

Adequate analgesic regimen would be required after minimally invasive colorectal surgery

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To the editor:

Postoperative pain management is important not only in patient wellbeing, but in recovery. An appropriate strategy for pain management is required in the perioperative period. We read with interest the article on the necessity of intravenous patient controlled analgesia (IV-PCA) in patients undergoing minimally invasive colorectal surgeries [1]. The authors suggested that IV-PCA may not be necessary in patients who underwent minimally invasive surgeries for colorectal cancer, because there were no significant differences on postoperative analgesia between opioid-based IV-PCA and intravenous tramadol on demand.

However, we cannot agree with their conclusion on some points. First, all patients in their study had suffered extremely severe pain at postoperative days 1 and 2. According to the methods of this study, the authors aimed to maintain scores less than visual analogue scale (VAS) 4 on a 10-point VAS, but the aim was not achieved and they failed to provide adequate analgesia for all patients during postoperative periods. It's especially surprising that even the patients who had received IV-PCA treatment had suffered severe pain during postoperative periods. The main purpose of PCA is literally analgesia, but the IV-PCA regimen in this study failed to provide adequate analgesia. The main cause of inadequate analgesia in IV-PCA group was insufficient dosage of fentanyl, and inappropriate IV-PCA regimen. IV-PCA regimens consist of several variables, including the bolus dose, lockout time, and maintenance infusion. These variables can affect the analgesic efficacy of IV PCA.

Usually, the recommended IV-PCA regimen of fentanyl is 10–20 µg for bolus dose and 4–10 minutes of lockout interval [2]. Use of continuous maintenance infusion was not recommended for fentanyl IV-PCA. In their study, the PCA formulation contained 25 µg/kg fentanyl diluted to 100 mL in normal saline. The bolus volume was 0.5 mL with 10 minutes of lockout interval, and the maintenance rate was set at 0.5 mL/hr. For example, a patient weighing 50 kg received 6.25 µg of fentanyl as bolus dose with a maintenance rate of 6.25 µg/hr of fentanyl according to their IV-PCA regimen. Compared with the recommended regimen, the regimen in their study might be insufficient to provide adequate analgesia for their patients.

Second, their pharmacologic effect of tramadol may affect the results of the study. The authors said that tramadol is an anti-inflammatory drug, but it is not. Tramadol is a synthetic opioid that has weak μ agonist activity and inhibits reuptake of serotonin and norepinephrine [3]. Actually, the most common adverse side effects of tramadol are dizziness, nausea, vomiting, sedation, and constipation [3]. There was an interesting study showing that tramadol based PCA had more postoperative nausea and vomiting (PONV) than opioid based PCA, which had a comparable analgesic effect [4]. In the study of Choi et al. [1], the results of the incidence of PONV being significantly higher in PCA group than in the non-PCA group might have been influenced by tramadol as rescue analgesics. The interaction between tramadol and fentanyl was highly suspicious for the cause of higher incidence of PONV in IV-PCA group.

In conclusion, even minimally invasive colorectal surgery

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is not free from severe postoperative pain, and the severe pain lasted for 2 days postoperatively under their insufficient pain management in this study. We agree that opioid-based IV-PCA has some limitations because of its adverse effect. Moreover, opioid-based IV-PCA is not the only modality for postoperative analgesic management and alternative strategies including epidural PCA rather than opioid based IV PCA have been recommended in early recovery protocol. But the most important thing is that patients who undergo minimally invasive colorectal surgery have severe pain in the early postoperative period, and they have the right to receive ade-

quate postoperative pain management. Opioid-based IV-PCA can be omitted in patients undergoing laparoscopic surgeries for colorectal cancer. However, other alternative strategies such as combination of IV and regional analgesia, namely multimodal analgesia, should be considered to provide adequate analgesia for the patients.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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