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Pro: Propofol in Endoscopy

To the Editor:

We read with great interest the article by Kim and Lee¹ entitled "Endoscopist-directed propofol: pros and cons." The article covers a hot topic that involves sensitive issues and powerful societal lobbying, as shown a few years ago after the publication of the European Society of Gastrointestinal Endoscopy guidelines on non-anesthesiologist administration of propofol (NAAP).²

We agree with the authors on the role of propofol on providing high-quality sedation, and we share their doubts that limiting its administration to anesthesiologists would in turn limit patients' access to high-quality sedation, not mentioning the cost-effectiveness of the associated procedures.³ We also believe that regional conditions can be created by medical personnel with certified training and systematic quality audit to guarantee patient safety. Anesthesiologists should be reserved for high-risk patients who need extra monitoring and expertise during the sedation for endoscopic procedures or during technically demanding, complex, and prolonged endoscopic interventions.

However, we disagree with the authors in two points. First, regarding the comparison between NAAP and anesthesiologist-administered sedation. The authors state in the conclusion section that no randomized controlled trials (RCTs) have specifically aimed at comparing these interventions. However, Poincloux et al.⁴ conducted one such study with 90 patients and failed to detect a difference in the incidence of adverse events between groups. The present study has some methodological limitations and a high risk of bias; therefore, it does not allow for definitive and robust conclusions on that matter. Currently, we are also performing a non-inferiority RCT of NAAP in comparison with anesthesiologist-administered

sedation, with minor adverse events as the primary end point (ClinicalTrials.gov NCT02067065). However, we share the authors' point of view that it is difficult to undertake such studies and that it is impossible to exclude differences in significantly "hard" clinical end points such as death or endotracheal intubation, especially if low-risk patients are included. Our best alternative is to use minor events as surrogate end points.

Second, regarding the role of balanced propofol sedation. We believe that although it allows for a reduction in propofol dose, it does not seem to decrease the incidence of adverse events, as shown in a recent meta-analysis by Wang et al.⁵ that included nine RCTs with a total of 1,505 patients.

Conflicts of Interest

The authors have no financial conflicts of interest.

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Response:

To the Editor:

We thank Ferreira and Cravo's comment on our paper. They raised intellectual opinions about the sedation methods. As Ferreira and Cravo mentioned in their letter to editor, endoscopist-directed propofol (EDP) is hot issue in the field of gastroenterology.

Ferreira and Cravo raised two issues about our paper. They presented one study which might be missed in our paper. This randomized controlled trial of endoscopist vs. anesthesiologist-administered sedation for colonoscopy was performed by Poincloux et al.¹ Poincloux et al.¹ concluded that endoscopist-administered propofol sedation for colonoscopy offered a better level of satisfaction and fewer side-effects than anesthesiologist-administered deep sedation. Ferreira and Cravo pointed out this study had some methodological limitations. We want to add one factor can cause bias to interpretation. The study was performed under two different types of sedation protocol. Endoscopist-administered sedation was done with intermittent propofol injection; however, anesthesiologist-administered sedation was conducted with continuous propofol infusion. In this situation, it is sometime difficult to conclude which causes the difference, sedation protocol or provider. We still think that well-designed studies comparing endoscopist vs. anesthesiologist-administered sedation for endoscopy is rare, so we are looking forward to see future study which is ongoing by Ferreira and Cravo.

The second issue was that balanced propofol sedation does not seem to decrease the incidence of adverse events based on a recent meta-analysis by Wang et al.² The meta-analysis, however, was not conclusive because of a significant heterogeneity ($I^2=59.6\%$ to 85.7%). It may be due to various settings (administrator, sedation, and type of procedures) among the included studies. In gastrointestinal endoscopy such as colonoscopy, endoscopic retrograde cholangiopancreatography and endoscopic submucosal dissection, adding opioids to propofol and midazolam was effective for achieving safe and efficient sedation.³ We believe balanced propofol sedation can reduce the dosage of propofol, this means that balanced propofol sedation still have room for reducing the complication caused by propofol.

Conflicts of Interest

The authors have no financial conflicts of interest.

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