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Commentary on Feasibility and Safety of Planned Early Discharge Following Laparotomy in Gynecologic Oncology with Enhanced Recovery Protocol Including Opioid-Sparing Anesthesia

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Description

Our team published the article titled “Feasibility and Safety of Planned Early Discharge following Laparotomy in Gynecologic Oncology with Enhanced Recovery Protocol including Opioid Sparing Anesthesia(OSA)” on November 3rd, 2023 by Frontiers in Surgery [1]. In the article, we proposed the use of opioid sparing anesthesia during gynecology oncology surgeries including laparotomy. The important part of our OSA protocol is propofol. We would like to highlight our perspective in this commentary.

Enhanced Recovery After Surgery (ERAS) has been implemented to many surgical speacilalities including gynecology oncology to optimize postoperative recovery by maintaining physiological homeostasis and decreasing surgical stress using a multi-modal and multi-disciplinary management strategy. Although one of core strategies is minimizing the use of postoperative opioids, opioid use during operative phase has not been well discussed [2,3]. General anesthesia for laparoscopy and laparotomy is performed by induction of anesthesia using short acting anesthesthetic agents and neuromuscular blocking agents followed by the maintenance of anesthesia with a volatile based technique or Total Intravenous Anesthesia (TIVA) [3]. It is known that the rate of Post-Operative Nausea and Vomiting (PONV), pain score after extubation and time in the Post-Operative Anesthesia Care Unit (PACU) were significantly lower in propofol than inhalation agents [4]. Wahba, et al. reported that patients who recived opioid-free TIVA showed improved quality of postoperative recovery after laparoscopic gynecologic surgery compared to TIVA with opioids [5]. As described in our article, our maintenance anesthesia protocol consists of propofol (0.2 mcg/kg/hr-0.4 mcg/kg/hr), ketamine (2mg/kg bolus-5mg/kg bolus), magnesium (2g IV bolus) and lidocaine (0.5 mg/kg/hr-2 mg/kg/hr). A dexmedetomidine hydrochloride infusion (0.2 mcg/kg/hr-0.4 mcg/kg/hr) could be added at the discretion of the anesthesia provider if needed. Our study demonstrated that all patients including those who underwent laparotomy tolerated surgeries very well with our OSA protocol.

Based on our experience, propofol is also useful to create optimal surgical visualtization in the pelvis. During gynecology oncology surgery, surgeons have to well visualize pelvic reproductive organs, iliac vessels, ureter, pelvic and peri-aortic lymph nodes without having dilated small and large bowels moving in the field as possible. We see less bowel movements and dilation with dose dependent use of propofol. A few studies have shown that propofol decreases duodenum motility, reduce gastric emptying, increase gastrointestinal transit and lower anal sphincter [6,7]. Most analgestics affect gastrointenstinal motility, but propofol is least likely affect postoperative gastroenterogic recovery long after propofol is discontinued given it’s very short half life [8].

Importanly, there was no increase in the National Institutes of Health Patient-Reported Outcomes Measurement Information System Gastrointestinal score at 2 weeks, 6 weeks compared to preoperative phase.

Due to the nature of single arm design, our prospective observational study was not able to prove the comparison to other non-OSA methods, however we successfully provided the safety and effectiveness of OSA with propofol in the gynecologic oncology surgeries and successfully establish planed postoperative day one discharge protocol with low complications and readmission rate. While acknowledging the need for further research, we propose that the use of OSA during gynecologic oncology surgeries holds potentials as a standard practice. This approach aligns with the evolving trends in surgical anesthesia, emphasizing patient safety and optimized recovery outcomes.

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