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LETTER TO THE EDITOR

Comments on "Essential elements of anaesthesia practice in ERAS programs" and "Tips and Tricks in achieving zero peri-operative opioid used in onco-urologic surgery"

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Dear Editor,

We've read with great interest the articles "Essential elements of anaesthesia practice in ERAS programs" by Pignot et al. and "Tips and Tricks in achieving zero peri-operative opioid used in onco-urologic surgery" by Katims et al.[1, 2] We would like to congratulate the authors for their articles and make some comments.

In regard to fluid balance within an ERAS program, we agree with the authors that maintenance of central euvolemia by using zero-balance fluid therapy (only maintenance fluid therapy) might be a close to optimal approach. Nevertheless, the implementation of an ERAS protocol has been related to an increased risk of acute kidney injury (AKI) in patients with baseline chronic kidney disease [3]. In addition, our group has recently been able to show that even a small increase in plasma creatinine of > 50%, respectively > 26.5 µmol/L (AKI grade 1 according to "Kidney Disease: Improving Global Outcomes Group" [KIDGO]) within the first 24 h is associated with elevated plasma creatinine values 12 months after surgery irrespective of baseline creatinine [4]. As the authors state correctly, urine output in the early perioperative phase can often be misleading. Therefore, early assessment of creatinine values seems to be a usable tool for identifying patients at risk for AKI to optimize treatment, respectively outcomes by ensuring euvolemia (whilst preventing fluid overload) and taking nephroprotective measures as recommended by KIDGO [5]. In addition, elevated urinary concentration of creatinine before surgery should be considered as a risk factor for postoperative elevation of plasma creatinine. This is probably because the renal threshold is then more easily reached [6]. Finally, strong renal water conservation on the first postoperative day has been associated with a rise in plasma creatinine, illustrating why plasma creatinine often becomes elevated after surgery [7].

Concerning the anesthetic and analgesic management, the authors suggest besides the use of TIVA and PONV-prophylaxis the use of remifentanil to speed up recovery. As the authors state correctly, the pharmacokinetic and -dynamic profile of remifentanil seems to meet the needs of ERAS optimally. Nevertheless, remifentanil has been associated with opioid-induced hyperalgesia as well as increased risk for chronic postsurgical pain, although both potential effects are still matter of debate [8]. These concerns and the unwanted side effects of opioid based analgesia have led to the implementation of multimodal, opioid-sparing up to opioid-free techniques as described in this journal [2]. From our experience as a high caseload tertiary center, opioid-sparing, respectively opioid-free techniques are perfectly feasible in onco-urologic surgery during the intraoperative and early postoperative phase. We therefore would like to emphasize, that the use of a remifentanil-based anesthesia might not be the preferred option despite its excellent pharmacokinetics.

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Declarations

Conflicts of interest All authors declare not to have any conflicts of interest.

Research involving human participants and/or animals Not applicable.

Informed consent Not applicable.

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