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ONLINE EXCLUSIVE—ORIGINAL RESEARCH

Unsedated colonoscopy: Time to revisit this option?

This approach is worth considering when cost and sedation-related side effects are a concern

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Practice recommendations

- Consider recommending unsedated colonoscopy to patients who have issues with cost, concerns about sedation, or are unable to get an escort or avoid work following the procedure.
- Explore resources in your area that offer unsedated colonoscopy.

Abstract

Background Access to potentially life-saving screening colonoscopy is limited by the high cost of sedation. We explored the practicability of having supervised trainees perform unsedated colonoscopies.

Method A nursing shortage at our Veterans Administration gastroenterology training program necessitated discontinuing sedated colonoscopy. We offered the procedure without sedation to restore local access to screening colonoscopy.

Results From September 2002 to June 2005, 145 of 483 patients accepted the unsedated option. The procedure was done by second-year gastroenterology (GI) fellows who had performed about 100 sedated colonoscopies in their first year of training. Cecal intubation was achieved in 81% of 138 well-purged patients without obstructive lesions. Implementation obviated the need for 2 registered nurses, the escort requirement, and postprocedure activity restriction. It also eliminated sedation-related complications.

Conclusion This report confirms the feasibility of unsedated colonoscopy performed by supervised trainees. The unsedated option minimizes direct and indirect costs of colonoscopy. Describing unsedated screening colonoscopy to patients as a "sedation risk–free" procedure encouraged them to consider the benefits. We recommend that future studies test primary care providers' willingness to inform patients of the feasibility of this nonstandard option, and perhaps reshape the practice of colonoscopy for colorectal cancer screening.

Monitored sedation given for colonoscopy is a measure meant to ensure patient safety,[1] but its high cost limits access to the potentially life-saving screening procedure.[2,3] Unsedated colonoscopy is an option, but a controversial one, raising issues both pro[4-6] and con.[7-11] In the United States, gastroenterologists perform unsedated colonoscopy both for unescorted patients (~2% of all screening colonoscopies)[12,13] and individuals who simply

prefer to avoid sedation (~6%).[7] Family physicians, too, perform unsedated colonoscopy in both rural and urban settings.[14-17]

Would it be feasible to make training in unsedated colonoscopy more readily available to providers, and thereby reduce costs and inconvenience for patients? We took advantage of a changing environment at our Veterans Administration program to explore this question.

Method

A nursing shortage in our VA academic GI program necessitated discontinuing sedated colonoscopy. We reviewed the literature on unsedated colonoscopy and found that it is a feasible alternative performed elsewhere.[4-7,12,14,16] Our attending staff discussed the options with patients and obtained informed consent[18] using the following general message:

"Sedated colonoscopy is usual practice. Even though the risks of sedation are very small, nurses are required to monitor patients continuously. Because of a nursing shortage, we must send you to another VA facility 15 miles away for sedated colonoscopy. You must have an escort, as you will not be allowed to drive after sedation. One of the medicines they administer will make you forget the discomfort you may have experienced, as well as the discussions after the examination.

"Alternatively, you may choose unsedated colonoscopy, which is practiced in the United States and many other countries. Because no medicines are used, there are no medication-induced complications. An escort is not required, and there is no activity restriction afterwards.

"You will feel air in the colon and the endoscope being pushed around inside you. The colonoscopist will talk to you throughout the examination. When you begin to experience discomfort, the colonoscopist will remove air inside the colon or straighten the loops in the colonoscope to minimize the discomfort before it becomes severe. If discomfort does become severe, you and the colonoscopist can agree to stop the advancement of the colonoscope. Complications related to taking biopsies or removing polyps are similar in sedated and unsedated procedures."

Supervised trainees (second-year GI fellows who had performed about 100 sedated colonoscopies in their first year of training), assisted by a licensed vocational nurse, performed the procedures using appropriate techniques.[5-7]

The Institution Review Board of the Veterans Affairs Greater Los Angeles Healthcare System (VAGLAHS) approved our review of the patient data for publication.

