Prevention of a Side Effect of Epidural Morphine by Epidural Steroid Administration in Cesarean Section

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Key Words
- Pruritus
- Bupivacaine
- Ultracortene-H, water soluble
- Morphine Hydrochloride

Abstract
In order to evaluate the effect of preventive corticosteroid on the occurrence of pruritus after epidural anesthesia with morphine, we studied 95 patients undergoing cesarean section. Thirty-seven patients (group I) were given 20 mg of bupivacaine 0.5% for the operation and 2 mg of morphine hydrochloride with 50 mg of Ultracortene-H immediately after the operation and 24 h later, and 58 patients (group II) were given epidural bupivacaine during the operation and epidural morphine hydrochloride immediately after the operation and 24 h later without Ultracortene-H. Only 8.1% of group I patients had pruritus after the injection compared to 20.6% in group II. We suggest that the addition of 50 mg Ultracortene-H to 2 mg epidural morphine analgesia after the operation might prevent severe forms of pruritus.

Epidural morphine for relief of postoperative pain is a new, safe, successful and effective method of anesthesia [1–5]. However, this method is not free of side effects, the major problem being an allergic reaction to the morphine administered, which is expressed by generalized pruritus, nausea and mild vomiting [6, 7]. In an attempt to avoid the first side effect, we administered 50 mg of prednisone sodium tetrahydrophthalate (water-soluble Ultracortene-H, Ciba) into the epidural space together with morphine during anesthesia for cesarean section.

Methods
Following their informed consent, 95 patients were given lumbar epidural anesthesia for cesarean section. Each patient was assigned to one of two groups, using a randomized, double-blind protocol. A catheter was advanced 3 cm into the epidural space at L3–4, 20 mg of bupivacaine 0.5% was then injected. Immediately after the operation 2 mg morphine hydrochloride in 10 ml normal saline with 50 mg of Ultracortene-H was injected into 37 patients (group I). Eighteen to twenty-four hours after the operation another injection of 2 mg morphine in 10 ml normal saline with 50 mg of Ultracortene-H was injected and the catheter was withdrawn. Group II (58 patients) had the same dose of bupivacaine injected before the operation, but only 2 mg morphine was injected immediately after the operation and 18–24 h later. The catheter was then removed. Both groups were matched for age. All patients were daily...
followed by the obstetrician who assessed their complaints of mild, moderate and severe pruritus and of other side effects. Statistical analysis was performed using Student’s t test.

Results

Thirty-seven patients of group I had 2 mg epidural morphine with 50 mg of Ultracortene-H. Three patients (8.1%) complained of mild pruritus. The other 34 patients in this group had no complaints or signs of any reactions. Of the 58 patients (group II) who had epidural injections of 2 mg morphine without Ultracortene-H, 12 patients had moderate and severe forms of pruritus (20.6%). Of these 12 patients 8 had pruritus after the first injection of morphine and 4 had pruritus after the second injection. All 95 patients had no other medications postoperatively for at least 48 h from the time of surgery, 3 of 37 and 6 of 58 patients had nausea and vomiting; no bradycardia or respiratory depression were observed. No side effects due to steroid administration were observed.

Discussion

References

Side effects of epidural injections are not directly related to blood concentrations of morphine. The stereotyped sequence of complications leads Camporesi et al. [6] to propose that bladder dysfunction, pruritus, nausea and vomiting may be due to a progressive modulation of somatic and visceral afferent nerve impulses caused by morphine spreading within the cerebrospinal fluid to reach brainstem structures [8]. This mode of reaction seems to us like an allergic reaction. According to this hypothesis we used Ultracortene epidurally in order to prevent pruritus. We could not check objectively complications of bladder dysfunction because all patients had a catheter in the bladder for 24 h. Nausea and vomiting might be related to the epidural anesthesia by bupiva-caine or the operative procedure. We checked the complication of pruritus and we found that by using a 50-mg injection of Ultracortene-H into the epidural space, the rate of pruritus was reduced from 20.6 to 8.18% and no severe forms of pruritus were observed in patients undergoing cesarean section.

The method described above was proven to be safe in this group of patients, however, more experience is required to firmly establish the safety and effectiveness of our method.

