

## **Comparative study of the infusion of ketorolac and acetaminophen in reducing postoperative pain and opioid consumption in patients undergoing orthopedic surgery of the lower limbs**

### **Abstract**

**Background and objective:** Pain is one of the important factors in the acceptance of surgery in patients and may be the most important factor in the fear of surgery. The gold standard for controlling postoperative pain is the use of narcotic drugs, but its use is limited due to side effects. The present study was designed and performed with a comparative study of the effect of infusion of ketorolac and acetaminophen on pain reduction and opioid use after surgery in patients undergoing orthopedic surgery of lower extremities.

**Methods:** This study is a randomized double blind clinical trial. In this study, 100 patients undergoing orthopedic surgeries in the lower limbs were randomly assigned to two groups of 50. The first group received 1 gr of acetaminophen every 6 hours intravenously, and the second group received 90 mg of ketorolac in 1 liter of normal saline serum for 24 hours. VAS system was used at 12 and 24 hours to evaluate pain after surgery. Their pain was evaluated. In case of pain in patients, pethidine was injected, and the dose of pethidine consumed was measured and recorded at the end. Finally, all the data entered the statistical analysis program and analyzed the data.

**Results:** In this study, intravenous administration of acetaminophen was initially less effective than cytarolac infusion (6 hours), but after 12 hours it was observed that the effect of acetaminophen on pain relief was greater than that of ketorolac. Also, the level of pethidine was initially lower in the ketorolac group than in the acetaminophen group, but after 12 hours, the pethidine levels increased in the ketorolac group. It was also observed that the rate of nausea and vomiting in the ketorolac infusion group was significantly lower than that of the intravenous acetaminophen recipient group. However, the patient's satisfaction with venotic acetaminophen was more than that of the ketorolac infusion.

**Conclusion:** The results of this study showed that the effect of acetaminophen and ketorolac is different at different times. The pain reduction in the first 12 hours in the ketorolac group and the second 12 hours in the acetaminophen group significantly changed.

**Keywords:** Acetaminophen, Ketorolac, Lower limb