

Recurrence of Thoracic and Labial Herpes Simplex Virus Infection in a Patient Receiving Epidural Fentanyl

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The connection between epidural and intrathecal morphine and recurrence of oral herpes simplex virus (HSV I) infections has been demonstrated in case reports,^{1,2} a retrospective study,³ and prospective studies.^{4,5} However, there are no reports linking HSV I recurrence with epidural fentanyl. We report a case in which a woman had recurrence of HSV approximately 36 h after the initiation of epidural fentanyl for postoperative pain control.

CASE REPORT

The patient, a 26-yr-old woman, was scheduled for revision of a prior pectus excavatum repair. Her past medical history was pertinent for an outbreak of oral HSV during the postoperative period of one of her previous thoracic surgeries, approximately 4 yr prior to this admission. The patient was taking between 75 and 100 mg of sustained-release morphine (MS Contin[®]) per day for chronic chest wall pain. She denied any history of vulval or thoracic outbreaks.

Prior to surgery, the first attempt at placing the epidural catheter at T9-T10 resulted in a dural puncture. A second attempt at T5-T6 was successful, and the catheter was advanced 3 cm into the epidural space. After a test dose, 8 ml of 0.25% bupivacaine was injected through the catheter. General anesthesia was induced and surgery initiated. The intraoperative course was uneventful and the patient received fentanyl 150 µg through the epidural catheter prior to tracheal extubation.

During the first 18 h after surgery, the patient received a solution of bupivacaine 0.0625% and fentanyl 5 µg/ml at 8 ml/h. On the morning after surgery, the epidural infusion was converted to patient-controlled analgesia mode with a basal rate of 60 µg fentanyl/h with self-doses of fentanyl 40 µg/10 min as needed. Approximately 12 h after the epidural fentanyl was started, the patient complained of severe itching on the back, chest, face, and vulva. Erythema was noted near the lower lip and on the upper back. During this period the patient used between 100 and 180 µg/h fentanyl. Naloxone infusion (20 µg/h) was started along with supplemental ketorolac 30-mg intramuscular injections, resulting in partial reduction of the pruritus while adequate analgesia was maintained. Because of the patient's high level of pain, and her history of previous postoperative insensitivity to intravenous opioids, we decided to continue the epidural fentanyl infusion.

Approximately 36 h after the epidural patient-controlled analgesia was started, a vesicular rash was noted on the vulva, the mouth, and the thorax. The rash and pruritus did not resolve with decreased epidural opioid doses or with the administration of diphenhydramine hydrochloride (Benadryl) or nonsteroidal antiinflammatory agents (ketorolac, ibuprofen, piroxicam). The vesicular rash involved the left lower lip, bilateral labia majora and minora, and the chest wall in a bilateral T4 and T5 distribution. The chest lesions started in the anterior midline and extended to the scapula posteriorly. Gynecologic consultation showed that the patient had Zenker's-stain-positive vulvar lesions consistent with HSV infection. Bacitracin ointment was applied, with minimal improvement in the patient's symptoms. The dermatologic consultant diagnosed the oral and thoracic lesions as HSV. The diagnosis was confirmed by Zenker's stain.

The epidural fentanyl infusion was discontinued on the fourth postoperative day, and the patient's therapy was converted to methadone 12 mg every 4 h with oral oxycodone/acetaminophen for breakthrough pain. The rash resolved by the 10th postoperative day. Administration of the methadone was reduced and eliminated over a 10-day period. The patient was discharged while taking oxycodone/acetaminophen without complications, and there has been no recurrence of the rash.

DISCUSSION

Recurrent HSV infections occur secondary to a variety of causes, including emotional or physical stress, other infections, fever, menstruation, parturition, and neurosurgical procedures involving the trigeminal nerve.⁶ HSV I (oral) but not HSV II (genital) recurrences have also been associated with epidural and intrathecal morphine in the post-cesarean section population.¹⁻⁵ However, some controversy remains,^{7,8} since up to 84% of previously HSV-infected pregnant women have peripartum recurrences whether or not intraspinal opioids are used.⁹

During the period discussed in this report, the patient was not pregnant or menstruating and showed no evidence of infection. Numerous thoracic surgeries during the previous 22 yr (with their inherent associated physical and emotional stress) had resulted in one outbreak of oral HSV I, but never with outbreaks in the thorax or vulva.

Diagnosis of recurrent HSV infection in patients receiving epidural opioids is difficult, because it depends solely on the presence of the characteristic rash and not on the presence of pruritus. A recent review⁸ reported the incidence of pruritus at 5-30% for epidural and intrathecal fentanyl and at 30-50% for axial morphine. Morphine-related pruritus is usually localized to the face

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§ Grass JA: Fentanyl: Clinical use as postoperative analgesic—epidural/intrathecal route. *Journal of Pain and Symptom Management* 1992, in press

or the dermatome where the injection occurred.¹⁰ Although this pruritus may be due to opioid induction of a protective reflex, no studies have confirmed this hypothesis.¹⁰ To our knowledge, pruritus localized to the dermatomes where the epidural fentanyl is injected has not been a harbinger of recurrent HSV infections.

This report presents a patient who had a recurrent HSV I infection localized to the mouth, the vulva, and the bilateral T4 and T5 dermatomes after the administration of epidural fentanyl through a catheter placed at the T5–T6 level. Dural puncture on a previous epidural attempt may have increased the patient's intrathecal fentanyl level, thus predisposing her to localized HSV recurrence. Even though other causes could explain this episode of HSV (including surgical or emotional stress), we believe this is the first report in which the evidence indicates that epidural fentanyl, in susceptible patients, may have the same effect as epidural and intrathecal morphine in reactivating HSV I.

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