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COMPARISION OF ROPIVACAINE VERSUS BUPIVACAINE IN PATIENT-CONTROLLED EPIDURAL ANALGESIA (PCEA) AFTER ORTHOPEDIC SURGERY

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Background: Local anesthetic agents are usually administrered into the epidural and peripheral nerve catheter for postoperative pain relief. Bupivacaine is one the usual drug for this resean, but cardiovascular complications is one of the most concern. Ropivacaine is safer than the bupivacaine. The aim of this study was evaluation of postoperative pain relief, sensory and motor blockade, and side effects between ropivacaine and bupivacaine used in patient-controlled epidural analgesia (PCEA) pump after orthopedic surgery.

Methods: Fifthy patients, 18-65 years, ASA I – II, candidated for postoperative pain relief by PCEA after orthopedic surgery were scheduled in the study. For postoperative analgesia, patient-controlled epidural analgesia (PCEA) pump was used for all patients, and PCEA pumps were adjusted to continiuos flow rate by 5 ml/h. Patients divided in to B (bupivacaine) and R (ropivacaine) groups. Each solution of PCEA in B group contained bupivacaine 0.2% and fentanyl 2 mcg, and in R group contained ropivacaine 0.3% and fentanyl 2 mcg. Pain score (VAS and VRS), sedation score (Ramsy scale), nausea and vomiting, motor blocked (Bromage score), analgesic requiremqnt, and side effects were recorded by intervals 6, 12, 24, 36, 48h after operation.

Results: Demographic findings in both groups were similar. Both groups showed significantly reduced postoperative pain in all hours, but no significant difference was seen in pain score. Motor blockade of the lower extremities in group R was less than the group B and patient satisfaction in group R was more than the group B. Side effects were similar in both groups.

Conclusion: Patients who received ropivacaine 0.3% had less motor blockade than those who received bupivacaine 0.2% in continuous epidural infusion for postoperative analgesia. Thus clinical application of ropivacaine in continuous epidural infusion for analgesia is supported and recommended over bupivacaine. Future researches should be directed to obtain optimal dose of ropivacaine for better clinical outcome.

Keywords: Ropivacaine, bupivacaine, fentanyl, orthopedic surgery