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LETTER TO EDITOR

Ketamine Treats Nalbuphine Sebacate-Induced Hyperalgesia

Dear Editor,

We read the article, Nalbuphine sebacate interferes with the analgesic effect of fentanyl, there is a case suffered from nalbuphine sebacate (Naldebain®)-induced hyperalgesia after surgery and rescue fentanyl 100 μg, tenoxicam 20 mg, and tramadol 100 mg were in vain.[1] Here, we present a case who experienced postoperative severe pain after Naldebain® administration and relieved after ketamine treatment.

A 36-year-old female, with a height of 165.3 cm and a weight of 71.5 kg, had a right-side ovarian tumor. She underwent right salpingo-oophocystectomy with exploratory laparotomy. Thirteen hours before anesthesia, intramuscular Naldebain® 150 mg was administered. Anesthesia was induced with fentanyl 100 μg, rocuronium 10 mg, and propofol 120 mg and maintained with desflurane under entropy. During 3 h of the operation, fentanyl 100 mcg, morphine 10 mg, ketorolac 30 mg, and exhaled 8%–10% desflurane concentration were administered to manage her hyperdynamics (blood pressure: 160/85 mmHg, heart rate: around 80–100 bpm, and response entropy/state entropy: 56/53). In the postanesthetic care unit, the patient complained severe sharp wound pain with a Numerical Rating Scale (NRS) score of 8/10. After rescue morphine 5 mg, NRS is still 5/10. Ketamine 15 mg was given 20 min after rescue morphine, and pain relieved to 3/10, without any side effects. In the general ward, the numeric rating scale (NRS) was around 3/10 without received any pain killer.

A previous report that nalbuphine did not attenuate the antinociceptive effect of morphine at a dose of 5 mg/kg in rats.[2] However, Wu *et al*.[1] reported that Naldebain® may induced hyperalgesia perioperatively. Moreover, acute opioid tolerance and opioid-induced hyperalgesia have been reported in the clinical use of opioids for anesthesia and postoperative pain management.[3] Possible action mechanisms include increased presynaptic glutamate release and postsynaptic N-methyl-D-aspartate (NMDA) receptor activation.[3,4] Huang *et al*.[5] reported that NMDA receptor antagonist, ketamine and dextromethorphan, can reduce neuroplasticity through inhibition of NMDA receptors. It is consistent with our present case.

In conclusion, anesthesiologists must notice the administration of Naldebain® before surgery; it may interfere with the analgesic effect of fentanyl[1] and then the management of hemodynamics and postoperative pain. We prefer multimodal analgesia, including local anesthetic infiltration and ketamine, to only opioid administration.

Consent

The consent for publication was gained.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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