

Prerequisites and effects of an opioid-free anaesthesia pathway in patients undergoing bariatric surgery

Akademisk avhandling

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av Alexander Olausson

Fakultetsopponent:

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Avhandlingen baseras på följande delarbeten

- I. Olausson, A., Svensson, C. J., Andréll, P., Jildenstål, P., Thörn, S. E., & Wolf, A. Total opioid-free general anaesthesia can improve postoperative outcomes after surgery, without evidence of adverse effects on patient safety and pain management: A systematic review and meta-analysis. *Acta anaesthesiologica Scandinavica*, 2022; 66(2), 170–185.
- II. Olausson, A., Angelini, E., Heckemann, B., Andréll, P., Jildenstål, P., Thörn, S. E., & Wolf, A. Patients' perioperative experiences of an opioid-free versus opioid-based care pathway for laparoscopic bariatric surgery: A qualitative study. *International Journal of Nursing Studies Advances*, 2024; 6, 100201.
- III. Olausson, A., Jildenstål, P., Andréll, P., Angelini, E., Stenberg, E., Wallenius, V., Öhrström, H., Thörn, S. E., & Wolf, A. Effects of an opioid-free care pathway versus opioid-based standard care on postoperative pain and postoperative quality of recovery after laparoscopic surgery: A multicentre randomised controlled trial. *Submitted*.
- IV. Olausson, A., Angelini, E., Andréll, P., Heckemann, B., Jildenstål, P., Ovesson, C., Thörn, S. E., Vinglid, J., & Wolf, A. Patients' experiences of postoperative recovery up to one year after opioid-free or opioid-based bariatric surgery - A qualitative study. *Submitted*.

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Abstract

Obesity is an escalating public health concern and bariatric surgery remains the only effective long-term treatment for substantial weight reduction. However, bariatric surgery typically involves opioid use during and after the surgery, which can challenge recovery due to undesirable side effects. Although opioid-free anaesthesia (OFA) is a promising alternative, further research is needed to evaluate its safety and impact on long-term recovery, along with sustained opioid-free approaches for managing postoperative pain. The overall aim of this thesis was to evaluate the prerequisites and effects of an OFA pathway compared to conventional opioid-based care and to identify the prerequisites for integrating a person-centred care approach for patients undergoing laparoscopic bariatric surgery. The thesis includes a systematic review and meta-analysis (Study I), two qualitative interview studies with content analysis (Study II & IV), and a quantitative effect study (Study III). The thesis is based on a randomised controlled trial (RCT) in which the intervention included OFA and transcutaneous electrical nerve stimulation as primary postoperative pain management for patients undergoing laparoscopic bariatric surgery. Study II-IV are based on the same population from the RCT, conducted between May 2019 and November 2023. Study I established the prerequisites for an OFA pathway in various surgical contexts, including laparoscopic bariatric surgery. Meta-analysis results indicated reduced postoperative side effects and opioid consumption without compromising patient safety or pain management, compared with opioid-based anaesthesia. The RCT (Studies II-IV) supported the feasibility of the OFA pathway, with quantitative data revealing reduced opioid consumption and comparable pain and recovery outcomes up to 3 months. Qualitative findings revealed similar patient experiences during the perioperative and recovery periods for up to 1 year. Addressing perioperative challenges by integrating a person-centred care approach into the OFA pathway could improve patient outcomes. Overall, this thesis provides valuable insights to advance perioperative care, presenting a safe and viable alternative to conventional opioid-based perioperative approaches.

Keywords: obesity, bariatric surgery, opioid-free anaesthesia, transcutaneous electrical nerve stimulation, perioperative care, person-centred care