Is Unsedated Colonoscopy the Way Forward?

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Abstract

Although widely available and successful, unsedated colonoscopy remains underused. The use of sedation prolongs recovery, affects ability to recall information relating to procedure outcome, and can impact on the efficiency of an endoscopy unit. Sedation is also associated with significant adverse effects, the elderly being at particular risk. A recruitment bias prevented us from identifying patients attending a large teaching hospital who had undergone colonoscopy. A proforma was completed with details relating to demographics, seniority of endoscopist, presence of a target group, sedation, reason for referral, outcome of procedure, interventions required, subsequent complications, and comfort scores. 244 patients had unsedated colonoscopies (68 female and 176 male) with a median age of 60.6 years. These were matched with 244 patients who opted to have sedation for the procedure selected at random during that time period. The completion rate in the unsedated group and 91% in the sedated group (p<0.041). The mean comfort score in the unsedated colonoscopy group was 1.93 and 1.79 in the sedated group (Gloucester comfort score). Mean procedure time was 23.6 minutes (sedated) and 22 minutes (unsedated). There were no immediate complications in the unsedated group. Complications in the sedated group were seen in 5: Vasovagal episode (n=1), respiratory depression (n=2), bleeding post polypectomy (n=1). An increasing number of unsedated colonoscopies are being performed successfully in out scores between sedated and unsedated groups. A heightened awareness of the availability of unsedated colonoscopy is required-it should be offered to all suitable patients who can make an informed decision based on appropriate pre-procedure counselling and education in the setting of a colonoscopy who has the appropriate expertise to carry out the procedure without sedation.

Introduction

Diagnostic and therapeutic colonoscopies are widely performed in current endoscopic practice and historically these were carried out prior to present day practice where conscious sedation is commonly used in the form of opiates analgesia for pain control and benzodiazepine for amnestic effect. Although widely available and successful, unsedated colonoscopy remains underused. Patients request sedation for a variety of reasons- anxiety, fear of the nature of procedure, a previously difficult procedure, that it will be a painful experience. A study by Early et al in 1999 assessed patient attitude to unsedated colonoscopy and found only small numbers willing to go without sedation (16.9% of 434 cases). It was also shown that male gender, having a college degree, low anxiety pre-procedure and lower doses of sedative drugs in previous procedures meant patients were more likely to undergo colonoscopy without sedation in the future. The use of sedation prolongs recovery, affects ability to recall information relating to procedure outcome, and can impact on the efficiency of an endoscopy unit difficult. Sedation is also associated with significant risks -In recent work by Ko et al sedation related complications were seen in 12.9/1000 (1.3%) of 21,375 patients undergoing surveillance or diagnostic colonoscopy. The most common complication was respiratory depression in 7.5/1000 and hypotension or bradycardia in 4.9/1000. In that study, 2.6/1000 required reversal agents and 5 were hospitalized for observation. The British Society of Gastroenterology have guidelines with respect to safety of patients receiving sedation and, in particular, the need for adequate monitoring and skilled nursing staff with an ability to perform CPR. National Institute for Health and Clinical Excellence (NICEPEC), Salford Royal Practice reported 1818 deaths in hospital (3% of total patients analyzed) within 30 days of having undergone therapeutic Glidescopy. It was concluded that inappropriate care was given in 14% of cases, and this has led to heightened awareness of the potential of elderly to a CNS depressant effects of these drugs and essential in the unsedated group. Fishers et al have shown transient hypokalemia in 20% of patients undergoing sedated colonoscopy. Patient group . Day et al have shown that those over the age of eighty have a significantly higher risk of cardiovascular complications and respiratory complications when undergoing colonoscopy compared to those under the age of 65. Introduction of a national bowel cancer-screening programme, in relation to non-adherence to appointments in screening programmes has been transport difficulties in relation to sedation aftercare and this in turn may have a large impact of the efficiency of an endoscopy unit.

Methods

A retrospective analysis using Endoscopy endoscopy database was carried out to identify patients attending a large teaching hospital for outpatient colonoscopy from September 1st 2009 to December 31st 2010. 244 patients, following discussion with the endoscopist, chose to have the procedure performed without sedation and a further cohort of 244 patients were excluded from randomizing to have sedated procedures in the same time period. Consent was given by the patient group carrying out the procedure and informed the patient of reasons for the colonoscopy, what the test involved and a discussion of the risks of both the procedure itself and sedation use. Those who did not have sedation were given the option to receive it during the procedure should they wish, being made aware that it may not be as effective when given during the procedure as opposed to on commencement. A proforma was filled in with details relating to demographic information, presence of a target group, reason for referral, outcome of procedure, interventions required and any subsequent complications noted. Comfort scores were recorded by a senior endoscopy nurse using the Gloucester comfort scale ranging from 1-5 with a score of 1 meaning comfortable throughout the procedure and a score of 5 reflecting extreme discomfort frequently. Patients requiring upper and lower endoscopy in same setting were excluded.

