

Nonopioid Analgesics for Managing Postoperative Pain after Cardiothoracic Surgeries

Dear Editor,

We read with interest the review article titled, “The Efficacy of Different Modes of Analgesia in Postoperative Pain Management and Early Mobilization in Postoperative Cardiac Surgical Patients: A Systematic Review” by Nachiyunde and Lam.^[1] The authors have discussed pain relief strategies for patients undergoing cardiothoracic surgeries. They arrived at a conclusion that patient controlled analgesia opioids with subcutaneous local anesthetic (LA) infusions are cornerstone in managing postoperative pain after cardiothoracic surgeries. This leaves the discussion confined to a smaller spectrum, i.e., opioids and LA infusions.

Dunn *et al.* described the beneficial effects of perioperative intravenous (IV) lidocaine in various surgeries.^[2] Opioid sparing, early bowel recovery, and antiinflammatory effects were the few beneficial effects due to lidocaine when used at a dose of 1.5–2 mg/kg intraoperatively after a bolus of 2 mg/kg. The review discusses the beneficial effects of IV lidocaine in thoracic surgery and not in cardiothoracic surgeries. The author felt that the reason could be because the infusion was not continued when patient was on cardiopulmonary bypass. This opens up an unexplored area for further research, i.e., use of perioperative lidocaine for cardiothoracic surgeries on beating heart. Well-designed studies could really throw light of its use in beating heart cardiac surgeries.

There are many oral nonopioid analgesics that remains unexplored for managing pain in cardiothoracic surgeries. Cogan *et al.* suggested the use of oral gabapentin 600 mg/day before cardiac surgery and when continued postoperatively reduced morphine consumption and made coughing effective.^[3] *N*-methyl-d-aspartate (NMDA) receptor antagonists have been found useful as a part of multimodal analgesia in managing postoperative pain.^[4] Memantine hydrochloride is an orally available NMDA receptor antagonist which in doses of 20–40 mg/day can be used as a part of multimodal analgesia (MMA) without psychomimetic effects such as ketamine, while other orally available NMDA receptor antagonists such as amantadine and dextromethorphan have also been used with variable efficacy. Magnesium acts as NMDA receptor antagonist and has been used successfully as a part of MMA when used at a dose of 25–50 mg/kg loading and 10–20 mg/kg/h till surgery is over. This has led to reduced intraoperative anesthetic and perioperative opioids.

Flupirtine is a nonopioid analgesic with a unique mechanism of action.^[5] It belongs to a group of drugs called selective neuronal potassium channel openers (SNEPCO). It acts indirectly as NMDA receptor antagonist by activating potassium channels and leads to a dose-dependent reduction of NMDA receptor-mediated glutamate that induce rise in intracellular calcium concentration. It has been used successfully in major abdominal and orthopedic surgeries in doses of 200–400 mg 8th hourly but has not been explored in cardiothoracic surgeries. Liver function needs to be monitored if it is used for more than 2 weeks.

Opioid-free anesthesia has become quite popular for enhancing recovery and has reduced opioid use perioperatively.^[6] Looking at the recent trends, it is really surprising to find opioids still as the cornerstone for managing postoperative pain after cardiothoracic surgeries.

To conclude, nonopioid analgesics need to be explored for managing postoperative pain after cardiothoracic surgeries.

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Conflicts of interest

There are no conflicts of interest.

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