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Opiate Withdrawal Syndrome Following Intrathecal Administration of Morphine

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The use of intrathecally administered morphine to replace systemic narcotics for the treatment of cancer-induced pain was proposed by Wang *et al.*[1] The therapeutic efficacy of intrathecal narcotics permits abrupt withdrawal of chronically administered systemic analgesics. Since the intrathecal route may provide inconsequential central nervous system drug levels, such patients may experience acute opiate withdrawal syndrome.

Report of a Case

An 85-year-old woman who had severe diffuse back pain secondary to advanced multiple myeloma was referred to the Pain Control Clinic for evaluation and treatment. The diagnosis had been made three years previously, and the pain necessitated increasing use of narcotic analgesics. When first seen, the patient was receiving hydromorphone hydrochloride (Dilaudid®), 2 mg, orally, every two hours. This resulted in partial analgesia but also significant drowsiness. With the informed consent of the patient and her family, a trial of intrathecally administered morphine was planned.

Under surgically sterile conditions, we injected intrathecally 1 mg of morphine sulfate without preservative in 5 ml of 0.9 per cent saline solution, via a 22-gauge spinal needle at the L2–3 interspace. The patient reported complete relief of thoracolumbar, vertebral, and pelvic pain within 30 minutes following the injection. Later in the day she was still pain-free, and was becoming more alert.

Fifteen hours after the injection, the patient became increasingly agitated, and experienced fever (temperature 38.2 C), vomiting, tachypnea, disorientation, hypertension (blood pressure 200/120 torr), tachycardia (pulse 120/min), and back pain. Because of the complaint of pain, an oral dose of hydromorphone hydrochloride was given, but vomiting occurred immediately thereafter. The patient was then given morphine sulfate, 3 mg, iv. Vital signs returned to within normal limits in 15 minutes. She gradually became more alert and stopped vomiting. Later, she continued to need systemic narcotics for analgesia, but showed no further symptom of opiate withdrawal.

Discussion

As with the clinical application of any new technique, the chance of complications is high until potential problems have become general knowledge. Although acute opiate withdrawal is not a direct complication of intrathecal administration of morphine, its occurrence after such a procedure has not been previously reported.

Delayed central nervous system spread of intrathecally administered narcotics, as suspected from bradycardia, respiratory depression, and pinpoint pupils, has been reported.[2–4] Such a phenomenon apparently did not occur in this patient, because withdrawal of systemic opiates led to initial improvement of her sensorium with no respiratory depression or pupillary change. According to Gold *et al.*,[5] the symptoms and signs of withdrawal from prolonged administration of opiates systematically may include: opiate craving, anxiety, yawning, perspiration, lacrimation, rhinorrhea, frequently interrupted sleep, mydriasis, gooseflesh, tremors, hot and cold flashes, aching bones and muscles, anorexia, hypertension, insomnia, increased temperature, increased respiratory rate and depth, tachycardia, restlessness, nausea, vomiting, diarrhea, and spontaneous orgasm. This patient had several of these symptoms, which disappeared shortly after intravenous administration of a small dose of morphine, suggesting that she did have an episode of opiate withdrawal.

We feel it imperative to monitor patients closely for extended periods after intrathecal administration of narcotics and to avoid the abrupt withdrawal of systemically administered opiates. Any withdrawal symptom can be treated by systemic administration of opiates.

References

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