Results

The study was carried out from September 1st 2009 to December 31st 2010. The procedures were carried out by one senior endoscopist without any other endoscopists or by one of five supervised medical or surgical trainees at the teaching hospital. The male to female ratio in the unsedated group was 2.6: 1 and in the sedated group was 1:1.44. The median age in the unsedated group was 60.6 years (with a range from 19 to 90). 67% were age 65 and over in unsedated group. The median age in the sedated group was 62.3 with 59% over the age of 65. The most common indications for colonoscopy were investigation of anaemia (23%), diarrhoea (16%), and PR bleeding (14%). Others included follow up of previous polyps, colitis surveillance and colorectal cancer follow up and screening. The completion rate in the unsedated group was 96 % (n=234) with poor bowel preparation (5), excessive looping (3) and patient intolerance (2) being reasons for an incomplete procedure termination. Completion rate in the sedated group was 91 % (p=0.041). All unsedated patients had colonoscopies performed with a consultant present and in 99(40%) cases, a training doctor present, one procedure was incomplete due to technical difficulties with looping. The mean procedure time was 23.6 minutes in the sedated group and 22 minutes in the unsedated group. 116(48%) of the unsedated procedures revealed macroscopically normal colon. Of those with pathology, polyps were detected in 27% of unsedated colonoscopies (n=67) with retention in 67% of cases. Two patients had endo-mucosal resections performed without any complications. Other findings included diverticular disease (12%) and cancer (3%) in outpatients, 21 required further management due to nature of pathology encountered. All cancers were referred urgently for multidisciplinary management. Six patients required alternative methods of lower GI imaging. Over 90% of comfort scores were at levels 1 and 2 in both patient groups. The mean comfort score in the sedated group was 1.79 and 1.93 in the unsedated group (p=0.42). There were no immediate complications in the unsedated group and 5 in the sedated group- vasovagal episode (1), Reversal agents required (2) and bleeding post polypectomy (1). Both patients requiring reversal of sedation were over 65.

Discussion

Our results show an increasing number of unsedated colonoscopies being performed successfully in our unit with high completion rates. As worldwide data (range from 67 % to 99%) demonstrates, patient intolerance is more likely than females to have procedure without sedation. A higher proportion of patients are over the age of 65 in the unsedated group, thus it is most of all an adverse reaction to the procedure itself. Comfort scores showed that satisfactory levels are being achieved in unsedated colonoscopy-this is open to a degree of observer error, in terms of interpretation of comfort scoring and may be improved if the assessment is carried out by two people being carried out during the procedure. Siau-salera et al suggest that in settings where sedation is not used, using warm water infusion rather than air insufflation combined with removing all colonic air by suction and residual faeces by water exchange may have the potential to decrease procedural discomfort. In a recent observational study by Leung using this method, caecal intubation rates of 97% were seen and confirmed by a subsequent randomized control trial, with caecal intubation rate of 98% . Previous studies have shown that, satisfaction scores which reflect the willingness to have future

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examinations performed the same way were significantly higher in the unsedated group than either the pre medicated or medicated during the procedure group (P<0.2 for women and P<0.001 for men) with significantly fewer intra procedure adverse events in the unsedated group (0.43% vs 6.67%, P<0.001).

The clear advantage in having an unsedated colonoscopy is the improved safety profile without compromise in comfort or completion rate. With a shorter recovery time and reduced nursing input required for monitoring, it allows a quicker turn around both for patient and nursing staff hence a more efficient endoscopy throughput. This is very important in an era when demands on the units are likely to increase with the introduction of a national bowel cancer screening programme. A heightened awareness of the availability of unsedated colonoscopy is required. It should be offered to all suitable patients who can make an informed decision based on appropriate pre-procedure counselling and education in the setting of a colonoscopist who has the appropriate expertise to carry out the procedure without sedation.

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References
6. Scoping our Practice- the 2004 report of the national confidential enquiry into patient outcome and death (NCEPOD)