Title: EFFECTIVENESS AND SAFETY OF EPIDURAL MORPHINE FOR POSTOPERATIVE PAIN AFTER CESAREAN SECTION

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Introduction. It has been reported that 5.0 mg of epidural morphine effectively provides safe and long-lasting pain relief after cesarean section. However, these reports involved relatively few patients. We report our experience with 131 consecutive patients who received epidural administration of 5 mg of morphine to relieve postoperative pain of cesarean section.

Methods. Approval of the committee on human research and informed consent were obtained. Cesarean section was performed using continuous epidural anesthesia. Within an hour of cesarean section, patients were given 5 mg of epidural morphine dissolved in a 10 ml preservative-free sterile saline solution. The epidural catheter was then removed. Patients were observed intermittently for at least 48 hours. Pain relief was assessed by the patient, who used a 5-point system to assign an analgesic score. Maternal blood pressure and heart rate were recorded every 15 minutes for at least 2 hours. Respiratory rate was measured at 15 minute intervals for the first hour, every 30 minutes for the next 7 hours, then hourly until 24 hours after injection. The time of the first request for additional systemic analgesia was noted; the occurrence of pruritis, nausea, vomiting, urinary retention or respiratory depression and the effectiveness of therapy for any side-effect were also recorded.

Results. Five milligrams of epidural morphine provided good to excellent pain relief in 89 per cent of patients. The majority experienced pain relief for 12 to 36 hours. Only 19 per cent had pain relief of less than 12 hours duration. Sixty per cent of patients were comfortable at least 24 hours; 21 per cent did not request any additional systemic analgesic medications during their hospital stay.

Pruritis occurred in 69 per cent of patients; 28 per cent described it as moderate to severe, and nearly all of these patients were treated successfully with diphenhydramine (25-50 mg IM) or naloxone (0.1-0.2 mg IV). Nausea occurred in 17 per cent of patients; and vomiting in 10 per cent. These patients were treated successfully with prochlorperazine, naloxone or droperidol. Because all patients had indwelling bladder catheters until the first postoperative day, the incidence of urinary retention could not be evaluated properly. Respiratory depression (rate < 10) was not observed in any patient.

To assess the relative effectiveness of epidural morphine in reducing postoperative systemic analgesic requirements, we reviewed the hospital records of 19 of our patients who had had previous cesarean sections at our instituton. Thus, with each patient serving as her own control, comparisons were made of requirements for narcotic during the first 24 and 48 postoperative hours. With previous conventional therapy, all patients required systemic narcotics, receiving a mean dose of morphine sulphate (or an equipotent dose of another narcotic) of 38 mg in the first 24 hours, and 57 mg in the first 48 hours. However, after receiving epidural morphine, 63 per cent and 32 per cent of these patients required no additional systemic narcotics in the first 24 hours and 48 hours, respectively. When additional pain relief was needed, orally administered analgesics were usually adequate.

Conclusion. In 131 patients who underwent uncomplicated cesarean section with epidural anesthesia, 5 mg of epidural morphine provided excellent and prolonged relief of postoperative pain, and markedly reduced the requirement for additional systemic analgesics in the first 48 hours. Pruritis and nausea/vomiting frequently occurred, but were easily treated. Although respiratory depression was not observed, we will continue to closely monitor respiratory rates in patients receiving epidural morphine postoperatively.