Postoperative pain, inflammation and functional recovery after total hip arthroplasty
Prospective, randomized, clinical studies

av

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Abstract


Total hip arthroplasty (THA) is performed in patients with osteoarthritis of the hip joint. Pain following THA is often moderate but no gold standard exists for pain management. Good postoperative pain management may lead to a better quality of life and hip function. In study I, we investigated whether intrathecal morphine (ITM) or local infiltration analgesia (LIA) is better for pain management. Eighty patients were randomized to one of two groups, ITM or LIA in this randomized double-blind study. Lower pain intensity was recorded early after surgery (< 8 h) in ITM group but subsequently (> 24 h), analgesic consumption, pain intensity on mobilization, and side-effects were lower in patients receiving LIA. In study II, in a randomized, double blind study, we compared LIA with femoral nerve block (FNB) for pain management following THA in 56 patients. We found that LIA significantly reduces pain intensity on standing and mobilization at 24-48 h, as well as rescue analgesic consumption (0 – 24 h) compared to FNB without causing significant side effects. In study III, the same patients were included as in study II to determine the role of inflammation on postoperative pain by analyzing a battery of cytokines in the plasma before and at fixed time points after surgery. We found that LIA has a modest but short-lasting effect (≈4 h) on postoperative inflammation, specifically IL-6. This is likely to be due to local infiltration of ketorolac and/or local anesthetics.

Study IV was a long-term follow-up of patients included in study I. We found no differences in quality of life or hip function up to 6 months after surgery when comparing LIA with ITM. Additionally, the incidence of persistent post-surgical pain and postoperative complications was similar between the groups and LIA had no long-term negative effects.

In conclusion, LIA is a good alternative to intrathecal morphine or femoral nerve block in patients undergoing THA. The analgesic effect may be due to anti-inflammatory effect of ketorolac injected locally or local anesthetics. No negative long-term effects of LIA were found. The technique is efficacious, simple to apply and offers a good alternative to intrathecal morphine or femoral nerve block without negative effects during THA.

Keywords: Total hip arthroplasty, local infiltration analgesia, intrathecal morphine, femoral nerve block, postoperative pain, spinal anesthesia

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