

Analgesic effect of intra-articular morphine after arthroscopic knee surgery

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doi:10.1016/S0966-6532(98)00027-4

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Abstract

Objectives: To assess the analgesic effect of intra-articular morphine. To establish the optimal dose of morphine as well as the best volume of solution to obtain an adequate analgesic effect. **Patients and methods:** Prospective, randomized, double blind study of 120 patients undergoing elective arthroscopic meniscectomy. Patients were randomly allocated to one of the following five groups: In group A1 ($n=28$) and B1 ($n=20$) patients received 1 and 5 mg of intra-articular morphine, respectively, in both groups morphine was diluted in 20 ml of saline. Another two groups, groups A2 ($n=22$) and B2 ($n=26$) received 1 and 5 mg of intra-articular morphine, respectively, that was diluted in 40 ml of saline. Finally, the control group, group C ($n=26$), received 20 ml of saline without morphine. The intensity of the pain was evaluated by visual analog scale of 1 to 10 points at 30 min and at 1, 2, 3, 6, 12 and 24 h after arthroscopic surgery. Needs for complementary analgesia and side effects related to morphine were also recorded. **Results:** With respect to the control group there was a significant improvement in pain scores in those patients that were treated with morphine ($p<0.05$). The best morphine dose to improve pain was 5 mg. The amount of analgesic therapy required by the patients within the first 24 h after surgery was lower in groups B1 and B2. No important side effects or complications of therapy were seen in any of the groups. **Conclusions:** Intra-articular morphine is effective in the postoperative period after arthroscopic meniscectomy. This method of administration provides a safe way to control the postoperative pain after arthroscopic ambulatory surgery of knee. In our experience a morphine dose of 5 mg dissolved in 20 ml of saline constitutes the best therapeutic approach to reduce postoperative pain after arthroscopic meniscectomy.