Results

From September 2002 to June 2005, 145 of 483 patients accepted the unsedated option. The number of patients choosing this option increased in each successive academic year (31, 50, and 64), as did the wait-time in days (27 ± 4, 46 ± 5, 72 ± 6) (mean ± standard error of the mean [SEM]). Seven patients (4%) had poor bowel preparation or obstructing lesions limiting completion. Among the 138 well-purged patients, we achieved cecal intubation in 112 (81%). Discomfort limited completion in the remaining 19%.

Other than transient vasovagal reactions in 2 patients, no complications occurred. Patients with incomplete examinations due to discomfort underwent sedated colonoscopy or barium enema or received no further assessment, depending on the initial findings. Those who subsequently underwent sedated colonoscopy (10%) had to be purged again, escorted, and comply with activity restriction.

Discussion

Colonoscopy was developed as an unsedated procedure.[19,20] Discomfort

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The number of patients choosing unsedated colonoscopy increased each year of our study

experienced by some patients during sigmoid intubation led to the use of medications,[20,21] which are now administered routinely.[22] Interestingly, competency in unsedated colonoscopy is not required of GI fellows.[23] Indeed, until recently,[18] teaching GI trainees unsedated colonoscopy was deemed impractical.[7] Family physicians, on the other hand, have long practiced and taught unsedated colonoscopy,[14-17, 24] although the actual number of family physicians performing colonoscopy is fairly small.[25] One reason so few family physicians offer the service—estimated at 3.7% of the specialty—may be the intensive and costly education required.[16] Even more difficult has been gaining privileges to perform the sedated procedure,[26] given the training requirements set forth by GI professional societies.[27]

Many patients would opt for unsedated colonoscopy. The favorable reception of unsedated colonoscopy in our study is evident in the increasing number of veterans each year who opted for the procedure despite the lengthening wait-time (which was due to increased demand rather than decreased availability of endoscopists). In the course of our project, we found that the terms "unsedated," "no sedation," or "without sedation" tended to convey the negative connotation that relief of discomfort and induced amnesia are withheld.[8,9] The term "sedation risk–free"[28] emphasized the benefits of no sedation.

Cost factors favoring unsedated colonoscopy. Sedated colonoscopies performed by family physicians have offered substantial health care savings.[29,30] It is intuitively obvious that the unsedated option in the hands of those with the necessary skills[14-16,24] would be even less costly. Our unsedated colonoscopy project reduced direct costs, which included the cost of having 2 registered nurses on hand. Indirect costs to patients[31] were also minimized by avoiding the need for an escort or activity restriction. Moreover, there were no sedation-related complications.[32,33]

An estimated 40 million healthy Americans are eligible for colorectal cancer screening.[34] Primary care providers play a pivotal role in counseling many of these patients, who may find the indirect cost savings of unsedated colonoscopy performed by that same provider appealing.

A logical transition from flexible sigmoidoscopy. An unsedated colonoscopy is very similar to an extended flexible sigmoidoscopy.[14-17,35] In patients who can tolerate a flexible sigmoidoscopy well, extended flexible sigmoidoscopy can reach the cecum >70% of the time.[36] To enhance the cecal intubation rate among unsedated veterans, we developed (subsequent to the findings reported here) a novel method of water infusion in lieu of air insufflation during insertion of the colonoscope.[37] This measure improved the cecal intubation rate from 76% to 97%.[38] For family physicians who perform flexible sigmoidoscopy, it is worth considering performing extended flexible sigmoidoscopy or unsedated colonoscopy using this water infusion method[37,38] or other methods to minimize discomfort in unsedated patients.[39]

Limitations of our study, and opportunities. Our report is based on uncontrolled, nonrandomized observational data. Nevertheless, it affirms the feasibility of unsedated colonoscopy performed by supervised trainees, as previously reported by a family practice training program.[16] It also underscores the benefits of the unsedated option on direct and indirect costs.

Since only 3.7% of family physicians in a recent survey reported performing colonoscopy,[25] it is uncertain whether primary care providers would voluntarily inform patients about the unsedated option. In select settings, gastroenterologists are willing to provide unsedated colonoscopy.[6,7,12,13,18] A reasonable hypothesis to test is that primary care providers informing patients about unsedated colonoscopy could reshape the future practice of screening colonoscopy in family medicine and gastroenterology. ■

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We achieved cecal intubation in 81% of well-purged patients

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The unsedated procedure precluded the need for 2 nurses