevalence of the comorbidities, especially cardiovascular diseases in the elderly patients, this unique group may also be consuming a significant number of prescription and over-the-counter medications. Antiplatelet agents and anticoagulants may increase risk of post-procedural bleeding. Naive endoscopists such as fellows in training more often than not experi-

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ence apprehension and lack of enthusiasm for colonoscopy in the frail elderly patients. In clinical practice, there are no clear guidelines about the efficacy of performing the colonoscopy in an elderly patient; often physicians fear that, if the malignant lesion is found during the exam, these patients may not be good surgical or chemotherapy candidates. Elderly patients have been reported to be at risk for aspiration from colonoscopy preparation, and ischemic colitis after colonoscopy.^{9,12} Midazolam has been reported to contribute to oxygen desaturation during the procedure and should be used judiciously in the elderly patients.¹³ Continuous monitoring of the patient is the vital component of the procedure in this unique population.

Our study suggests that the risk of colonoscopy in the elderly is not significantly higher than the younger patients. We found 62 patients in the elderly group with colon malignancy and interestingly 61% of these patients had curative resection. Our study supports the study performed by Stevens, et al who concluded from the retrospective study of 915 patients, that prevalence of advanced neoplasia continues to increase with advanced age.¹⁴ In this study, there was no statistical difference of the prevalence of the lesions in symptomatic and asymptomatic patients.

CONCLUSION

Our results suggest that colonoscopy in our elderly patients was safe and

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effective and resulted in a high diagnostic yield. Therefore, old age alone should not deter colonoscopic evaluation when indicated. High diagnostic yield, and the ability to perform intervention during the procedure, make colonoscopy a valuable tool in the evaluation of the elderly patients with lower gastrointestinal problems and age alone should not deter the physician from performing the exam.

ACKNOWLEDGMENTS

This study was approved by the institutional review board of the Charles Drew University of Medicine and Science and was presented in part at the Annual Meeting of the American Gastroenterological Association-Digestive Disease Week, Washington, DC, May 2007.

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AUTHOR CONTRIBUTIONS

Study concept and design: Akhtar, Padda
Acquisition of data: Akhtar, Padda
Data analysis and interpretation: Akhtar, Padda
Manuscript draft: Akhtar, Padda
Statistical expertise: Akhtar, Padda
Acquisition of funding: Akhtar, Padda
Administrative: Akhtar, Padda
Supervision: Akhtar, Padda