EDITORIAL

Sedation practices in Canada: *A propos de* propofol

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In the current issue of *The Canadian Journal of Gastroenterology*, Porostocky et al (1) (pages 255-260) present the results of their survey regarding the use of sedation for colonoscopy and concomitant intraprocedural monitoring practices in Canada. The survey was performed in May 2009 among 343 Canadian endoscopists, members of the Canadian Association of Gastroenterology and the Canadian Society of Colon and Rectal Surgeons. Eighty-four per cent of respondents were CAG members, of whom 85% were adult gastroenterologists.

The authors reported that most endoscopists used sedation for more than 90% of their colonoscopies, typically with midazolam (maximal doses ranging from 3 mg to 5 mg) and fentanyl (maximal doses of 50 µg to 100 µg). Twelve per cent of adult endoscopists used propofol, either alone or in combination with another agent. Propofol use was much more common in pediatric practices and, when used in adults, was associated with noticeable regional variability. In particular, most propofol users were from Ontario (23% of adult gastroenterologists versus 5% in the rest of the country's respondents) and were more likely to practice in a stand-alone or community facility. Propofol users were more likely to be satisfied with their sedation options while 37% of other respondents performing adult endoscopy said they would be interested to try propofol in their practice, setting the stage for foreseeable changes in sedation practices in Canada.

Propofol is an attractive option as a sedative agent for colonoscopy – it is an extremely short-acting sedative that provides an amnestic effect without analgesia. It is associated with shorter recovery time and greater patient satisfaction (2,3). Although the drug was commonly administered by anesthetists in this survey, it can also be safely administered under the direction of the endoscopist, either as a single agent (with the goal of achieving deep sedation) or in combination with other sedatives and/or analgesics (aiming to achieve light to moderate sedation) (4-6).

If propofol was to become commonly used in endoscopy units across Canada, would this translate into improved quality of care? Would there be risks to consider?

The discussion needs to account for the level of sedation achieved. This survey did not inquire about levels of sedation achieved with propofol, but it is assumed deep sedation was more prevalent because the drug was administered by anesthetists in most cases. Is deep sedation a favourable endpoint of colonoscopy? Many patients express a desire to be 'right out' for their colonoscopy, and patient comfort is a key component of quality endoscopy services. However, patient comfort is also an indicator of the quality of endoscopy technique. Poor technique is associated with greater patient discomfort, lower cecal intubation rates, lower adenoma detection rates and, presumably, higher missed cancer rates (7). Deep sedation with propofol does not replace good technique and, may in fact, 'mask' a poor and unsafe technique. With deep sedation, patients abandon any control they could have over the procedure and, implicitly, expect to receive expert care. However, deep sedation may impede the ability of the endoscopist to fully visualize the colonic mucosa because a deeply sedated patient is difficult to move. Position changes during colonoscopy facilitate the visualization of a larger proportion of the mucosal surface by displacing the folds and allowing movement of the retained fluids (8). It also reduces the likelihood of stretching of the colonic wall and adjacent tissues. The art of colonoscopy integrates position changes, abdominal pressure, loop reduction, and insufflations to achieve smooth passage and telescoping of the colon as well as a careful examination of the colonic mucosal surface. Patient feedback and participation in position change are, therefore, important components of quality colonoscopy. If propofol is used to compensate for poor endoscopic technique, it is foreseeable that complication rates as well as missed cancer rates would increase. The onus is on the endoscopists and the facilities using deep sedation for colonoscopy to disprove that this sedation practice could be an indicator of poor quality. Continuous prospective monitoring for early and late complications as well as indicators of quality of the procedure, such as adenoma detection rate, are crucial because patients who abandon this control to avoid any discomfort should only do so if they have proof of impeccable quality and safety records of the endoscopist, and the unit caring for them.

To lend further support to the fact that many patients may want to retain as much sense of control during the procedure as possible, 8% of respondents believed that they would not want sedation for their own colonoscopy, while 19% would prefer the procedure be started without sedation. Presumably, these clinicians favour the need to control and participate in the procedure over the possibility of pain. As indicated by these clinicians, patient choice and discussion regarding expectations is an integral part of a high-quality, patient-centred colonoscopy service. If propofol was made available in a given endoscopy unit, it is crucial that this discussion occurs and that choice be maintained.

Light-to-moderate sedation with propofol, typically combined with a narcotic and/or another sedative agent, is, on the other hand, a promising option. A recent multicentre, open-label randomized comparative study using a computer-assisted device that integrates propofol delivery with comprehensive patient monitoring (9) revealed that combined propofol use to achieve light-to-moderate sedation was associated with fewer adverse events, less hypoxia, improved patient satisfaction and shorter recovery time than conventional sedation with fentanyl and midazolam. In this setting, patients retain the ability to participate in the procedure such that optimal quality of the procedure is maintained.

The presence of an anesthetist to administer propofol in the endoscopy unit is probably not cost effective (4). Endoscopy resources are limited in Canada, and wait time benchmarks established by the Canadian Association of Gastroenterology are not met in a majority of jurisdictions (10). The development of population-based screening programs in most Canadian provinces will increase demands for colonoscopy resources in a system that is already stretched. If sedation using propofol is to become common practice, participation by anesthetists should only be solicited for patients with severe comorbidities instead of routinely.

In summary, the survey of sedation practices for colonoscopy conducted by Prostocky et al (1) highlights significant practice variation, especially with regard to propofol use, which may be a harbinger of changes ahead. Propofol may indeed improve the quality of colonoscopy services in Canada, but specifically if it is used for light-to-moderate sedation and if its administration is directed by the endoscopist. Change should only be supported if associated with evidence of quality improvement. Hence, the need for comprehensive quality assurance programs in endoscopy units that monitor and report complication rates, quality indicators and the quality of the patient experience.

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