TITLE: PERIOPERATIVE ANALGESIA WITH SUB-ARACHNOID SUFENTANIL-BUPIVACAINE

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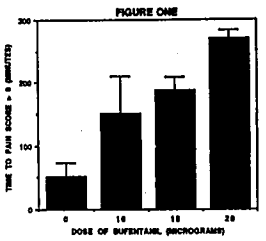
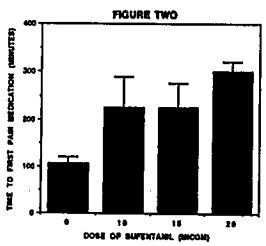
Introduction: Epidural fentanyl has been used successfully in combination with bupivacaine to provide anesthesia for cesarean section.[1] Patients receiving subarachnoid fentanyl require fewer intraoperative narcotics but the duration of complete postoperative analgesia was not significantly prolonged. We therefore have investigated the use of subarachnoid sufentanil in an attempt to obtain a longer period of postoperative analgesia.
Methods: The protocol was approved by the hospital's human subject committee and informed consent was obtained. In our ongoing investigation, 17 ASA I patients, scheduled for elective cesarean section, have been studied to date. Patients were randomized to receive 1.4 cc of bupivacaine with either 0, 10, 15 or 20 μg of sufentanil and spinal anesthesia was performed in our usual fashion. Vital signs, sensory level, motor block, linear analog pain scale and side effects were recorded every two minutes for 30 minutes and then half-hourly until the first pain medicine was received postoperatively. Scanlon Neurobehavioral exams were performed after delivery and at 24 hours of age.
Results: Subarachnoid sufentanil increased both the duration of complete analgesia (pain score=0) and effective analgesia (time to first narcotic administration) (Figures 1 and 2). Increasing doses resulted in longer duration of postoperative analgesia, but the incidence of side effects also increased with increasing dose. No patient had respiratory depression.
Discussion: Subarachnoid sufentanil increases the period of postoperative analgesia and may be a more desirable drug to add to spinal anesthesia for cesarean section. Greater lipid solubility of sufentanil should minimize respiratory depression by limiting rostral spread of the drug. Higher receptor affinity should prolong the duration of analgesia.
1. Hunt CO, et al. Anesthesiology 71:535-540, 1989





Title: IMPACT OF A PAIN SERVICE ON LENGTH OF STAY AND COMPLICATION RATES OF POST ABDOMINAL DELIVERY PATIENTS

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Introduction: Since patient controlled analgesia (PCA) and continuous lumbar epidural opioid infusions (CLEA) have become more commonly used, several studies have documented improved pain relief reported by patients when compared to traditional intramuscular pain medication[1,2]. However, less information is available about the impact of PCA or CLEA on such variables as length of hospital stay. A study by Bellamy[3], showed that post knee surgery patients treated with epidural narcotics went home sooner than patients treated with PCA's.

We undertook a retrospective review of post abdominal delivery patients for a 4 month period prior to the initiation of a pain service and compared it to the 5 months following initiation of anesthesia-directed pain service. We looked for a difference in incidence of post surgical complications and length of stay.
Methods: All charts of women undergoing an abdominal delivery during this period was reviewed for (1) indication, (2) length of stay, (3) presence of any pre-surgical or post-surgical complications, (4) time until clear liquids, and (5) type of anesthesia used for the abdominal delivery. Incomplete charts were eliminated from analysis. 244 charts were included in this review. The majority of patients given IM medication were given meperidine and hydroxyzine. Most PCA patients received morphine, with a 1 mg/hr basal rate and 1 mg increment available on a 10 min lockout. Patients allergic to morphine were given hydromorphone at equipotent doses. Patients given continuous epidural infusions received fentanyl, 10 μg/cc, at rates from 5-10 cc/hr.
Results: One hundred and sixty-seven (167) women during this period were given IM pain medication following abdominal delivery. Eighty-six (86) had an abdominal delivery initiated under epidural anesthesia and eighty-one (81) received a general anesthetic. Thirty-one (31) patients were managed with a PCA post abdominal delivery and forty-six (46) had CLEA.

The mean length of stay for all IM patients was 4.56 days ± 2.26, compared to 4.06 ± 0.98 days for patients on PCA's or CLEA ($p < 0.07$). There was no significant difference in mean length of stay between patients managed with PCA and patients on CLEA.

Of the 244 charts examined, there was a 30% incidence of complications (PIH, endometritis, fever, atelectasis, ileus, thrombophlebitis, etc.) which was similar in all three groups. However, the mean length of stay in patients having these complications was significantly different. Patients managed by IM medication had a mean length of stay of 6.24 days ± 3.55 compared to patients managed by the pain service who had a mean length of stay of 4.68 days ± 0.99 ($p < 0.05$). When only postoperative complications were analyzed (fever of unknown origin, atelectasis, thrombophlebitis, ileus, etc.) the difference between the two groups was still significant. All of the patients with significant ileus (requiring the patient to remain NPO ≥ 3 days) were in the IM or PCA groups, ($p < 0.01$). Three complications involving thrombophlebitis were observed, all in the IM group. The average length of stay for these patients was 15.3 days.
Discussion: Although this review was retrospective, it indicates that the type of pain management may have an impact on not only the comfort of the patient but also her length of stay and complication risk.
References
1. Ann Int Med 99:360-366, 1983
2. JAMA 259:243-247, 1988
3. ANES 71:A686, 1989.